

FACULTY INFLUENCE AND PROFESSIONAL
PARTICIPATION OF DOCTORAL STUDENTS

Thesis for the Degree of M. A.

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PARTICIPATION OF DOCTORAL STUDENTS

By
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A THESIS

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CHAPTER I

INTRODUCTION: THE PROBLEM

✓ A number of studies have recently appeared in the literature of sociology concerning the socialization of the adult in the context of the American graduate school.¹ These studies have demonstrated that students experience changes in their attitudes, values and behaviors, and that these changes are related to the social system of the graduate school. ✓

Quite broadly, the concept of socialization refers to the processes by which an individual learns the ways of a social group so that he can function within that group. It includes the learning and internalizing of appropriate norms and attitudes along with the necessary knowledge and skills. In contradistinction to the psychiatric and psychological conceptualizations, socialization in the perspective of the sociologist does not end at the time of puberty.

¹James A. Davis with David Gottlieb, Jan Hajda, Carolyn Huson and Joe L. Spaeth, Stipends and Spouses: The Finances of American Arts and Science Graduate Students. Chicago: The University of Chicago Press, 1962; David Gottlieb, "American Graduate Students: Some Characteristics of Aspiring Teachers and Researchers," Journal of Educational Psychology, 53 (1961), 236-40, and; David Gottlieb, "Processes of Socialization in American Graduate Schools," Social Forces, 40 (1961), 124-31.

Recent articles² have pointed out how, under the banner of Freudian doctrine, socialization has been restricted to the time of child development--the time when "the individual is originally inducted into the social organization".³

Emphasizing the time of childhood development in the socialization process is, for Parsons, proper for two reasons. First, the child ". . . has so far to go, . . ." and second,

There is reason to believe that, among the learned elements of personality in certain respects the stablest and most enduring are the major value-orientation patterns and there is much evidence that these are "laid down" in childhood and are not on a large scale subject to drastic alteration during adult life.⁵

Nonetheless, for most sociologists and especially those who work in the areas of adult socialization, careers, and occupations a fundamental assumption is that socialization occurs throughout life.

. . . the personality is a growing, changing, plastic structure that is subject to modification throughout life by the social influences that surround the individual. . .⁶

²David Gottlieb, Processes of Socialization in the American Graduate School. An unpublished Ph.D. dissertation, University of Chicago, Chicago, Illinois, 1960, and Howard S. Becker and Anselm L. Strauss, "Careers, Personality, and Adult Socialization," The American Journal of Sociology, LXII (1956), 253-63.

³Gottlieb, Processes of Socialization in the American Graduate School, op. cit., p. 2.

⁴Talcott Parsons, The Social System. Glencoe: The Free Press, 1951, p. 208.

⁵Ibid.

⁶Gottlieb, Processes of Socialization in the American Graduate School, op. cit., p. 1.

✓ Just as the new recruit is socialized into the army, the groom into a life of marriage, and an employee into the job situation, the graduate student is socialized into his professional field. Although the socialization of the adult differs from that of the child, in that the adult has already developed a somewhat established character structure, the processes are much the same. The socializer teaches, serves as a model, and invites participation. Individuals being socialized learn and internalize the new expectations and develop and modify their self-conceptions by role-taking, observation, and participation.†

• Perhaps, the most useful definition of adult socialization is that made by Merton.

Socialization . . . refers to the learning of social roles. In its application to the medical student, socialization refers to the processes through which he develops his professional self, with its characteristic values, attitudes, knowledge, and skills, fusing these into a more or less consistent set of dispositions which govern his behavior in a wide variety of professional (and extra-professional) situations. Socialization takes place primarily through social interactions with people who are significant for the individual--in the medical school, probably with the faculty members above most others . . . 7

Thus, the concept of adult socialization is seen as the process whereby the individual develops or modifies his concept of self through the acquisition of personality characteristics vis-a-vis contacts with "significant others". As Gottlieb has pointed out, Merton's conceptualization of socialization is one which assumes that the

⁷Robert K. Merton, "Socialization: A Terminological Note," in Robert K. Merton, George Reader and Patricia L. Kendall (editors), The Student Physician: Introductory Studies in the Sociology of Medical Education. Cambridge: Harvard University Press, 1957, p. 287.

