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ALFRED P. SLOAN SCHOOL OF MANAGEMENT

OUTCOMES OF SELF-DIRECTED EDUCATION: A STUDY OF THE
ALUMNI OF THE UNDERGRADUATE SYSTEMS PROGRAM OF THE
MIT SLOAN SCHOOL OF MANAGEMENT.

James Considine

435-69

November, 1969

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Research Report Number 1

Outcomes of Self-Directed Education: A Study of the Alumni of the
Undergraduate Systems Program of the MIT Sloan School of Management*

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*This study was supported by the Carnegie Commission on the Future of
Higher Education, Project No. 71379, The Form and Timing of Higher
Education, under the direction of Edgar H. Schein, Professor of Organi-
zational Psychology and Management, Sloan School of Management. 535148

INTRODUCTION

It is very difficult to assess the impact of undergraduate education upon the individual. I think there are two main reasons for this difficulty.

The first reason is the general nature of undergraduate education. What is to be learned? How is it to be learned? When is it to be learned? Where is it to be learned? Who should teach what? Combine these questions with the many "why's" and "why not's" of education and one is left with many ambiguous problems, opinions, and practices.

There seem to be four main goals of undergraduate education:

1. to instill a certain quantity and quality of knowledge,
2. to motivate the individual and provide the skills for seeking new knowledge,
3. to prepare the individual to deal with his personal needs and the needs and demands of his environment, and
4. to aid and support the maturation process.

These together are a herculean task. Since there are definite limits to what can be accomplished in the short span of undergraduate education, certain trade-offs are usually made among the four goals.

Because the goals are often ill-defined, the researcher of undergraduate education is left with many problems and decisions concerning what is important to assess about the effects of undergraduate education. Most often, the research can be no clearer and definitive than the very ambiguous processes and purposes of education that provide the research data.

The second reason for the difficulty of assessing the impact of undergraduate education is that the undergraduate student is at a point in life where he or she is very susceptible to change. Generally, the individual has been separated from the protective security of the home and finds himself in an environment where almost everything is new -- people, places, and ideas. This new way of life offers much time and impetus for the examination of old and new values. The individual is often confused by the sometimes overwhelming influx of new ideas and concepts and by his own contradictory ideas and opinions. This confusion is reinforced by the conflict between the search for individuality and the desire to conform to the norms of his peers. Individual change is influenced by exposure to a new environment, exposure to people whose needs and desires are very similar, and exposure to the educational process. It therefore becomes difficult to isolate the specific causes for change in an individual and to ascertain the part played by the educational institution or program. It is much easier to define the educational process as encompassing all aspects of an individual's experience during the span of undergraduate education. This, however, does not provide accurate insights into the specifics of undergraduate education design and leaves the educator with ambiguous generalities from which he must evaluate and design the undergraduate program.

PURPOSE OF PROJECT

The purpose of this research is to gain insights into the effects of a special undergraduate management program on the graduates of this

program. The research focuses upon two programs offered at the MIT Sloan School -- the special "Undergraduate Systems Program" and the regular Sloan program. Upon completion of either program, the student receives a Bachelor of Science degree in Industrial Management.

The two programs are significantly different in philosophy and design. The comparison of alumni of the two programs will hopefully provide insights into the effects of the special program and, at the same time, provide feedback on both Sloan programs. This feedback is especially important for the evaluation of the Undergraduate Systems Program, a heretofore little studied and poorly documented educational experiment.

The Undergraduate Systems Program

The Undergraduate Systems Program is an educational experiment within the Sloan School at MIT. The program is a two year management education involving ten to twelve students per year and one faculty advisor who stays with the group for the entire two years. The students are selected at the end of their sophomore year by means of an application and interview procedure.

The students as a group are given one main task -- to design and administer their own management education. The framework of the program is highly unstructured. Twenty-seven hours out of a normal load of forty-five hours are devoted to the program itself. The remaining hours are devoted to electives. The nature of these electives is unspecified and may involve any subject offered at MIT. The students do not receive grades in either their USP work or electives. A good deal of emphasis

is placed upon personal evaluation, both written and verbal, by fellow program members and the faculty advisor.

Regular Management Program

The basic principle underlying management education at the Sloan School is that the student should gain an education in depth in an area of relevance and importance to a future manager. With this principle in mind, the Sloan School offers a required core curriculum to expose the student to the underlying principles and problems of a manager. From this base the student is free to extend his management education through electives. He may desire to concentrate in a specific area or to extend his general management education.

The major portion of the Sloan program is completed in the last two years at MIT. The first two years are devoted to completion of general Institute requirements and a few exploratory courses in Industrial Management.

RESEARCH DESIGN

Questionnaire Design

The main tool of this research is a questionnaire involving three areas of concern. The first area is the impact of the educational programs as perceived by the respondents. How do the respondents feel about their undergraduate experience and what effects do they perceive the undergraduate programs to have had upon their personality and

and their post-graduate experiences?

The second area of concern is self-assessment. What do the respondents now perceive to be their strengths and weaknesses both prior to and after their Sloan School experience?

The third area of concern is the post-graduate experiences of the respondents. What are their job patterns, job values, and career aspirations?

There were three main sources of questions included in the questionnaire. The first is a general alumni questionnaire designed by staff members at the MIT Sloan School. A large body of the questions, as well as the format, is adapted from an alumni survey now in progress at MIT, sponsored by the Carnegie Commission. There are also several questions designed specifically for the needs of this research project.

The questionnaire may be divided into four sections. The first section is titled "Educational History" and contains questions pertaining to undergraduate and graduate school experiences. (see Appendix)

The second section, titled "Occupational History" seeks information concerning the jobs that the individual held, the reasons for changing jobs, and desirable characteristics for future jobs.

The third section is titled "Assessment of Undergraduate Educational Experiences." This section involves evaluation of the undergraduate program and assessment of individual change and the values and causes of changes in the individual.

The last section contains questions concerning the future occupational goals and aspirations of the individual, the assessment of personal strengths and weaknesses, and general criticisms of the

undergraduate experience not sufficiently covered in the previous section. This latter area is covered by means of open-ended questions which the individual is free to answer as he sees fit.

Sample Selection

All alumni of the last four graduating classes of the Undergraduate Systems Program (1965-68) were matched to a comparable group of regular Sloan graduates. To insure as close a match as possible between the two groups, the matching was done according to two parameters. The first parameter used was the cumulative grade point average at the end of the sophomore year. Sophomore cum was used for two reasons. There was a high degree of similarity of most programs in the first two years at MIT. The major portion of time was consumed in satisfying general Institute requirements with very little time afforded to electives (usually 1-2 elective courses per term). The second reason was the fact that participants in the Undergraduate Systems Program did not receive grades after their sophomore year.

Each USP graduate was matched initially with all of the regular Sloan graduates of the same year who had a comparable cum. The general criterion for comparability was a one point spread above or below the cum of the USP graduate; i.e. a USP graduate with a cum of 4.0 was matched with all regular Sloan graduates whose cums fell in the range 3.9 - 4.1.

The second parameter used was participation in extra-curricular activities and honors obtained in the four years at MIT. Major activities and honors were each given a rating of one and minor activities were given a rating of 1/2. A number indicating extra-curricular

involvement and honors was generated for each USP graduate and the regular Sloan graduates to whom he was matched according to cum. Each USP graduate was then matched one to one with the regular Sloan graduate whose extra-curricular involvement and cum were most comparable.

Returns

A total of seventy-six questionnaires were mailed out; thirty-eight to USP graduates and thirty-eight to regular Sloan graduates.

After a period of four weeks, twenty questionnaires were returned by USP graduates and thirteen by regular Sloan graduates.

A second set of questionnaires were then mailed to those who had not yet responded. Graduates in the local area were contacted by phone to encourage them to fill out and return the questionnaire. Within four weeks from the second mailing ten more questionnaires were returned by USP graduates and eight by regular Sloan graduates.

At this point, data analysis was begun with thirty out of thirty-eight (79.0%) of the USP graduates and twenty-one out of thirty-eight (55.0%) of the regular Sloan graduates. The overall return rate was 67.0%.

The respondents were examined to see how they matched according to the two matching parameters, cum and extra-curricular activities. There were thirteen one to one matches between the two groups. Seventeen of the USP graduates were unmatched; i.e. the regular Sloan graduates, to whom these USP graduates were matched, did not return the questionnaires. Eight regular Sloan graduates were similarly unmatched.

The unmatched respondents were then examined to see if there were

any possible new matches according to the matching criteria. Two matches were found among the unmatched respondents, which brought the total of one-to-one matches to fifteen.

In order to determine whether the study should be limited to these fifteen pairs or be carried out with all returnees, some general comparisons of all USP and regular returnees was carried out on sophomore cum, extracurricular activities, age, marital status, and prior educational history (see Tables 1-6).

Table 1
Sophomore Cumulative Grade Point Average

	USP	Regular
Number	30	21
Mean	3.72	3.60
Standard Deviation	.468	.506
t-value	.845	

The two distributions do not differ significantly.

Table 2
Extra-curricular Activities

	USP	Regular
Mean Rating	5.52	5.81
High Rating	12.0	12.0
Low Rating	1.5	1.0

There is no significant differences between the two groups in extra-curricular involvement.

Table 3

Did you Switch Majors?

	USP		Regular	
	N	%	N	%
Yes	21	70.0	14	67.6
No	9	30.0	7	33.4
Number	30		21	

There is no difference between the two groups in the percentage who switched majors.

Table 4

Previous Majors of Those Who Switched

<u>USP</u>	<u>Previous Major</u>	<u>Regular</u>
2	Electrical Engineering	6
3	Physics	2
3	Mathematics	2
3	Chemistry	1
2	Aero. & Astro.	2
1	Chemical Engineering	1
2	Civil Engineering	-
1	Metallurgy	-
1	Economics	-
1	Mechanical Engineering	-
1	Biology	-
1	Architecture	-
N = 21		N = 14

Table 5
Marital Status

	USP		Regular	
	N	%	N	%
Married	15	52.0	10	47.5
Single	14	48.0	11	52.5
Divorced	-	-	-	-
Number	29		21	

There is no difference between USP graduates and regular Sloan graduates in this category.

Table 6
Age

	USP	Regular
Average Age	23.9	24.1
Oldest	26	28
Youngest	22	21

There is no difference in age between USP and regular Sloan graduates.

In view of the extreme similarity of the two groups on all categories on which they could be compared, it was decided to analyze the data from all respondents, not merely the data from those pairs which had been initially matched on a one-to-one basis.

RESULTS

I. Educational Impact

A. Feelings of Accomplishment

The respondents were asked to rate their accomplishment at MIT according to three criteria:

1. The amount they wanted to accomplish.
2. The amount they feel they could have accomplished.
3. The amount the average student in the same program accomplished.

Table 7

As you think about how much you accomplished during your undergraduate program do you feel that you accomplished: _____ Significantly more, _____ significantly less, _____ about the same amount as you wanted to.

	USP		Regular	
	N	%	N	%
More	4	14.8	1	4.8
Same	13	48.2	8	38.0
Less	10	37.0	12	57.2
Number	27		21	

Regular graduates are clearly less satisfied with their accomplishment relative to what they wanted to do than are USP graduates.

Table 8

As you think about how much you accomplished during your undergraduate program do you feel that you accomplished: _____ Significantly more, _____ significantly less, _____ about the same amount as you could have accomplished.

	USP		Regular	
	N	%	N	%
More	2	7.4	1	4.8
Same	6	22.1	5	23.7
Less	19	70.5	15	71.5

There is no difference between the two groups on this question. The majority of each group is very critical of their own accomplishment relative to what they feel they could have accomplished.

Table 9

As you think about how much you accomplished during your undergraduate program do you feel that you accomplished: _____ Significantly more, _____ significantly less, _____ about the same amount as the average student in the same program accomplished.

	USP		Regular	
	N	%	N	%
More	13	46.5	4	19.0
Same	14	49.9	13	62.0
Less	1	3.6	4	19.0

USP graduates feel they accomplished more than the average student in the same program. Taking these questions together, it would appear that USP graduates feel better about their educational experience than regular graduates.

B. Perceived Change

Each respondent was asked to rate himself on a number of factors and to state how much he changed on this factor during his education. The question is shown below.

ASSESSMENT OF UNDERGRADUATE EDUCATIONAL EXPERIENCES

The next question contains a list of factors which describe an individual's personal characteristics and abilities. For each of the factors listed, do two things. First, circle a number from 1 to 5 to indicate how important you consider that factor to be to your present and future occupational success. Second, circle a number from 1 to 5 which indicates to what degree you possessed this factor before you undergraduate experience at the Sloan School. Third, circle a number from 1 to 5 to indicate how much change occurred in you as a result of your Sloan undergraduate experience.

Factors	Importance to Your Success					Degree you possessed this factor					Amount of change				
	Very					Very		Very			Very		Very		
	Unim-	Impor-				low	High				Little	Muc.			
	portant	tant	4	5	1	2	3	4	5	1	2	3	4	5	
A. Motivation to study further	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
B. Ability to communicate ideas to others	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
C. Information and knowledge of the principles of your profession	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
D. Ability to apply knowledge to job situation	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
E. Self-insight	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
F. Depth of understanding	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
G. Ability to continue to learn	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
H. Interest in specific subject matter	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
I. Ability to think more creatively	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
J. Ability to identify problems	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
K. Well defined personal attitudes and values	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
L. New concepts and ideas	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
M. Ability to do research	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
N. Ability to analyze and solve problems	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
O. Goals and aspirations for own career	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
P. Ability to sell ideas to others	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Q. Desire for continued learning	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
R. Ability to analyze problems for a new perspective	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
S. Well defined attitudes toward people	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
T. Well defined attitudes toward education	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
U. Breadth of perspective, vision	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
V. Personal goals for future career	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
W. Self-confidence	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
X. Ability to work with others	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Y. Ability to induce change	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Z. Other	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Results were analyzed by dividing the twenty-five items into seven scales and generating a mean value for each scale in each of the three answer columns. These scales were derived from factor analyses carried out on Master Degree Students and Sloan Fellows in the Sloan School.