. . . professional self is an important aspect of the total self, and that the professional school and the personnel directly and indirectly associated with it are significant influences in the formation of the professional self.⁸

Moreover, Merton assumes that in the context of the professional school the most important "significant other" for the student is that of the graduate faculty.

Merton's conceptualization also notes that the processes of socialization occur both formally and informally.

. . . direct learning through didactic teaching of one kind or another, and indirect learning, in which attitudes, values and behavior patterns are acquired as byproducts of contact with instructors and peers, with patients, and with the members of the health team.⁹

It is the latter, the less conspicuous learning process, with which Merton is primarily concerned. Indirect learning is frequently and more easily neglected and is viewed as being acquired as a byproduct of contact with the faculty, among others.

Elkin, too, emphasizes the "informal" process of socialization and further notes that the persistence of any on-going social group, in its existing form, is continually dependent on socialization,

. . . on the learning by new recruits and participants of both the necessary skills and appropriate attitudes and sentiments. The infantry recruit should learn not only the basic skills of fighting, he should also know

⁸Gottlieb, Processes of Socialization in the American Graduate School, op. cit., p. 3.

⁹Robert K. Merton, "Some Preliminaries to a Sociology of Medical Education," in Merton, Reader and Kendall, op. cit., p. 41.

the traditions and slang of his unit, and believe that commands should come through military hierarchy.¹⁰

¶ In learning to become a professional, the student formally learns the skills of the field. He is both formally and informally introduced to the "code of ethics", ideals, norms and protocols of the profession. At much the same time, he is informally socialized through interaction with the faculty. Through stories, observations, imitation, and interaction with these "significant others", he develops a conception of his professional self.¶

The Problem

The task of this research is to explore one small part of the graduate student socialization process--that of the "professionalization" of the doctoral student. Specifically, we shall explore the role the faculty plays in accounting for the professional participation of doctoral students. We shall investigate, describe, and analyze how students of varying degrees of faculty encouragement and varying degrees of faculty contact participate in the professional activities of their respective fields. We shall describe how students who participate and students who do not participate in these various activities compare in terms of their relationships with the faculty.

It is the thesis of this research that in the social system of the graduate school the faculty constitutes a "significant other" for the graduate student and that much of the student's professional behavior is

¹⁰Frederick Elkin, The Child and Society: The Process of Socialization. New York: Random House, 1960, pp. 101-102.

a result of his interaction with the faculty. We will utilize the conceptual framework described by Merton and Gottlieb. "That is, casting the faculty in the role of the socializer and the student in the role of the socializee, we want to see if the faculty constitutes a significant influence for the student."¹¹

We hypothesize that the participation in professional activities by the graduate student during the period of his doctoral training is related to (a) the amount of contact he has had with the faculty and (b) the amount of encouragement he received from the faculty. The more contact a student has with the faculty and the more he is encouraged by the faculty towards a professional activity, the more the student will tend to participate in that activity.

The reader is asked to bear in mind that this is not a study of the total graduate student socialization process, but an exploratory investigation of one part of the socialization process--the graduate student as a professional and the influence of the faculty in this part of his socialization. We are not, of course, proposing that the faculty is the sole influence in the life of the graduate student for previous studies have shown that among other factors, peers, spouses, and finances have a direct influence on him.¹² The focus of this research is the influence of the faculty.

¹¹Gottlieb, Processes of Socialization in the American Graduate School, op. cit., p. 4.

¹²See, for example, William Erbe, "Gregariousness, Group Membership, and the Flow of Information," The American Journal of Sociology, LXVII (1962), 502-16 and, Davis, et al., op. cit.