Scale I: Working Knowledge

Item C: Information and knowledge of the principles of your profession

Item D: Ability to apply knowledge to job situation

Scale II: Intellectual Skills

Item B: Ability to communicate ideas to others

Item J: Ability to identify problems

Item L: New concepts and ideas

Item N: Ability to analyze and solve problems

Item R: Ability to analyze problems from a new perspective

Item U: Breadth of perspective, vision

Scale III: Motivation towards Education

Item A: Motivation to study further

Item G: Ability to continue to learn

Item M: Ability to do research

Item Q: Desire for continued learning

Item T: Well-defined attitudes toward education



Scale IV: Attitudes and Values

- Item H: Interest in specific subject matter
- Item K: Well-defined attitudes and values
- Item S: Well-defined attitudes toward people
- Item W: Self-confidence
- Item X: Ability to work with others

Scale V: Personal Development

- Item E: Self-insight
- Item F: Depth of understanding
- Item I: Ability to think more creatively

Scale VI: Goals and Aspirations

- Item O: Goals and aspirations for your own career
- Item V: Personal goals for future career

Scale VII: Change Skills

- Item P: Ability to sell ideas to others
- Item Y: Ability to induce change

Table 9a

Mean Ratings on the "Importance to Your Success" of the Items on each Scale

	USP (N=28)			Regular (N=21)			t-Valu
	\bar{X}	S.D.	Rank	\bar{X}	S.D.	Rank	
I. Working Knowledge	4.32	0.60	2.5	4.24	0.52	3	0.50
II. Intellectual Skills	4.42	0.53	1	4.37	0.48	1	0.33
III. Motivation towards Education	3.70	0.61	6	3.57	0.57	7	0.78
IV. Attitudes and Values	3.79	0.50	5	3.64	0.48	6	1.03
V. Personal Development	4.05	0.68	3	4.06	0.60	5	0.05
VI. Goals and Aspirations	3.98	0.92	4	4.07	0.85	4	0.34
VII. Change Skills	4.32	0.76	2.5	4.28	0.59	2	0.18



There are no significant differences on any of the scales suggesting that the general attitudes of both groups are highly comparable in what is important to them for success. Scale IV (Intellectual Skills) received the highest rating for importance to success from both groups. Scale III (Motivation toward education) received the lowest rating by both groups. These results further confirm that the two groups were comparable at the point of entry into the program.

Table 10

Mean Ratings on "Degree to Which you Possessed" the Items on Each Scale

	USP (N=28)			Regular (N=21)			t-Valu
	\bar{X}	S.D.	Rank	\bar{X}	S.D.	Rank	
I. Working Knowledge	2.46	0.90	7	2.45	0.70	7	0.05
II. Intellectual Skills	3.05	0.53	2	3.04	0.58	4	0.06
III. Motivation towards Education	3.34	0.58	1	3.35	0.56	1	0.08
IV. Attitudes and Values	2.95	0.56	4	3.08	0.51	2	0.83
V. Personal Development	2.88	0.80	5	3.06	0.57	3	0.91
VI. Goals and Aspirations	3.04	0.88	3	3.02	1.00	5	0.04
VII. Change Skills	2.77	0.70	6	2.98	0.72	6	1.00

Again, there are no significant differences between the two groups. Scale III (Motivation toward education) received the highest rating by both groups. Scale I (knowledge) received the lowest rating by both groups.

These results indicate that the two groups perceived themselves as quite similar before beginning their undergraduate experience at the Sloan School.



Table 11

Amount of Change Reported on each Scale

	USP (N=28)			Regular (N=21)			t-value
	\bar{X}	S.D.	Rank	\bar{X}	S.D.	Rank	
I. Working Knowledge	3.34	0.95	5	3.10	0.97	3	0.86
II. Intellectual Skills	3.70	0.73	1	3.13	0.77	2	2.59
III. Motivation towards Education	2.93	1.00	7	2.88	0.64	6	0.21
IV. Attitudes and Values	3.18	0.73	6	2.95	0.72	5	1.08
V. Personal Development	3.62	0.80	2	2.86	0.83	7	3.16
VI. Goals and Aspirations	3.43	1.10	4	3.33	1.19	1	0.28
VII. Change Skills	3.54	0.76	3	2.98	1.03	4	2.05

*Statistically significant at the .05 level or beyond.

USP graduates perceived themselves as changing more on all scales, supporting the previous result that they feel they obtained more from their education than regular graduates.

USP graduates perceived themselves as changing most on Scale II: Intellectual Skills; regular Sloan graduates perceived themselves as changing most on Scale VI: Goals and Aspirations. USP graduates perceived themselves as changing least on Scale III: Motivation toward Education; regular Sloan graduates perceived themselves as changing least on Scale V: Personal Development.

Relative to regular graduates, the USP graduates perceived themselves as changing significantly more on Intellectual Skills, Personal Development, and Change Skills. This finding is in line with what the program attempts to do. Somewhat surprising is the fact that USP's also see themselves as having changed more on Working Knowledge in spite of the fact that they take fewer formal courses during their junior and senior year.

C. Areas of Experience Contributing to Change

The next question attempted to assess what experiences during their undergraduate education caused the changes which respondents perceived. The question read:

In the list below you will find a number of "Areas of experience" with blank space next to each item. Go back to the previous page and identify the five factors which you felt changed most during your undergraduate education. For each of these factors, write in the identifying letter next to the experience area or areas which, in your own opinion, contributed most to the change. For example, if one of your highest change ratings fell to item A, "motivation to study further," and you feel that this change was due to your contact with fellow students and independent study opportunities, place an A next to those items in the list below.

Areas of Experience

1. Interaction with fellow students _____
2. Interaction with faculty _____
3. Classroom experiences _____
4. Laboratory or research _____
5. Extra-curricular activities _____
6. Independent study _____
7. Other (specify) _____

Items perceived as changing most

The first part of this question requested that the respondents decide upon the items they felt changed most during their undergraduate experience. (See Table 12).

There seems to be considerable more consensus among USP graduates as to which item they perceived as changing most. The content of the items reflects the previous finding that personal development and intellectual skills were named most often.

Table 12

Factors perceived as changing most*

USP			Regular		
Item	<u>N*</u>	<u>% of Sample</u>	<u>Item</u>	<u>N</u>	<u>% of Sample</u>
Self-insight	17	63.0	Self-confidence	7	36.8
Ability to identify problems	14	51.8	Ability to induce change	7	36.8
Ability to analyze & solve problems	12	44.4	Interest in specific subj. matter	7	36.8
Ability to communicate ideas to others	11	40.7	Ability to work with others	6	31.6
Information & knowledge of the principles of your profession	10	37.0	Goals & Aspirations for your own career	6	31.6
Ability to sell ideas to others	10	37.0	Info. & knowledge of the principles of your profes.	5	26.4
Self-confidence	9	33.4			

*N indicates the number of respondents who named that factor as changing most.

Interaction with fellow students is credited with contributing most to self-insight, communication ability, and ability to work with others. Faculty is seen as contributing to problem identification, problem analysis and information and knowledge growth. Classroom experience relates to information acquisition and ability to sell ideas, while lab and research opportunities relate to problem analysis ability. (See Tables 13 and 14).



Table 13

Areas of Experience Credited with Contributing to Change of Items by USP Respondents

<u>Item</u>	<u>Areas of Experience</u>						
	<u>Fellow Stud.</u>	<u>Faculty</u>	<u>Classrm.</u>	<u>Lab.</u>	<u>Extra-cur.</u>	<u>Indep. Study</u>	<u>Other</u>
	N	N	N	N	N	N	N
Self-insight	16	6	5	5	2	2	1
Ability to identify problems	2	9	4	3	1	2	-
Ability to analyze & solve problems	3	8	4	8	-	2	-
Ability to communicate ideas to others	9	3	5	2	6	1	-
Info. & knowledge of principles of prof.	2	7	7	4	-	4	-
Ability to sell ideas to others	6	5	6	1	3	1	-
Ability to work with others	8	4	2	1	4	2	-
Self-confidence	5	4	3	-	1	1	-

Table 14

Areas of Experience Credited with Contributing to Change of Items by Regular Sloan Grads

<u>Item</u>	<u>Areas of Experience</u>						
	<u>Fellow Stud.</u>	<u>Faculty</u>	<u>Classrm.</u>	<u>Lab.</u>	<u>Extra-Cur.</u>	<u>Indep. Study</u>	<u>Other</u>
	N	N	N	N	N	N	N
Self-confidence	6	3	2	1	5	-	-
Ability to induce change	3	2	3	3	1	-	1
Interest in specific subject matter	2	4	6	3	1	3	-
Ability to work with others	5	3	1	2	2	-	-



Table 14 (cont.)

<u>Factors</u>	<u>Fellow Stud.</u>	<u>Faculty</u>	<u>Classrm.</u>	<u>Lab.</u>	<u>Extra-cur.</u>	<u>Indep. Study</u>	<u>Other</u>
	N	N	N	N	N	N	N
Goals & Aspirations for career	3	5	2	-	2	1	-
Motivation to study further	2	1	1	1	1	2	-
Info. and Knowledge of principles of profession	-	3	3	-	1	2	-

A generally similar pattern shows up among the regular graduates though it is weaker because of the smaller number of change factors on which people could agree. In general, the causes of change which respondents perceive are in line with what one might expect.

D. Perceived Value of Specific Subject Areas

The following is a list of subject areas which are normally offered in a course XV program. The specific titles of the courses you took or subject areas you studied might be somewhat different than those presented here, but it is hoped that you will be able to identify those that you took. Please rate each of those subject areas which you studied with respect to its value to you in your career. Circle the appropriate number for each course (1 = absolutely worthless . . . 7 = extremely worthwhile).

Table 15 shows some striking similarities and also some striking differences, though none which reach statistical significance. Both groups attach a high value to behavioral science and system and computer science. Both groups attach a very low value to marketing and international business. In the in-between areas some sharp differences emerge. USP's rank industrial dynamics second, while regulars rank it

Table 15
Perceived Value of Subjects

	USP				REGULAR				t-value
	N	\bar{X}	S.D.	Rank	N	\bar{X}	S.D.	Rank	
Behavioral Sciences	25	5.68	1.70	1	20	5.10	1.51	2	1.18
Industrial Dynamics	29	5.20	1.39	2	18	4.55	2.12	7.5	1.12
System design, computer science	25	5.08	1.46	3	21	5.23	1.44	1	0.34
Operation research, production, quantitative analysis	19	4.63	1.73	4	21	4.57	1.59	6	0.11
Management information & control, accounting	23	4.43	1.75	5	21	4.09	1.22	10	0.74
Economics	24	4.33	1.92	6	21	4.52	1.43	9	0.37
Finance	20	4.20	1.70	7	21	4.76	1.22	3	1.18
Political economy, law, public administration	17	3.94	1.59	8	18	4.61	1.64	5	1.19
Business policy or planning	18	3.88	1.67	9	15	4.66	1.75	4	1.10
Industrial relations or personnel	18	3.50	1.79	10	18	4.55	1.54	7.5	1.83
Marketing	20	3.15	1.38	11	21	3.95	1.85	11	1.54
International bus. & trade	15	2.60	1.40	12	13	3.69	1.49	12	1.91

between seventh and eighth in perceived value. On the other hand regulars rank finance third, while USP's rank it seventh. USP's generally attach more value to operations research, management information and control and economics, while regulars attach more value to political economy, business policy, and industrial relations. It is, of course, not clear whether these perceived differences reflect the nature of the educational experience of each group or the pattern of interests of each group, or some combination of the two.

There is some tendency for the differences to reflect a somewhat more traditional management orientation in the regular graduates, while the USP's seem to value more the recent developments such as computer science. One final difference to note between the two groups is that the USP's use a wider spread in rating their subjects (from 5.7 to 2.6) than do regular grads (from 5.2 to 3.7), suggesting the possibility that the USP's have a generally clearer view and more consensus on the relative value of different subjects to them.

E. Opinion About Structure of Program

Do you feel the program should be highly structured (a given curriculum of subjects with one or two electives) or minimally structured (a few given subjects with more electives):

1
2
3
4
5
6
7
 Minimum Structure High Structure

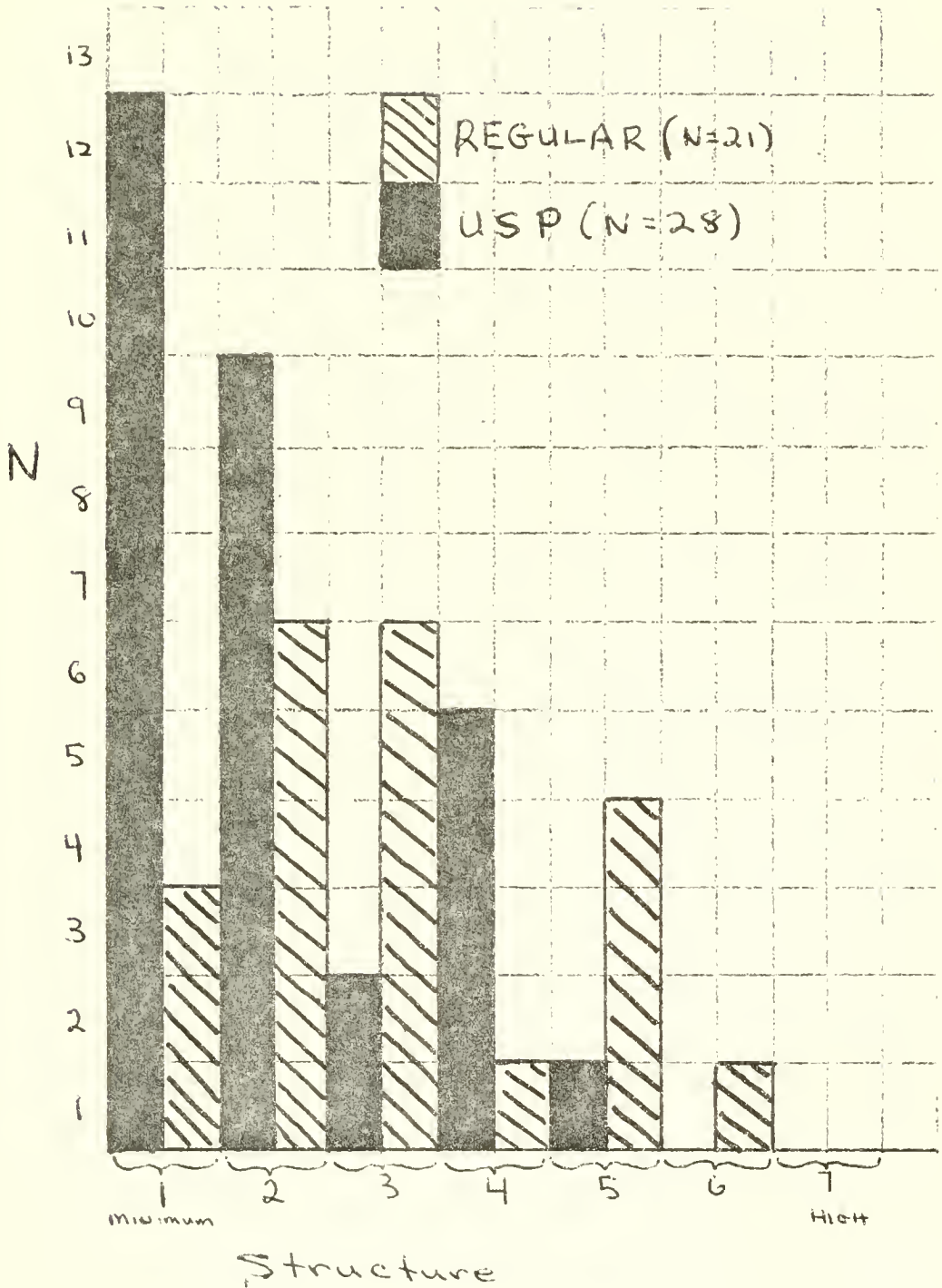
Table 16

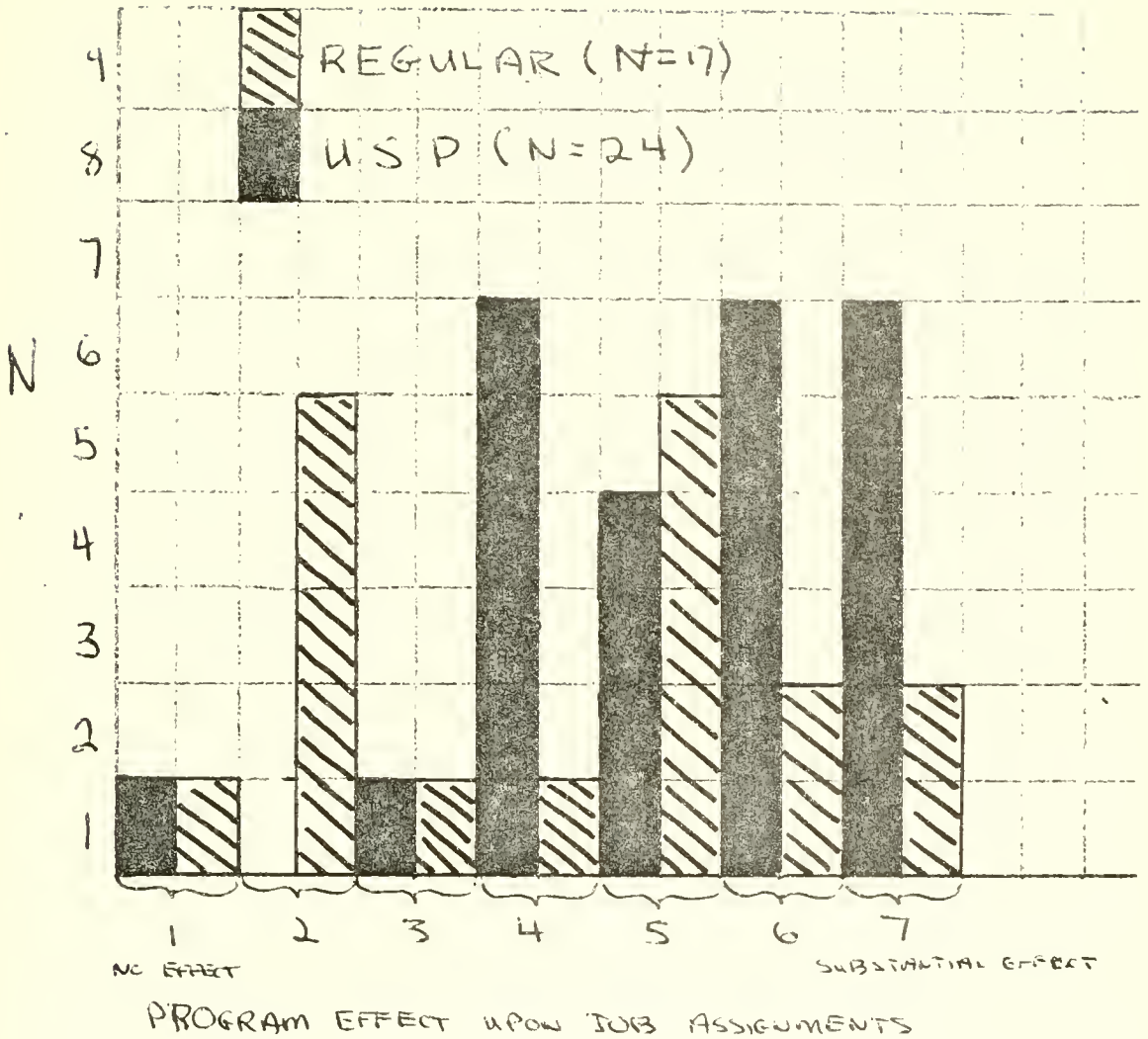
Ratings of Desired Structure

USP			REGULAR			t-value
N	\bar{X}	S.D.	N	\bar{X}	S.D.	
29	2.10	1.23	21	3.00	1.48	2.225

These two distributions are significantly different at the 0.05 level indicating that USP graduates are content with the low structure of their program and that regular Sloan graduates would prefer a program with less structure than what was offered them in the regular Sloan program but not with as little structure as the USP's preferred.

The following is a histogram for the two distributions of the structure question.





II. Self-Assessment

We asked each respondent to rate himself as to his present strengths and weaknesses.

The following is a list of personal characteristics or abilities. Please indicate to what degree you feel each of these characteristics is a personal strength or a personal weakness of yours (for example, self-confidence is a personal weakness of mine: Mark 1, 2, or 3) (1 - significant personal weakness . . . 7 - significant personal strength.)

Significant Weakness				Significant Strength			
1	2	3	4	5	6	7	

Table 18 shows the factors rank ordered according to the ratings given by the USP graduates; beginning with the factor to which they gave the highest rating.

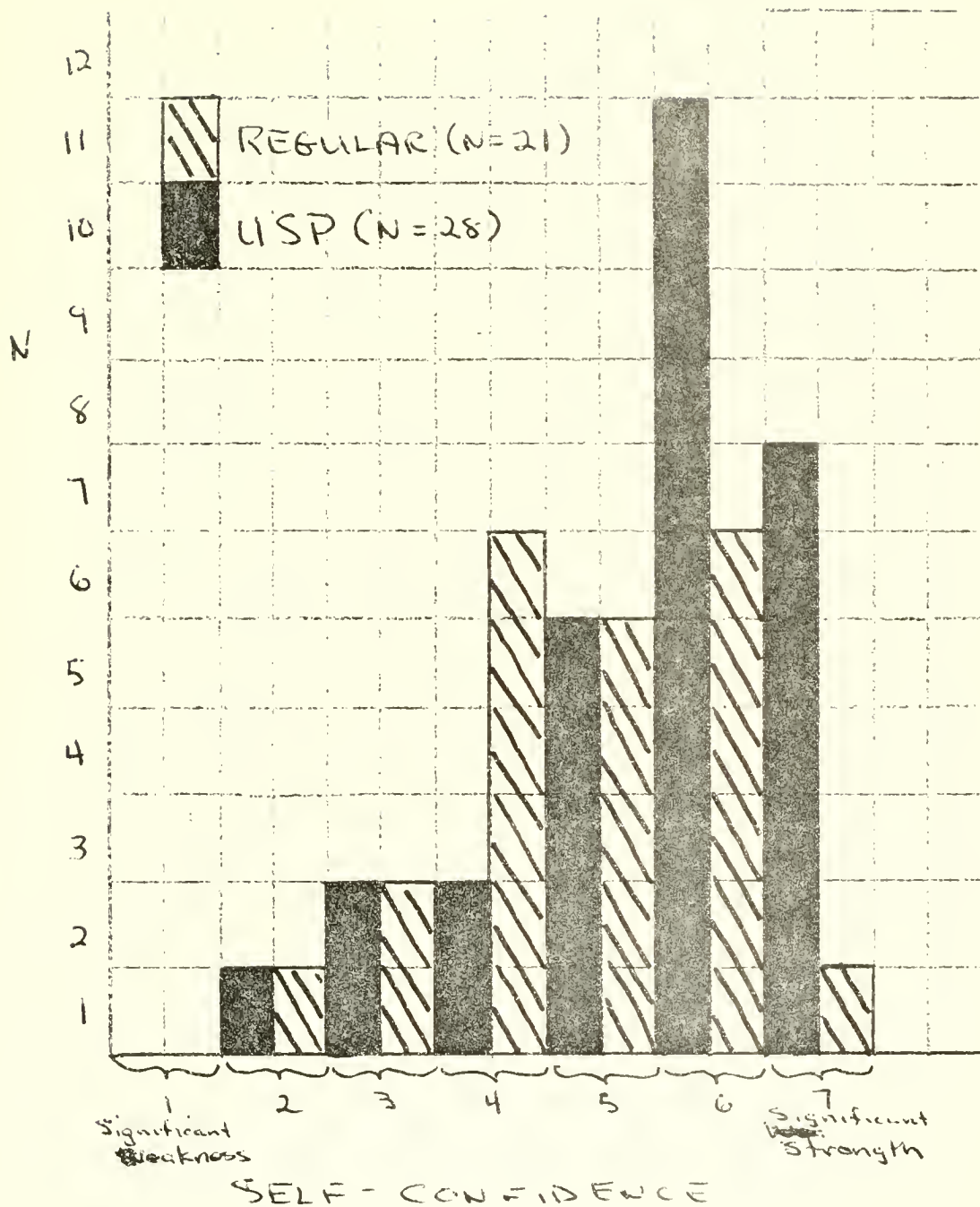
Table 18
Ratings of Strengths

	USP				REGULAR				t-value
	N	\bar{X}	S.D.	Rank	N	\bar{X}	S.D.	Rank	
Ability to analyse and solve problems	28	5.82	0.90	1.5	21	5.52	1.36	2.5	0.86
Ability to identify problems	28	5.82	0.66	1.5	21	5.52	0.92	2.5	1.24
Self-confidence	28	5.57	1.34	3	21	4.76	1.26	9	2.12*
Ability to continue to learn	28	5.53	1.03	4	20	5.25	1.01	4	0.92
Ability to work with other people	28	5.46	0.96	5	21	5.61	0.97	1	0.53
Ability to speak and communicate ideas	28	5.35	1.06	6	21	5.23	1.26	5	0.34
Ability to think creatively	28	5.35	1.19	7	21	4.85	1.59	8	1.18
Breadth of perspective, vision	28	5.32	1.24	8	21	4.71	1.27	11.5	1.64
Depth of understanding	27	5.29	1.10	9	21	4.95	1.32	7	0.93
Ability to write and communicate ideas	28	5.21	1.19	10	21	4.80	1.60	10	0.97
Self-insight	28	5.21	1.16	11	21	5.19	1.03	6	0.06
Ability to sell ideas to others	28	5.10	1.10	12	21	4.66	1.06	13.5	0.12
Ability to induce change	28	4.92	1.15	13	21	4.66	1.68	13.5	0.80
Motivation to study further	28	4.89	1.42	14	21	4.61	1.68	15	0.60
Interest in specific subject matter	28	4.71	1.41	15	21	4.71	1.48	11.5	0.00
Ability to do research	28	4.25	1.26	16	21	4.00	1.73	16	0.55

USP graduates rated "Ability to analyse and solve problems" as their strongest characteristics; regular Sloan graduates rated "Ability to work with other people" as their strongest characteristic. They also rated "Ability to analyse and solve problems" and "Ability to identify problems" very high.

Both groups gave their highest ratings to problem solving, problem identification, learning ability, ability to work with people, and ability to communicate. A significant difference between the two groups occurs on "Self-confidence," however, with USP's ranking this item third, while regular graduates rank it ninth and are significantly lower on it in their average rating. Both groups give the lowest ratings to "Ability to do research, "Having specific interests," "Motivation for further study," and "Ability to influence others." It should also be noted that on all but one item, "Ability to work with other people," the USP ratings were higher than those of the regular graduates. This finding is counter to what one would expect in view of the great emphasis in the USP program on working with others. The generally more positive view which USP's have of their strengths supports the general emphasis in the program on gaining personal confidence.

The ratings on self-confidence are shown in the following histogram.



III. Post Graduate Experience

A. Graduate School

Are you now attending or have you attended graduate school since leaving MIT undergraduate school? Yes _____ No _____

Table 19

Graduate School Attendance

	USP		REGULAR	
	N	%	N	%
YES	21	70.0	14	66.7
NO	9	30.0	7	33.3

The percentage of those attending graduate school is nearly identical for each group.

Table 20

Specific Graduate Schools Attended

USP		REGULAR	
<u>N</u>		<u>N</u>	
6	Harvard Business School	2	Harvard Business School
5	MIT (Sloan)	4	MIT (Sloan)
1	Harvard Law	1	Harvard Law
1	Columbia Law	1	Columbia Law
2	Stanford Business	3	Columbia Business School
1	University of Minn (Medicine)	1	Berkeley
1	Princeton	1	University of Michigan (Business)
1	University of Chicago (Bus.)	1	University of Illinois (Zoology)
1	University of Penn. (Wharton)		
1	Baruch College (CCNY)		
1	University of Washington		

The pattern of attendance in the two groups is very similar. It should be noted that the USP's were on a Pass-Fail System which seems not to have affected their ability to get into first-rate graduate schools.

Table 21
Areas of Concentration

USP		REGULAR	
<u>N</u>		<u>N</u>	
15	Business	11	Business
2	Law	2	Law
1	Medicine	1	Zoology
1	Sociology		
1	Communications		
1	Computer Science		

Table 22
Degrees Obtained or in Progress

USP		REGULAR	
<u>N</u>		<u>N</u>	
10	M.B.A.	6	M.B.A.
4	M.S.	6	M.S.
1	L.L.B.	1	L.L.B.
1	J.D.	1	J.D.
1	PhD.		
1	M.D.		
1	M.A.		

There are no striking differences between the two groups, but there is a trend for USP graduates to be somewhat more diversified in their graduate school experiences. They are involved in a wider range of courses and working toward a wider range of degrees.

Table 23
Graduate School Grades

	USP		REGULAR	
	N	\bar{X}	N	\bar{X}
Cumulative Grade Point Average	14	4.45/5.00	11	4.34/5.00

The grades of USP graduates are slightly, but not significantly, higher than those of regular graduates.

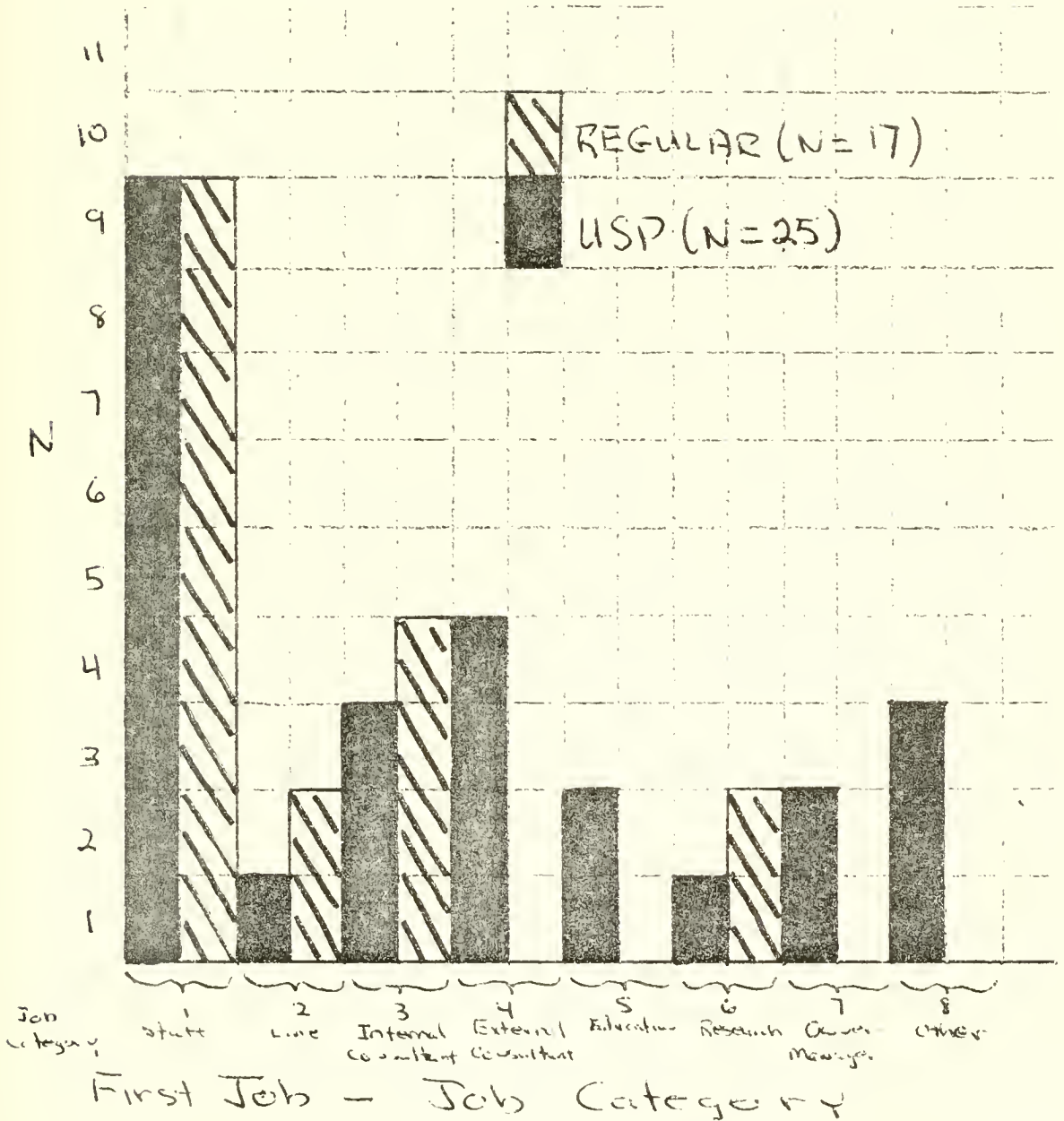
B. First Job

Job Category

Please indicate the category in which your job falls.