It is also important that the reader keep in mind that our data covers only the more structural and behavioral aspects of the student-faculty relationship and does not directly deal with attitudes, values, cognitions or beliefs. Moreover, we are asserting that the faculty socialize, that they impart their values to the student and yet we know that reciprocity is characteristic of all interaction. Most of all, we should be cognizant of the fact that student conformity to various faculty influences does not guarantee that socialization has occurred. It may simply be that the student recognizes the path of least resistance to the degree and, not that he has internalized the attitudes and values of the faculty. Consequently, we shall necessarily be somewhat conservative concerning the inferences we make about socialization.

CHAPTER II

PRELIMINARY CONSIDERATIONS: A DISCUSSION OF PREVIOUS STUDIES¹

There have been relatively few studies that have been concerned with the student-faculty relationship in the area of graduate student socialization. The few that have been done, however, have had direct influence on this study. These studies come from two major sources: the study of the medical student by Robert Merton and associates of the Bureau of Applied Social Research,² and the study of the arts and science student by James Davis and associates of the National Opinion Research Center.³

✓ The first of these, the study of the medical student is only partially reported. A collection of articles, edited by Merton, Reader and Kendall, present initial findings of the research, along with a description of the setting and theoretical orientation of the project.

Most of the articles focus on the process of occupational decision-making. One of these, an article on "The Decision to Study Medicine,"

¹For a complete review of the literature on adult socialization, see Gottlieb, Processes of Socialization in the American Graduate School, op. cit., pp. 4-53.

²Merton, Reader and Kendall, op. cit. For a methodological review, see James A. Davis' review article in The American Journal of Sociology, LXIII (1958), 445-46. A more substantive review is Howard Becker's in the American Sociological Review, 23 (1958), 336-37.

³Davis, et al., op. cit.

analyzes correlates of early and late decisions to enter medical school.⁴ Rogoff finds that "the more contact with physicians (in the family), the earlier interest was aroused"⁵ and that an early decision to study medicine is generally a more enthusiastic one. Those who decided early reported that their significant reference group was their family, whereas students who decided on medicine after entering college reported more social support from their peers.

Thielens' article⁶ compares entrants to medical school with entrants to law school and shows that the decision to study medicine is made earlier than the decision to study law. The author describes three factors which he thinks contribute to the difference:

course requirements for admission to medical school are more extensive than those for admission to law school, medical entrants have had more contact with representatives of their future profession, and physicians have higher standing in the community and larger incomes than lawyers.⁷

One article in this collection that specifically discusses the significance of student-faculty relationships is Kendall and Selvin's "Tendencies Toward Specialization in Medical Training."⁸ They found that students are increasingly likely to express a preference for specialization as they progress through their training. Among first year students,

⁴Natalie Rogoff, "The Decision to Study Medicine," in Merton, Reader and Kendall, op. cit., pp. 109-29.

⁵Ibid., p. 128.

⁶Wagner Thielens, Jr., "Some Comparisons of Entrants to Medical and Law School," in Merton, Reader and Kendall, op. cit., p. 130-52.

⁷Ibid., p. 151.

⁸Patricia L. Kendall and Hanan C. Selvin, "Tendencies Toward Specialization in Medical Training" in Merton, Reader and Kendall, op. cit., pp. 153-78.

35 percent expect to go into speciality practice, 41 percent of the second year students, 56 percent of the third year students and 74 percent of the fourth year students.⁹ The authors suggest the reason that a high percentage of first year students choose general practice is because they know so little about their own capacities and the requirements of the specialities. Their "preference" for general practice is their way of avoiding a premature commitment.