1. Staff _____
2. Line _____
3. Internal Consultant _____
4. External Consultant _____
5. Education _____
6. Research _____
7. Owner-manager _____
8. Other _____

The Histogram distributions for this question indicate that the jobs of the regular Sloan graduates fall into only four categories; staff, line, internal consultant, and research, while those of the USP graduates show a higher diversity.



Seventy-six percent of the regular Sloan graduates fall into the Staff and Internal consultant job categories while only 48.0% of the USP graduates fall into the same two categories.

One hundred percent of the regular Sloan graduates fall into the Staff, Line, Internal consultant, and Research categories while only 56.0% of the USP graduates fall into the same four categories.

Table 24

Hours Worked per Week

	USP			REGULAR			
	N	\bar{X}	S.D.	N	\bar{X}	S.D.	t-value
Hours/week	21	50.0	13.1	17	43.5	10.6	1.63

USP graduates report that they work longer hours per week, but the difference is significant only at the 0.10 level. Seventy-one percent of the USP graduates report that they work more than forty hours per week while only 47.0% of the regular Sloan graduates report that they work more than forty hours per week. Thirty-eight percent of the USP graduates say they work more than fifty hours per week, while only 12 % of the regular Sloan graduates say they work more than fifty hours per week.

Table 25

Starting Salary per month

Starting Salary/month	USP			REGULAR			t-value
	N	\bar{X}	S.D.	N	\bar{X}	S.D.	
	19	\$840	\$157	15	\$780	\$203	.92

Distributions:

USP: \$490., 560., 666., 700., 725., 750., 810., 835., 900., 930.,
\$960., 1000., 1000., 1000., 1000., 1110., 1120.

REGULAR: \$275., 500., 650., 670., 680., 750., 785., 790., 800., 895.,
\$930., 975., 1000., 1000., 1050.

These two distributions are not significantly different. USP graduates are receiving slightly higher starting salaries, but the differences do not reach statistical significance.

Table 26

How satisfied are you with your present job (circle the appropriate number)?

	1 2 3 4 5 6 7				6 7			t-value
	Totally Unsatisfied				Totally Satisfied			
	USP			REGULAR				
N	\bar{X}	S.D.		N	\bar{X}	S.D.		
22	5.27	1.88		15	5.00	1.25	.510	

Both groups seem fairly satisfied with their present jobs.

Nine USP graduates changed jobs; six regular Sloan graduates changed jobs. The reasons they gave for changing jobs are as follows:

Factors

1. No challenging work	1,1,3,3,*	1,2,2
2. No opportunity for high earnings	3	1,2
3. Military service	1	1
4. Geographical preference	1	1
5. No opportunity for advancement	3	1,2
6. No freedom to adopt own approach	2	3
7. Inefficiently run department		3
8. No recognition		1
9. Completion of training program	1	
10. Offered better job	1	
11. Not draft deferrable	2	
12. No contribution to real success of co.	2,2,2,4	
13. One year appointment	1	
14. Transferred	1	
15. Alienation	1	

There does not seem to be any overt pattern to these responses for either group. There appear to be many reasons for job change among the respondents.

*Numbers 1, 2, 3, 4 signify rank order (i.e. a 1 signifies that this was a factor a respondent considered most influential in causing him to change jobs; a 2 signifies the second important factor, etc.)

IV Future Jobs and Career

A. Desirable Job Characteristics

The list below shows a number of characteristics of a job. Using the scale on the right hand side marked "important -- not important," circle the appropriate number to show how important you feel each characteristic is to you with regard to your present and future jobs. If you feel that a reasonable workload (characteristic A) is very important, circle the 7 to the right of characteristic A.

<u>Not</u>				<u>Very</u>		
<u>at all</u>				<u>Important</u>		
<u>Important</u>				<u>Important</u>		
1	2	3	4	5	6	7

Table 27
Factors Considered Most and Least Important for Career

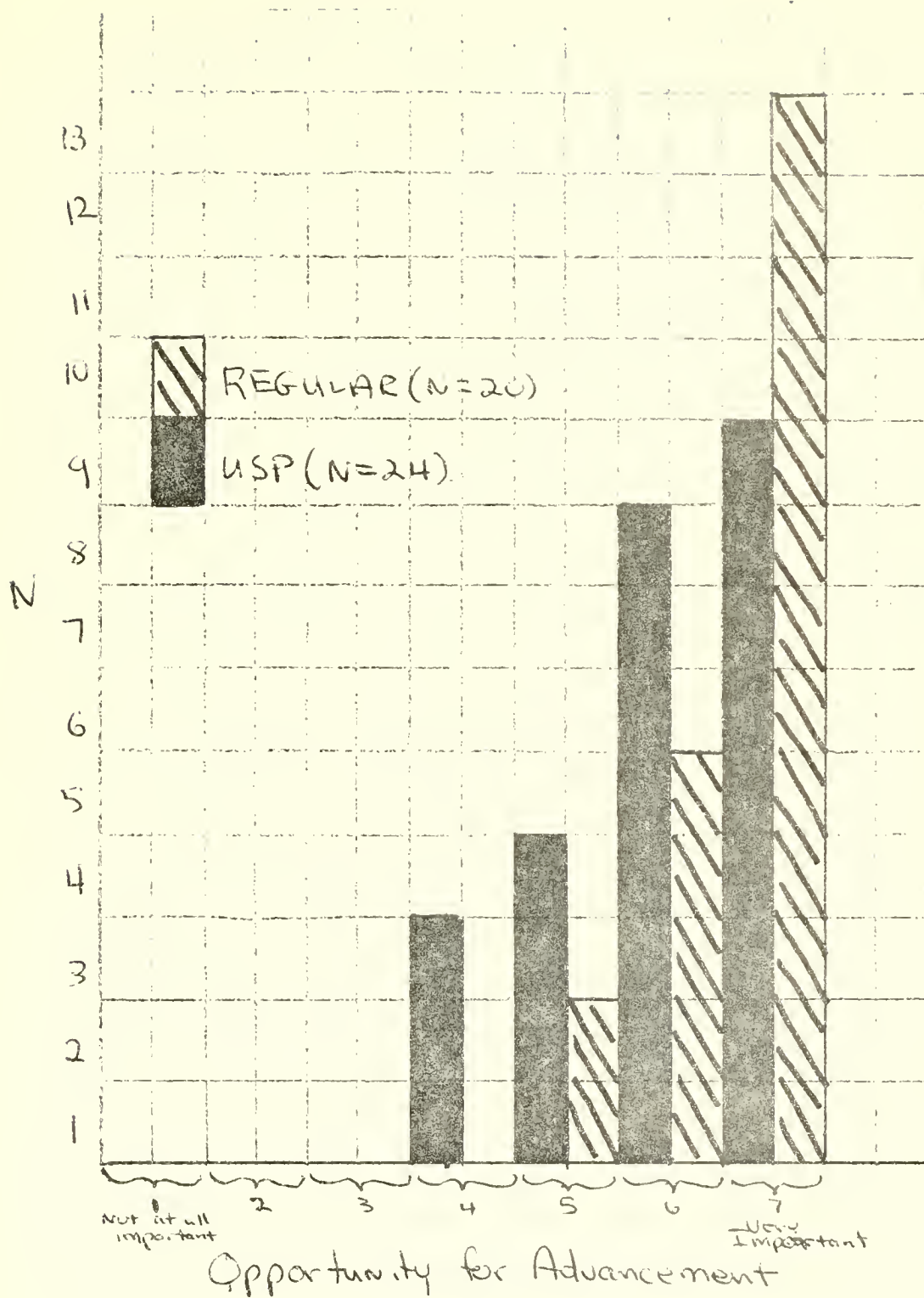
	USP				REGULAR				t-value
	N	\bar{X}	S.D.	Rank	N	\bar{X}	S.D.	Rank	
Challenging work to do(M)*	24	6.41	1.28	1	20	6.35	0.81	2.5	0.18
Considerable freedom to adopt my own approach to the job--to be creative & original(M)	24	6.08	1.28	2	20	5.80	1.15	4	0.75
Opportunity for advancement (M)	24	5.95	1.04	3	20	6.55	0.68	1	2.25*
Recognition for doing a good job (M)	24	5.75	1.15	4	20	5.60	1.42	5	0.37
Job which allows me to make a real contribution to the success of the company(M)	24	5.66	1.57	5	20	4.60	1.56	10	2.19*
Training or educational opportunities (M)	24	5.58	1.21	6	20	5.15	1.63	6.5	0.95
Opportunity for high earnings (H)*	24	5.16	1.46	7	20	6.35	0.74	2.5	3.41*
Job regarded highly by others in the company (H)	24	4.66	1.37	8	20	4.50	1.14	11	0.41

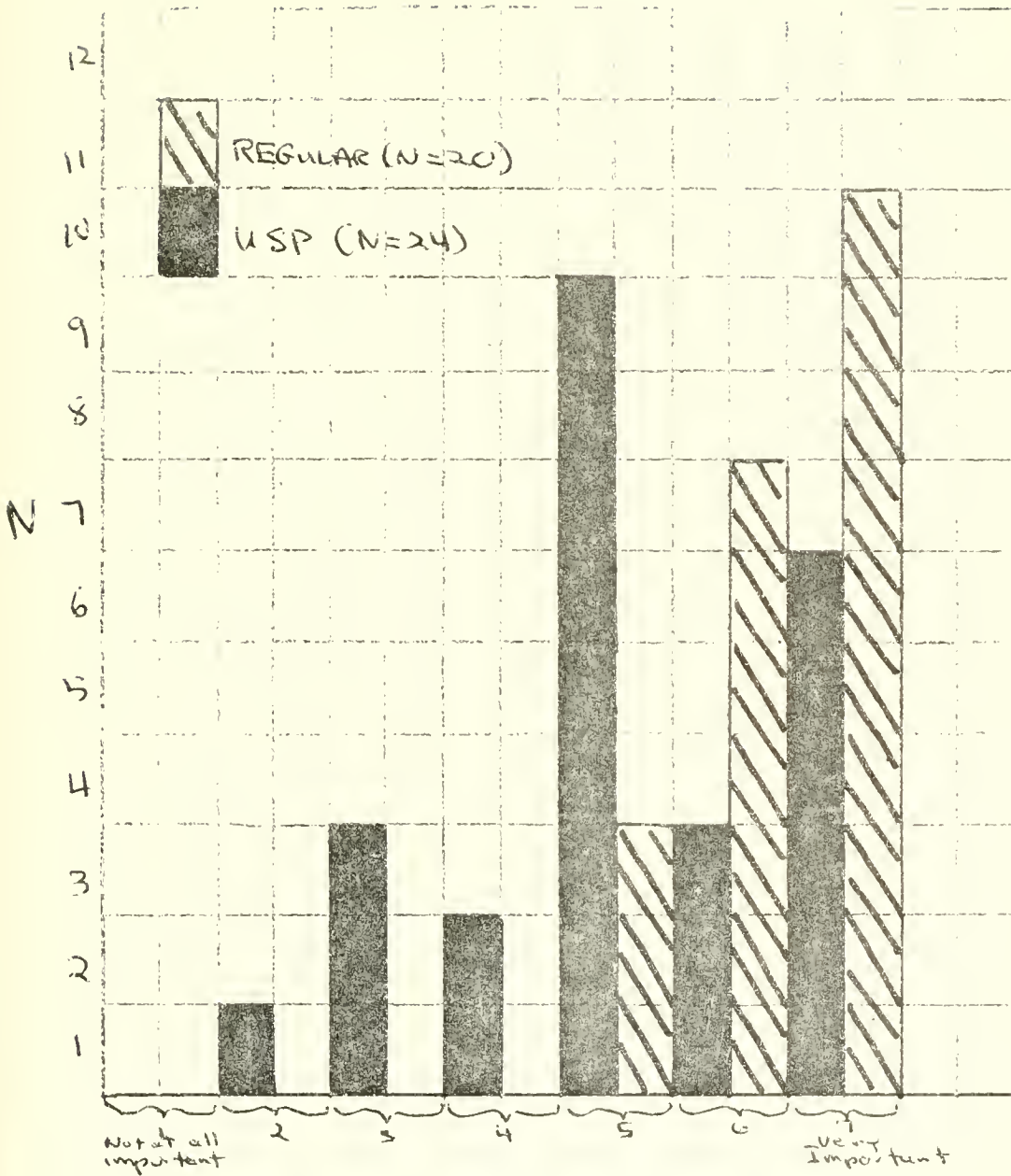
Table 27 (cont.)

	USP				REGULAR				t-value
	N	\bar{X}	S.D.	Rank	N	\bar{X}	S.D.	Rank	
Job which leaves sufficient time for family and personal life (H)	24	4.58	1.52	9	20	5.15	1.26	6.5	1.33
Department where people are friendly and congenial(H)	24	4.58	1.61	10	20	4.70	1.26	9	0.27
Reasonable workload (H)	24	3.95	1.82	11	19	4.78	1.18	8	1.76
Good physical working conditions (H)	23	3.82	1.46	12	20	4.05	1.05	14	0.58
Efficiently run department(H)	24	3.70	1.42	13	20	4.25	1.40	12	1.33
Highly regarded company (H)	24	3.62	1.55	14	20	4.20	1.39	13	1.28
Good fringe benefits (H)	24	2.58	1.31	15	20	3.80	1.23	15	3.11*
Job Security (H)	24	2.04	1.16	16	20	3.60	1.35	16	3.97*

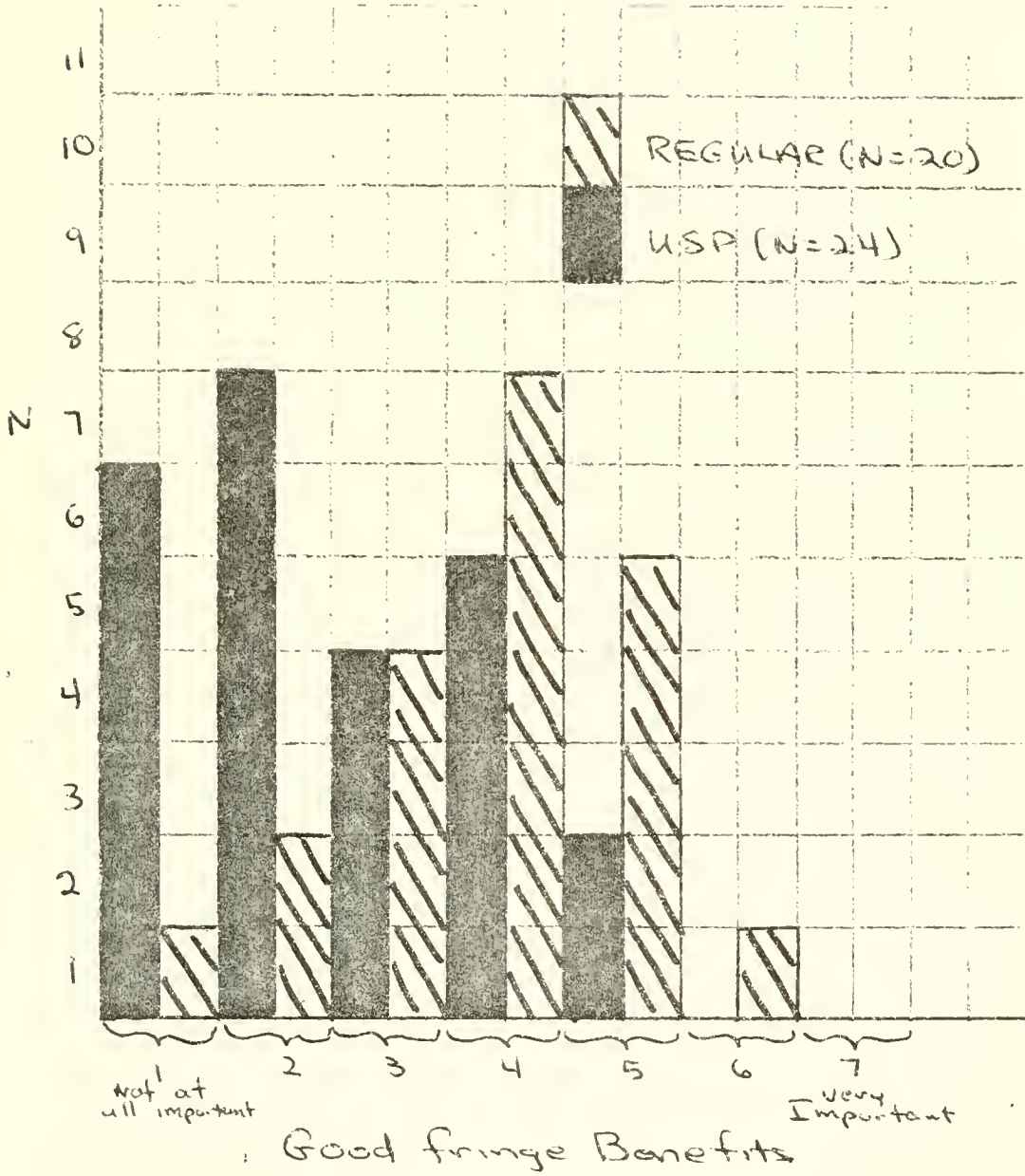
* Each factor is classified as M (Motivator) or H (Hygiene) in terms of Herzberg's theory (Herzberg, F. et. al. The motivation to work. N.Y.: Wiley, 1959)

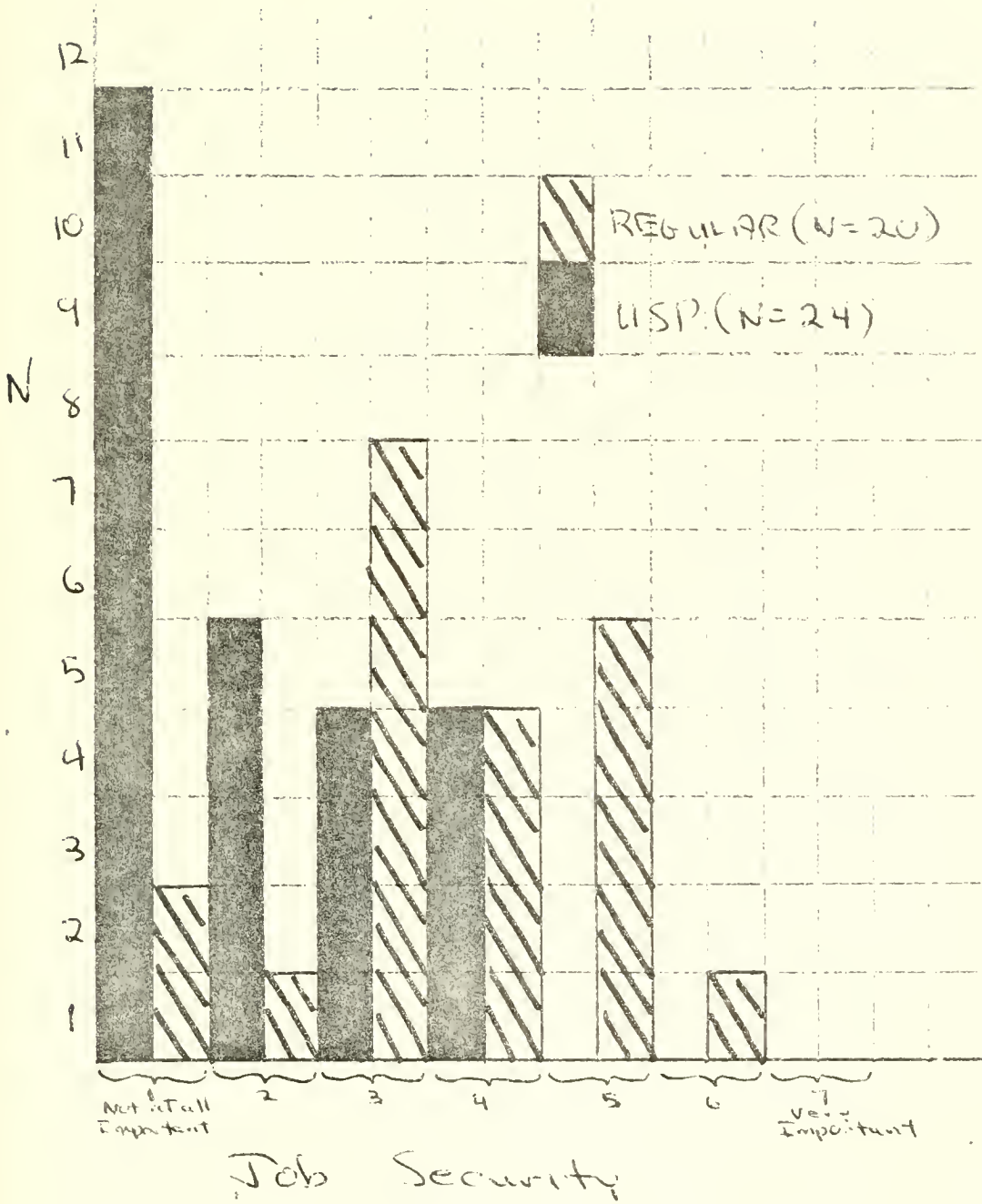
First, it should be noted in terms of the ranking of the various factors that both groups tend to put more emphasis on the motivators than the hygiene factors, with the exception of the high rank given to "opportunity for high earnings" by the regular graduates. On this item the regular graduates rate importance as significantly higher than USP graduates. Regular graduates are also significantly higher on "Opportunity for advancement", "Good fringe benefits," and "Job security" than USP graduates. The only item on which USP graduates give a significantly higher rating than regular graduates is "opportunity to contribute to the success of the company". These differences can be further illustrated by the Histograms which follow.

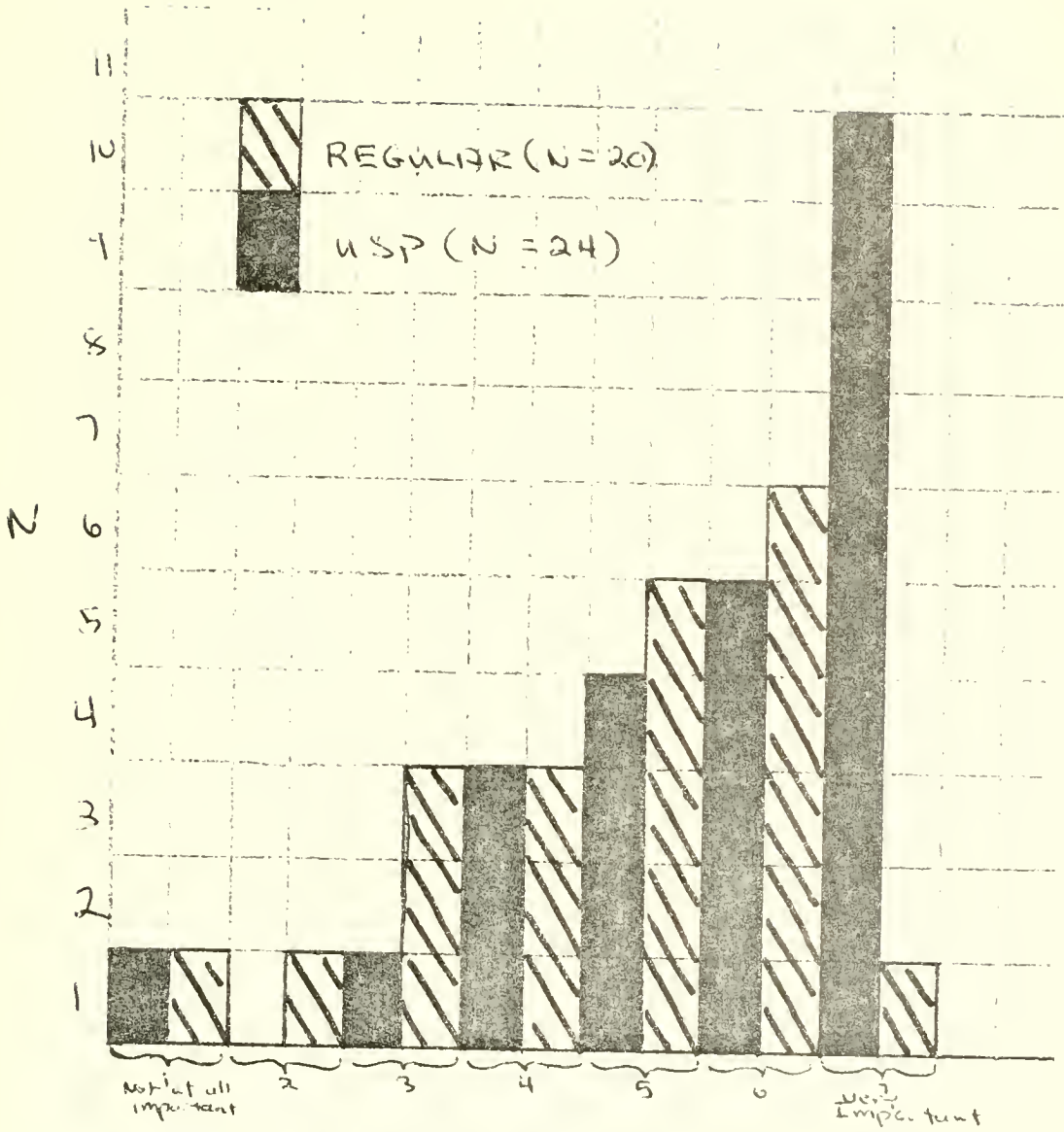




Opportunity for High Earnings







Real Contribution to Success of Co.

In order to test whether USP and regular graduates differed on motivators or hygiene factors generally, scale means were computed for all the items in those categories (see Table 28).

Table 28
Average Ratings on Motivator and Hygiene Factors

	USP		REGULAR		t-value
	\bar{X}	S.D.	\bar{X}	S.D.	
Hygiene Scale	3.911	0.653	4.532	0.458	3.56*
Motivator Scale	5.890	0.546	5.674	0.688	1.10

Regular Sloan graduates scored significantly (.01) higher than USP's on the Hygiene scale. The USP graduates scored somewhat higher on the Motivator scale, but the distribution are not significantly different.

B. What Kind of Job are You Likely to have in the Future?

On a 7 point scale rate the likelihood that your job twenty years from now will be in the following categories. Place an 0 if you are undecided or have no opinion. (1 = little likelihood; 7 = maximum likelihood)

The categories are rank ordered beginning with the category to which USP graduates gave the highest rating.

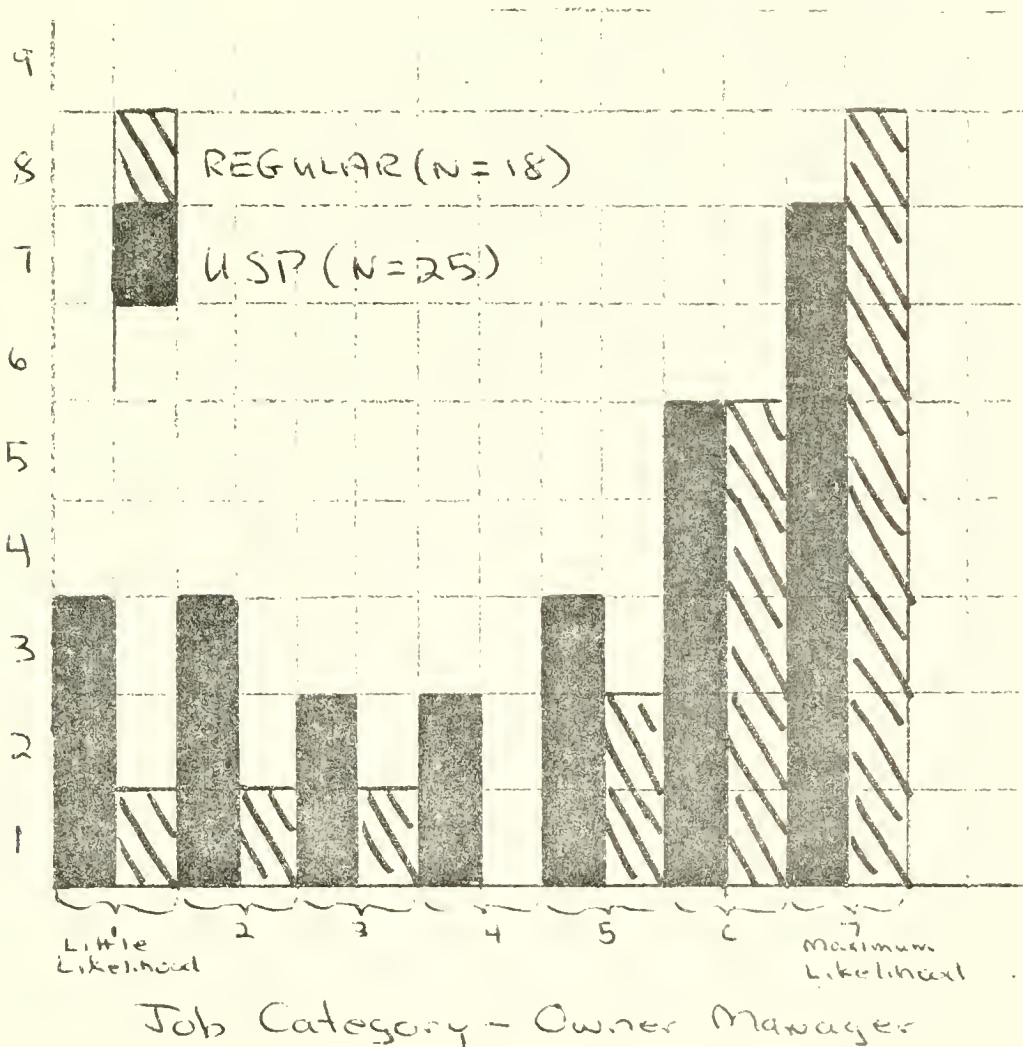
Table 29

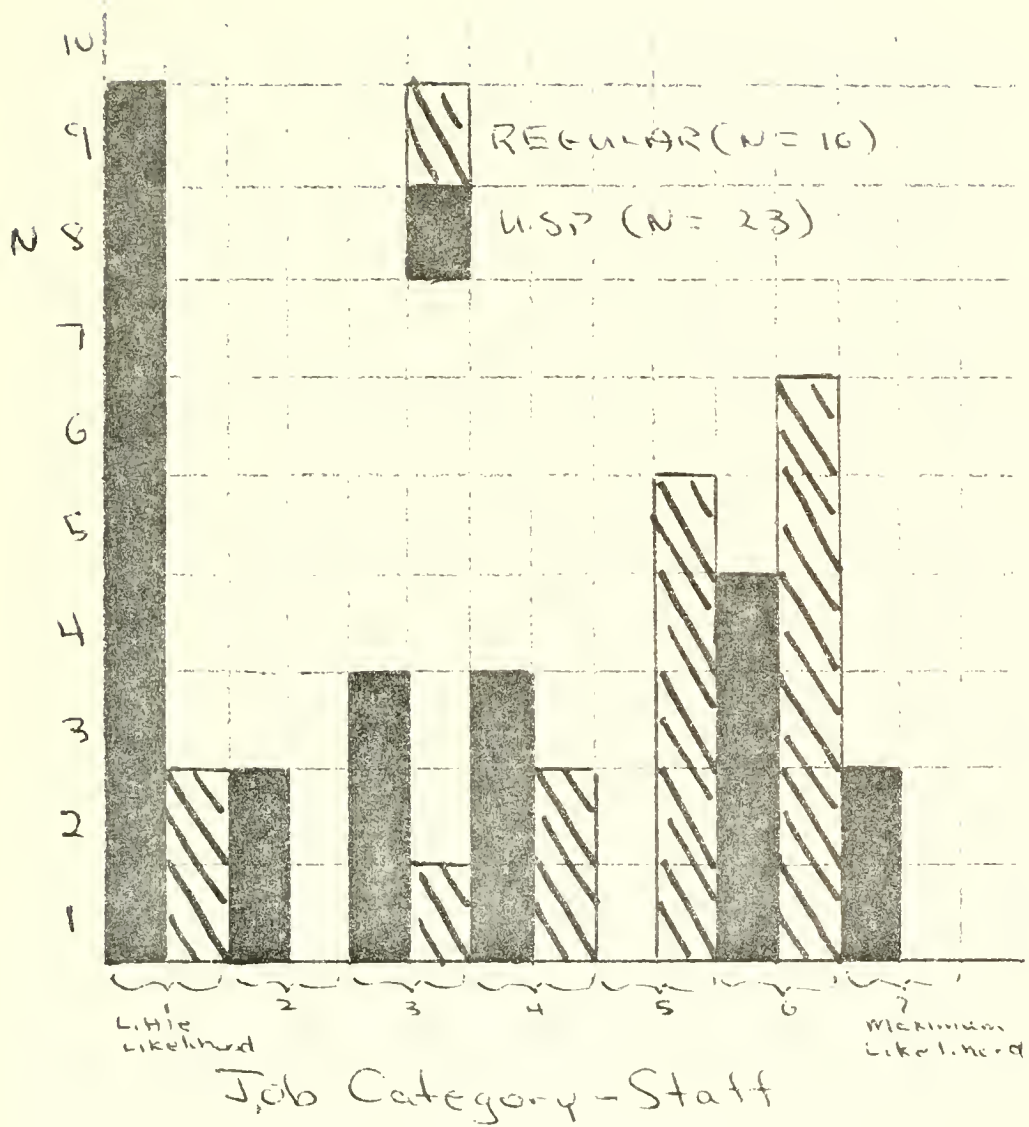
	USP				REGULAR				t-value
	N	\bar{X}	S.D.	Rank	N	\bar{X}	S.D.	Rank	
External Consultant	24	4.75	1.98	1	19	4.68	1.52	2	0.13
Owner-Manager	25	4.68	2.19	2	18	5.66	1.84	1	1.55
Line	24	3.83	2.31	3	16	4.37	1.89	4	0.79
Education	24	3.50	2.44	4	19	2.21	1.08	7	2.27*
Internal Consultant	23	3.26	1.86	5	18	4.27	1.22	5	2.04*
Staff	23	3.13	2.22	6	16	4.62	1.66	3	2.33*
Research	24	2.33	1.90	7	18	2.33	1.37	6	0.00

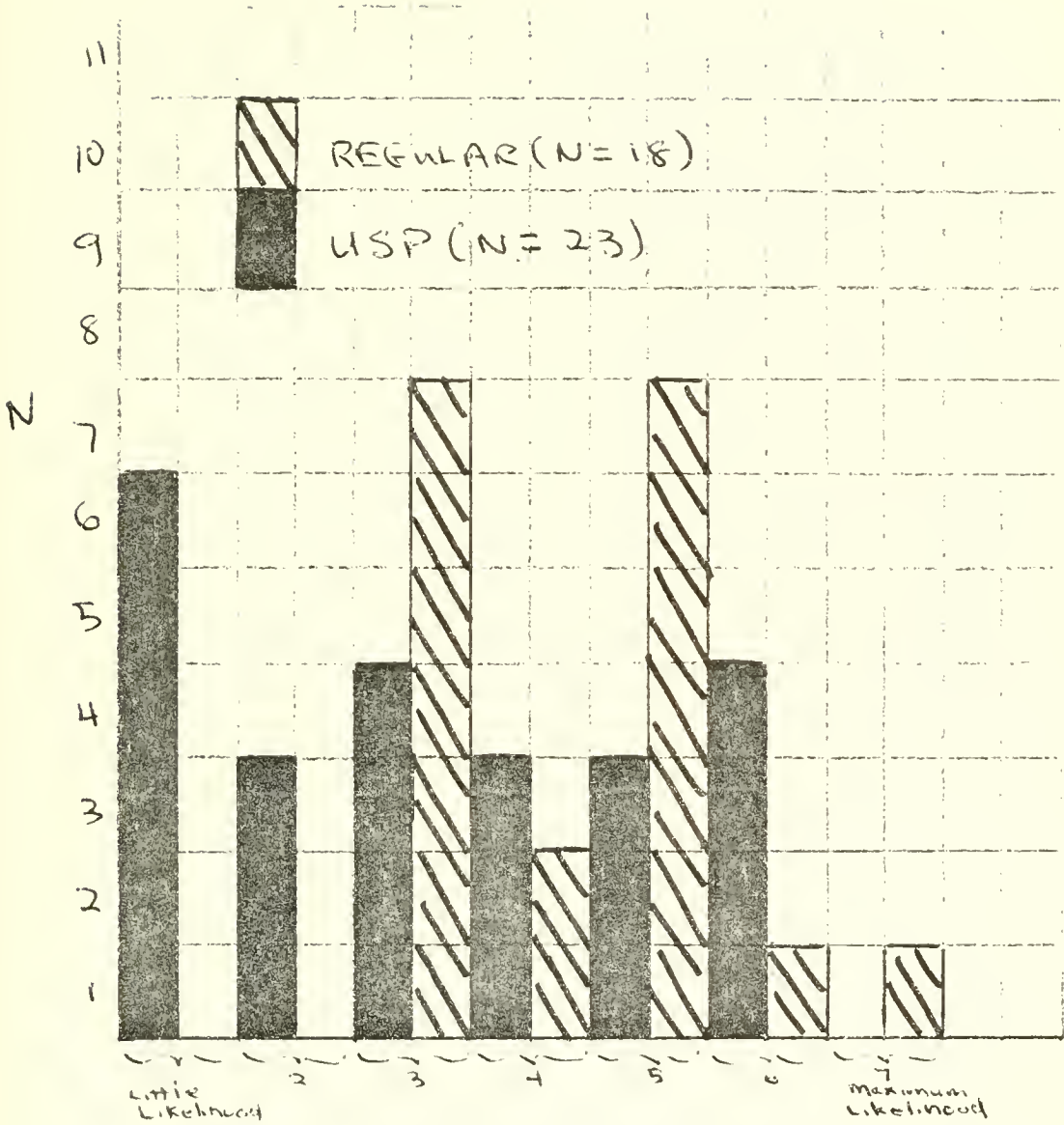
Both groups perceive themselves as most likely to be owner-managers

or external consultants. Regular Sloan graduates are more inclined toward staff and internal consultant categories while USP graduates are more inclined toward education. Neither group sees itself in a research career. Somewhat surprising is the finding that USP's see less likelihood than regular Sloan graduates of being owner-managers in view of the avowed goal of the program to attract entrepreneurially oriented students and the freedom of the program which is thought to further reinforce entrepreneurial tendencies.

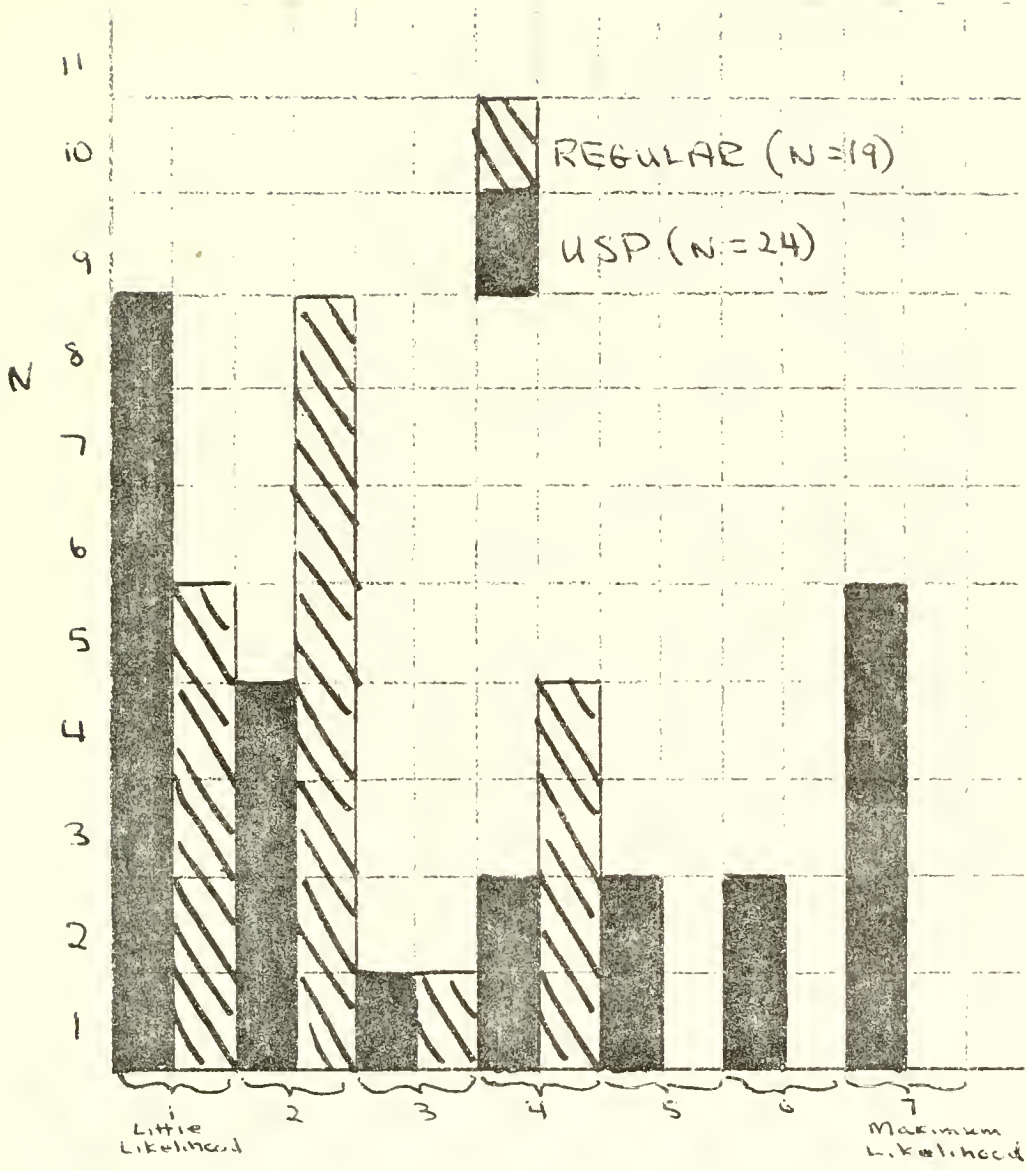
The results are shown visually in the following histograms.







Job Category - Internal Consultant



Job, Category - Education

C. What Kind of Industry are You Likely to be In?

On a 7 point scale rate the likelihood that your employer twenty years from now will be in the following industry. If you are undecided or have no information place a 0. (1 = little likelihood; 7 = great likelihood).

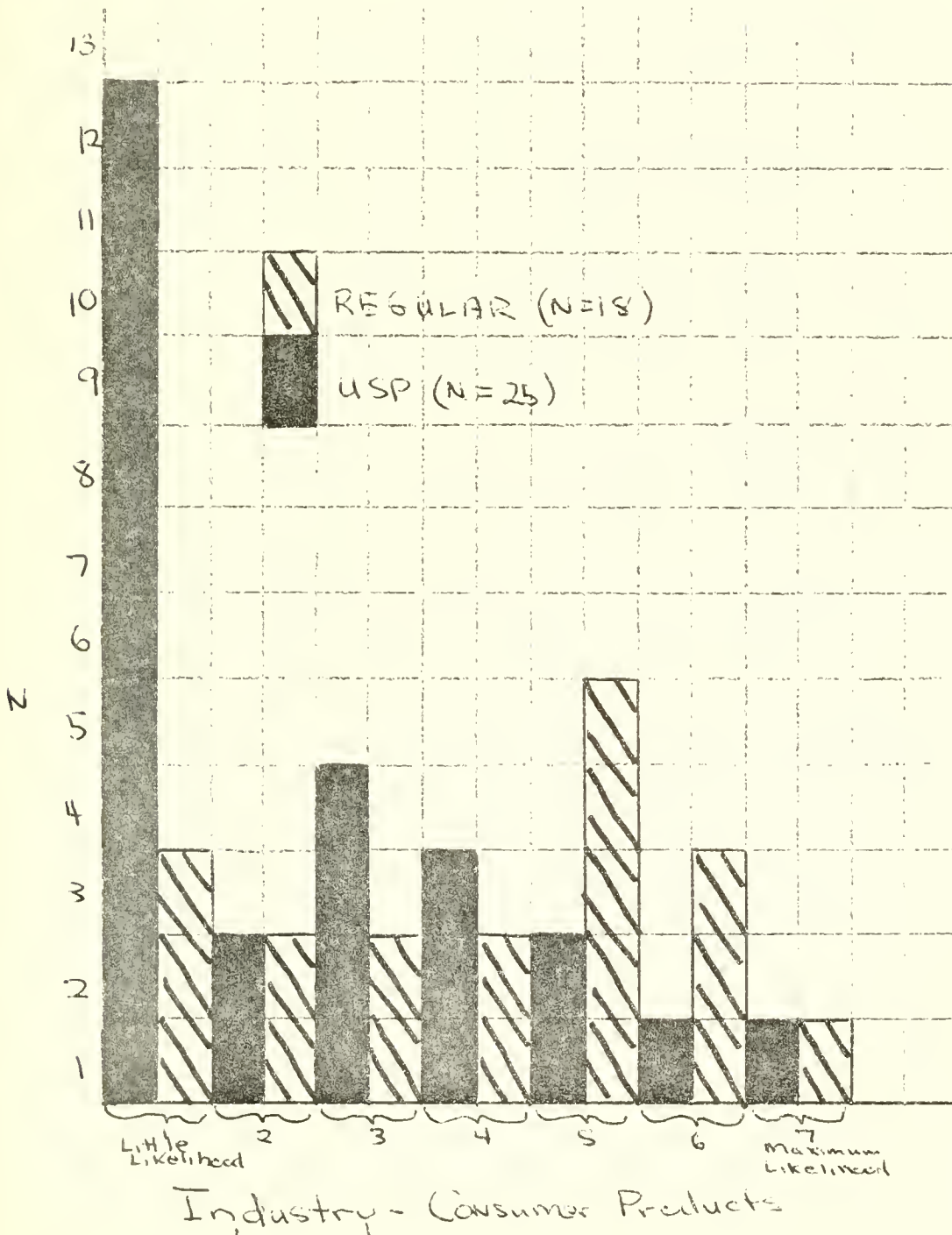
Table 30

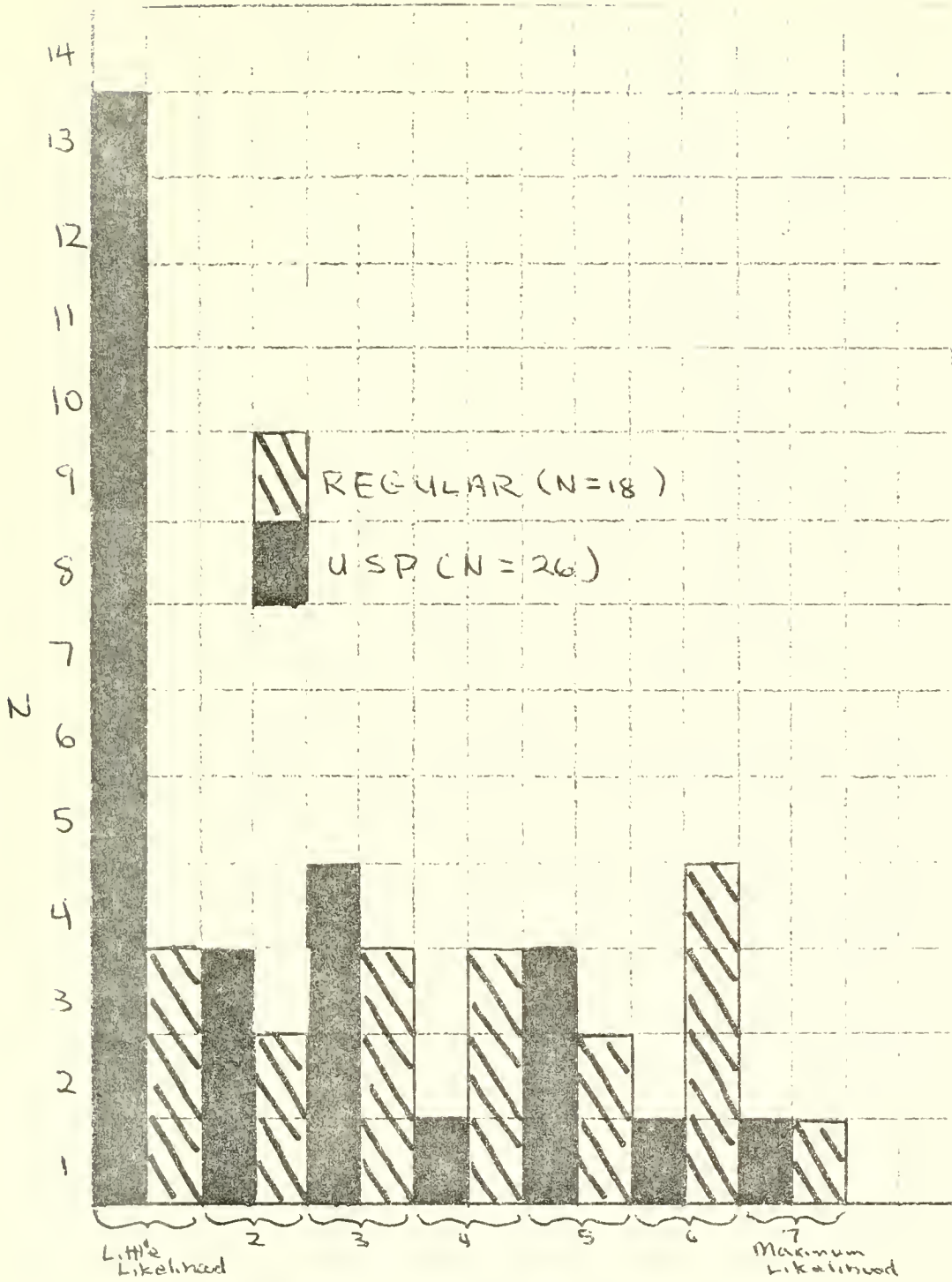
	USP				REGULAR				t-value
	N	\bar{X}	S.D.	Rank	N	\bar{X}	S.D.	Rank	
Specialized Consulting	26	5.19	2.02	1	19	4.89	1.72	1	0.52
General Consulting	25	4.40	2.17	2	18	3.83	1.75	3.5	0.93
Education	26	3.61	2.09	3	20	1.56	1.56	11	1.84
Electronics	26	2.92	1.91	4	18	3.27	1.84	6.5	0.60
Research	25	2.76	2.00	5	19	3.10	1.76	9	0.58
Consumer Products	25	2.52	1.82	6	18	3.94	1.92	2	2.38*
Finance	26	2.50	2.04	7	18	3.22	1.55	8	1.30
Marketing	23	2.47	1.78	8	18	3.33	2.27	5	1.29
Industrial Products	26	2.42	1.83	9	18	3.83	1.94	3.5	2.37*
Government	27	2.29	1.35	10	20	2.75	2.17	10	0.82
Banking	24	2.00	1.58	11	19	2.52	1.54	12	1.06
Aero-space	24	1.91	1.61	12	18	3.27	1.99	6.5	2.31*
Insurance	23	1.43	1.03	13	18	2.27	1.56	13	1.92
Utility	22	1.40	0.66	14	19	1.94	1.22	14	1.68

Both groups feel it most likely that they will be in consulting and least likely that they will be in insurance or a utility. Within the middle range, there are some striking differences, however. USP's think it more likely that they will be in education, electronics, or research organizations relative to regular graduates; they think it less likely that they will be in consumer products, industrial products, or aero-space industries. These findings suggest the possibility that the USPs are more oriented toward autonomy and job situations where they

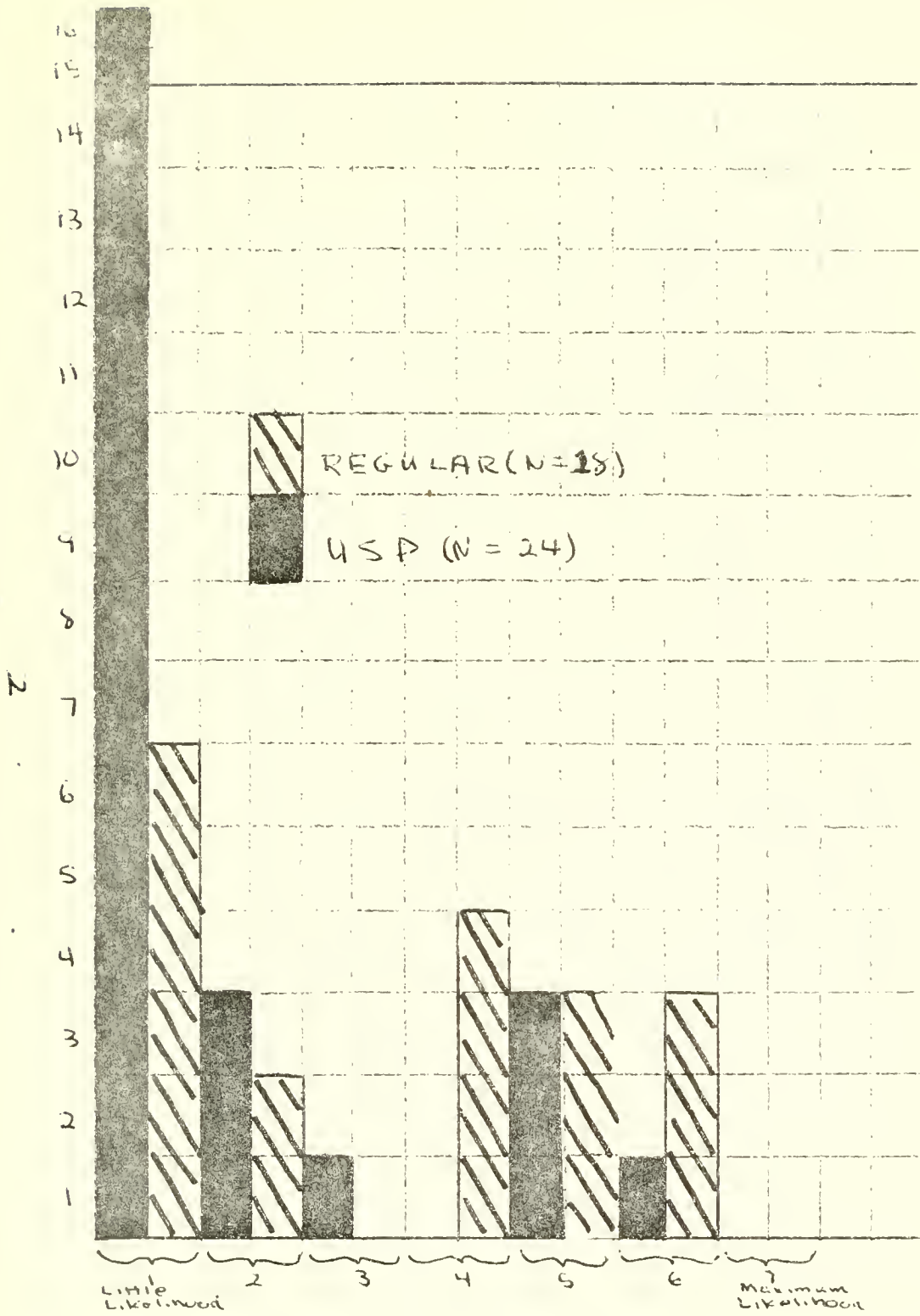
directly can influence the outcome. Perhaps they are more likely to seek smaller companies or independent professional roles.

Histograms are shown for those distributions which differed significantly.





Industry - Industrial Products



Industry - Aerospace

D. What Type of Employer are You Likely to Work For?

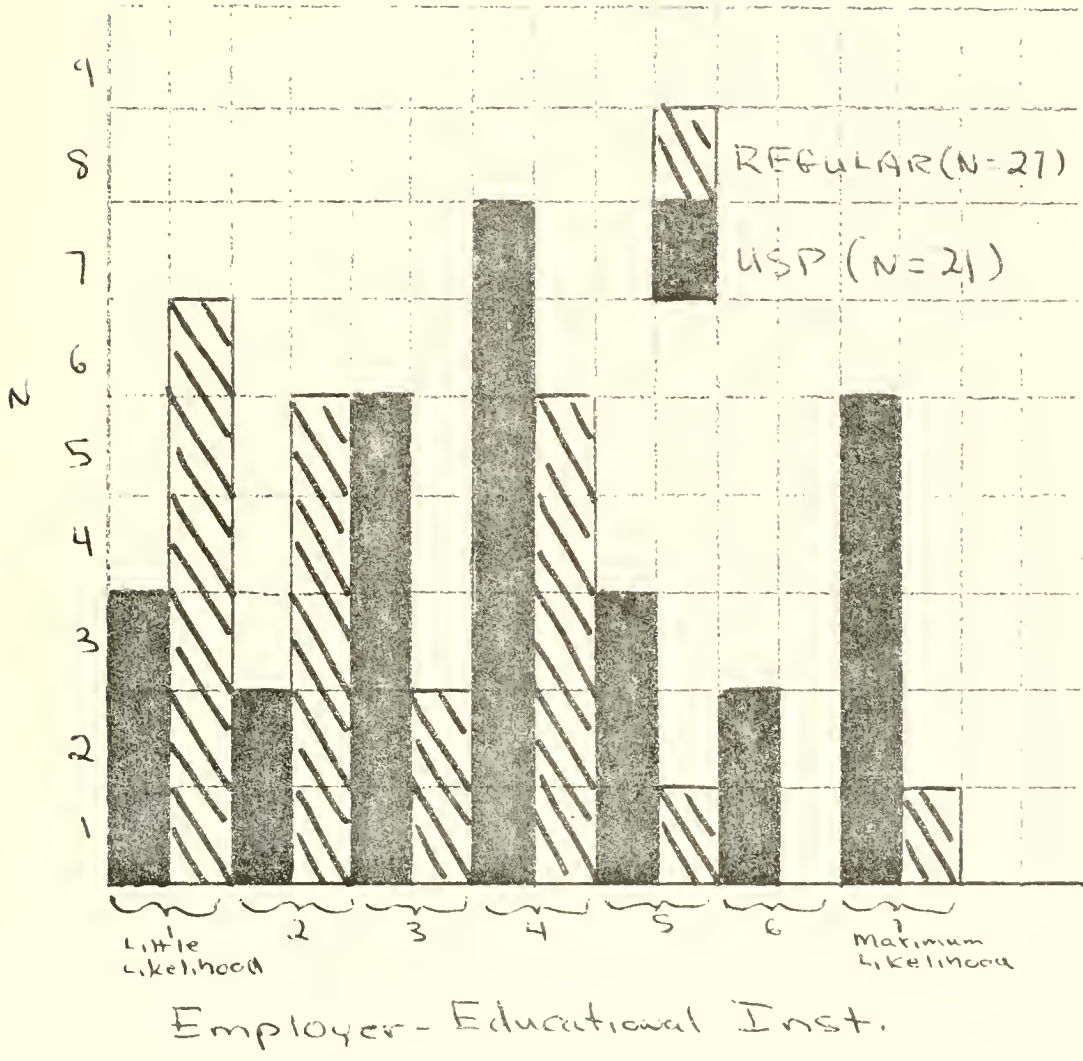
On a 7 point scale rate the likelihood that you will work for the following types of employer twenty years from now. If you are undecided or have no opinions mark a 0. Ignore military service unless you are considering it as a career. (1 = not at all likely; 7 = very likely)

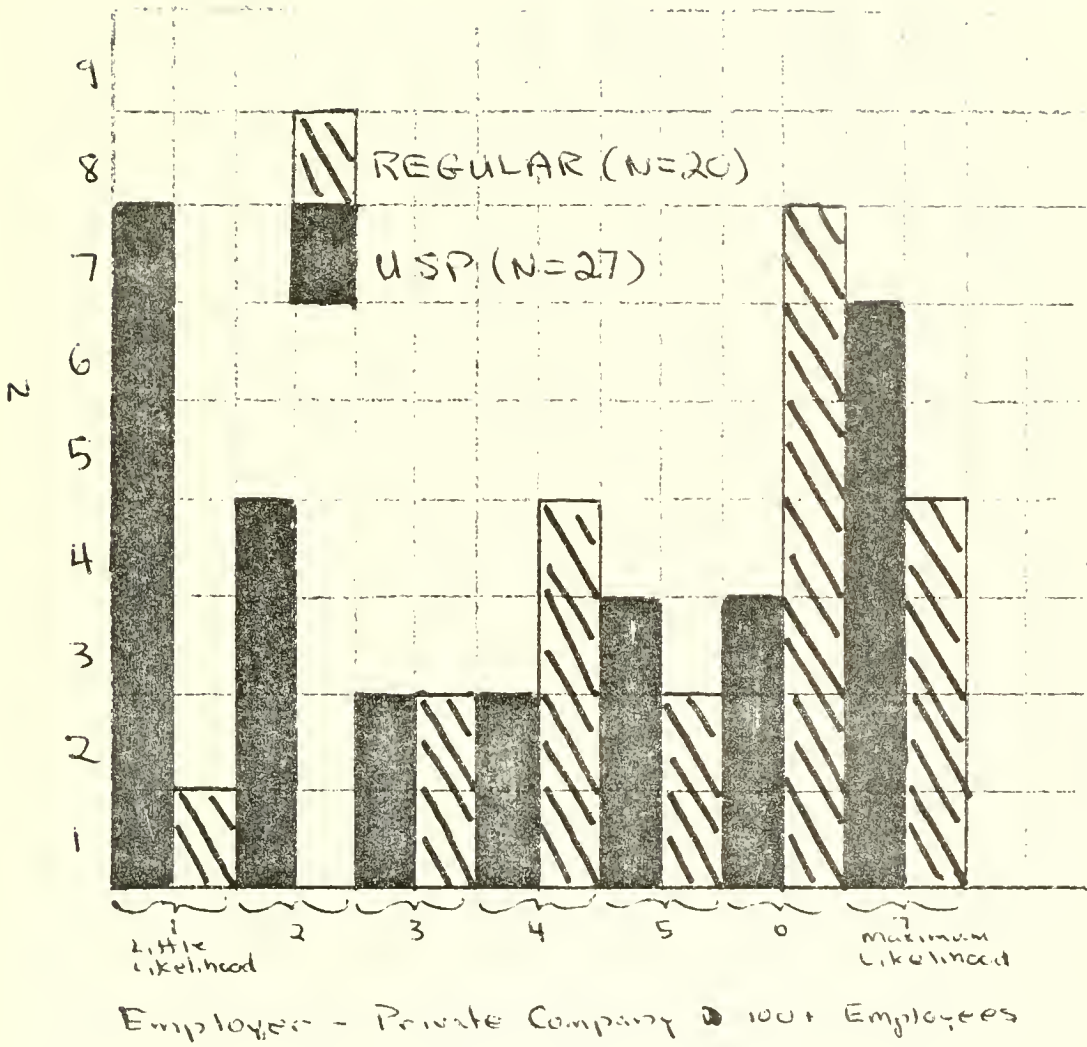
The categories are rank ordered beginning with the category given the highest rating by USP graduates.

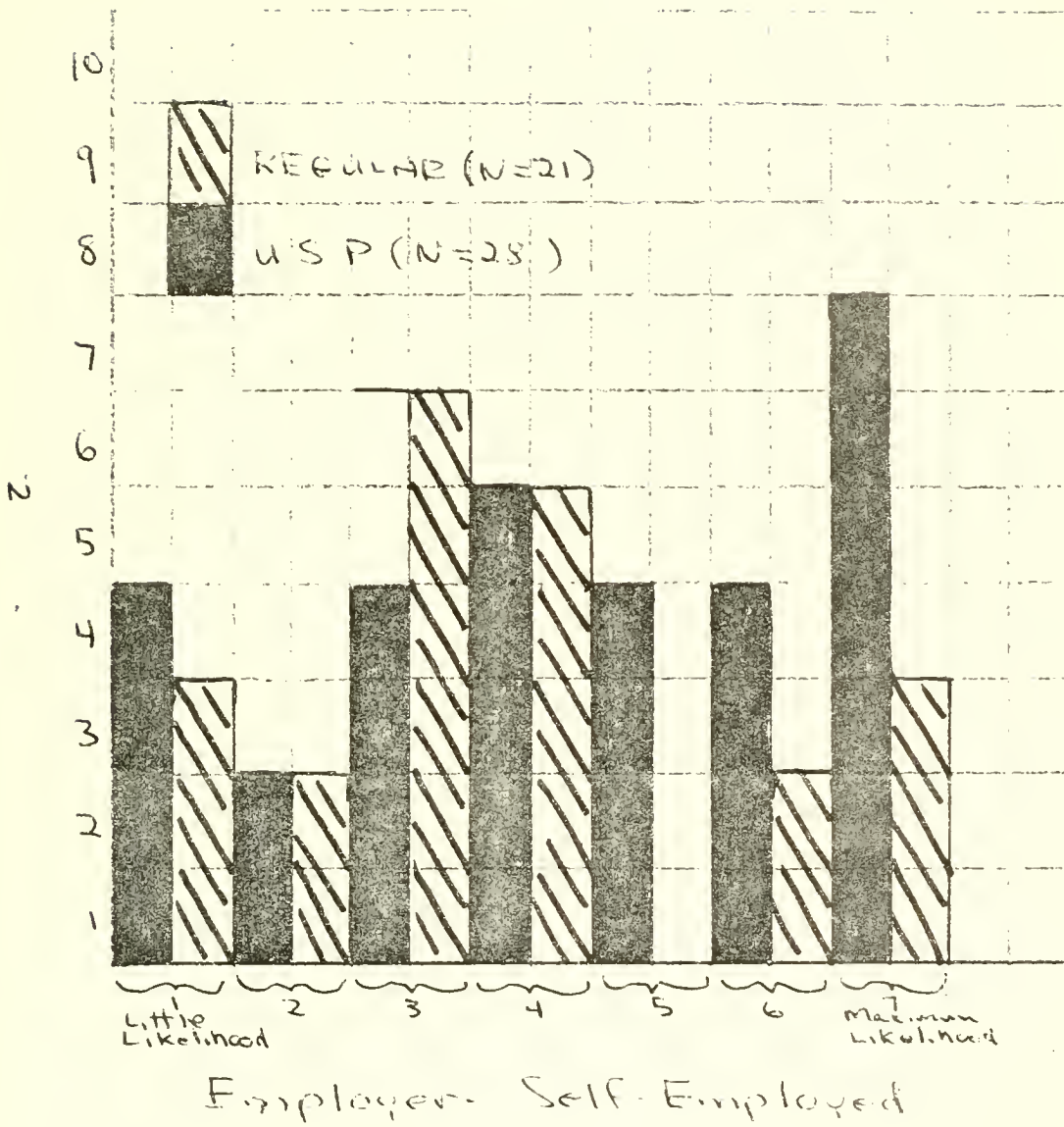
Table 31

	USP				REGULAR				t-value
	N	X	S.D.	Rank	N	X	S.D.	Rank	
Private partnership with fewer than 100 employees or professional partnership.	28	5.42	1.83	1	20	4.55	1.70	2	1.66
Partnership	26	4.61	2.11	2	20	4.10	1.68	3	0.89
Self-employed	28	4.46	2.15	3	21	3.71	1.92	4	1.26
Educational Institution	27	4.14	1.91	4	21	2.61	1.65	6	2.91*
Private company with 100 or more employees	27	3.85	2.39	5	20	5.15	1.63	1	2.17*
Research organization or institution	27	2.92	1.92	6	21	2.90	1.89	5	0.04
Non-profit organization	25	2.64	1.80	7	21	2.09	1.51	9	1.10
Federal Government	28	2.28	1.35	8	21	2.52	1.71	7	0.52
State or local government	25	2.16	1.51	9	20	2.30	1.72	8	0.28
Family Business	22	1.59	1.33	10	19	1.78	1.75	10	0.38

Both groups think it likely that they will end up in a private partnership or be self-employed, and think it unlikely that they will be in a non-profit, government, or family business organization. The groups differ in that USP's think it more likely they will be in an educational institution while regular graduates think it more likely that they will be in a private company of 100 or more employees. These findings corroborate the tendency of USP's to be heading more frequently toward educational or professional careers, while regular graduates are more frequently heading toward managerial careers.







E. Estimated Future Income

Roughly what do you expect your total income to be in twenty years? _____

USP (N = 29)

REGULAR (N = 20)

\$10,000,000	\$250,000
5,000,000	100,000
150,000	100,000
100,000	100,000
100,000	70,000
100,000	55,000
100,000	50,000
100,000	50,000
100,000	50,000
100,000	45,000
100,000	45,000
100,000	40,000
65,000	40,000
60,000	40,000
50,000	40,000
50,000	40,000
45,000	40,000
40,000	35,000
35,000	30,000
30,000	7,000
30,000	
30,000	
25,000	
25,000	
20,000	

enough to live well on

enough

have no idea

?

Everyone seems to desire wealth. The USP graduates seem to have slightly higher aspirations. The mean for USP graduates was \$67,500 (Not including the two high figures of 10 million and 5 million); the mean for regular Sloan graduates was \$61,135. Forty-eight percent of the USP graduates indicated they hoped to earn \$100,000 or more; only 20% of the regular Sloan graduates indicated they hoped to earn \$100,000 or more.

SUMMARY AND CONCLUSIONS

It was stated at the outset that it is difficult to assess the effect of an undergraduate education. The pattern of similarities and differences between the USP and regular groups confirms this difficulty. There are no easily discernible patterns or obvious outcomes to be reported. Nevertheless, it is striking to find that there are many differences between the two groups in how they perceive their education and their post-graduate career. These differences can be summarized as follows:

1. The USP and regular groups did not differ significantly in age, marital status, prior academic experience, sophomore grade average, or participation in extracurricular activities. Whatever differences existed when they entered the program were in the realm of motivation or attitudes.

2. The USP group and regular groups did not differ in their assessment of whether or not they could have accomplished more in their education. Both groups were dissatisfied on this score. The USP's felt better about the amount they accomplished relative to

their desire to accomplish and relative to what they felt other students accomplished.

3. The USP and regular groups are highly similar in the factors they rate as being important to success and in the ratings of the degree to which they possessed those factors prior to entry into the program. Both groups attach the highest value to intellectual skills, influence or change skills, and knowledge. Both groups feel that what they lacked most was knowledge and change skills.

4. The USP and regular groups show considerable differences in their report of which factors changed as a result of their education. USP's were generally higher in all areas and significantly higher on Intellectual Skills, Personal Development, and Change Skills.

5. USP graduates showed greater consensus in rating which individual factors changed most -- self-insight and ability to identify problems were listed by more than half of the respondents. Changes in self-insight were attributed primarily to interaction with fellow students, and changes in problem identifying ability were attributed primarily to interaction with faculty.

6. Both USP and regular grads agree that the study of behavioral science and computer science were of high value in their program, and that the study of marketing and international business were of low value. The groups differed on a number of other subject areas, in terms of their relative ranking but not in terms of average rating of value, though some differences approached statistical significance. USP's attached more

value to industrial dynamics and management information and control; regular graduates attached more value to finance, political economy, business policy and planning, and industrial relations.

7. Both USP's and regular's in retrospect prefer a fairly unstructured program, but the USP's are significantly farther along the scale toward low structure.

8. The USP and regular group agreed for the most part on what they now considered their strengths and weaknesses. Their strengths they consider to be ability to identify, analyze, and solve problems, ability to continue to learn, and ability to communicate ideas to others. Their weaknesses they consider to be lack of specific interests, inability to do research, low motivation to study further, and low ability to influence others and induce change. The only item on which the groups differed significantly is "self-confidence" with USP's giving this a high rating while regular graduates rate it middle to low as a strength.

9. Approximately two thirds of both groups went to graduate school, to similar types of schools, and in similar types of programs. There is some trend for USP courses of study to be somewhat more diverse than those of regular graduates.

10. The distribution of first jobs indicated that regular graduates tend to fall into more traditional categories like staff, line, internal consulting, and research, while the USP's in addition have taken jobs in external consulting and educational activities. The USP graduates report longer working weeks and somewhat higher starting salaries

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than regular graduates, but the groups do not differ in rated satisfaction with job. Both groups seem satisfied.

11. In rating their occupational future the groups consistently differ in that the USP's are somewhat more diverse in the type of job, type of employer, and type of industry which they consider it likely they will end up in. In general the diversity trend shows up in the USP's more frequently naming educational organizations, jobs, or employers, and more frequently naming individual professional work or work as part of a small partnership than work in a large organization.

This trend is also reflected in the kinds of job values held by the groups -- USP's are primarily oriented toward a pattern of "challenge," "opportunity to be creative and original", "opportunity for advancement," "recognition for work," and "opportunity to make a real contribution to success of the company." The five top ranked items for regular graduates, in contrast are "opportunity for advancement," "opportunity for high earnings," "challenge", "opportunity to be creative and original," and "recognition."

There is little evidence in the USP group that entrepreneurship as such is stronger in that group, but there is clear evidence that USP graduates are more oriented than regular graduates toward a career in which they enjoy considerable autonomy, opportunity to influence outcomes directly, and diversity of opportunity.

DATE Due

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FEB 23 '78

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