The fourth-year students, on the other hand, show a marked preference for speciality practice and Kendall and Selvin hypothesize that this preference reflects the advanced students' awareness of the horizons of their professions and their own limitations. Thus, they choose to narrow the area in which they will commit themselves to competence. During the fourth year the student actually applies for and receives his internship assignment. During this time when final commitments are made, Kendall and Selvin suggest that a selective process is set in motion.¹⁰ Many students change their preferences by the time they formally make application for internships. The authors present data which shows that there is a tendency for the better students (as measured by cumulative grades) to request and receive the speciality internships.¹¹ The authors suggest that the better jobs await those students who have completed speciality internships and that most of the students know this but only the better students can count on getting good recommendations from the

⁹Ibid., p. 156.

¹⁰Ibid., p. 166.

¹¹Ibid., pp. 169-70.

faculty. The poorer students recognize this, and alter their expectations to be more consistent with what they think their chances are.¹²

The students are assisted in their evaluations of their professional self-image by discussions with the faculty. "During the course of these discussions, students may be discouraged from some of the plans which they have developed and encouraged in others."¹³

Although Kendall and Selvin's suggestions of faculty influence are largely speculation, they do hypothesize the kinds of relationships in which we are interested and will be investigating.

Another article in The Student Physician which is relevant to the proposed research is "The Development of a Professional Self-Image."¹⁴ In this article, Huntington presents data which shows how the medical student develops an image of himself as a doctor, rather than student, as he goes through his professional training. She finds that the student alters his professional image as he interacts with persons in his role-set who have varying expectations of him.

¹²Ibid., p. 170.

¹³Ibid., p. 171.

¹⁴Mary Jean Huntington, "The Development of a Professional Self-Image," in Merton, Reader and Kendall, op. cit., pp. 179-87.

SELF-IMAGES AND ATTRIBUTED IMAGES OF FIRST-YEAR STUDENTS

IN DIVERSE ROLE RELATIONSHIPS¹⁵

In their dealings with:	Percentage who thought of themselves as doctors	Percentage who thought others defined themselves as doctors
Faculty	2	2
Classmates	3	0
Nurses	12	8
Patients	31	75
	(N-162)	(N-162)

Although these data are not conclusive, they do suggest that in the environment of the professional (graduate) school, the faculty becomes an important reference group for individuals in training. It is here that the student, to a large extent, develops his professional self-image and obtains a definition of his profession.

The other major study which has produced data relevant to the research proposed here, is the National Opinion Research Center's national survey of arts and science graduate students. This study has reported a relationship between faculty encouragement and the faculty rating of the students' ability.¹⁶

¹⁵Adapted from Huntington, *ibid.*, p. 182.

¹⁶Adapted from table 9.16 in Davis, *et al.*, *op. cit.*, p. 274.

Faculty Ability Rating	Encouraged (percent)	(N)
High and middle	77	(1491)
Low	55	(731)

They also found a relationship between faculty encouragement and the type of jobs that students eventually obtain.

Students who are high on our faculty encouragement index are more likely to get academic jobs, even controlling for the major predictor variables. Whether such students are more highly motivated or whether the professors who encouraged them hustled around to get them jobs, we do not know.¹⁷

It would seem that students who are defined as the better students ability-wise are not only encouraged by the faculty during the time of their training, but are also sponsored in the job market.

The writings from the Chicago study which have most relevance for this study are those on the Processes of Socialization in the American Graduate School.¹⁸

Gottlieb focused on faculty influence in the changes of student preferences for teaching and research. His purpose was to ascertain whether the faculty had any influence in student changes in values, and to investigate this influence from the standpoint of adult socialization.

"We want to see if the faculty constitutes a significant reference

¹⁷Ibid., p. 118.

¹⁸Gottlieb, Processes of Socialization in the American Graduate School, op. cit.

group for the student in deciding his career."¹⁹ The major hypotheses of the research were:²⁰

1. When the orientation of the student and faculty are in substantial agreement, the student orientation will be reinforced and will be less amenable to change than the student whose orientation is similar to that of the faculty.
2. The student whose orientation is different from the faculty will tend to change in the direction of the faculty.
3. The highest rates of career preferences change will take place among those students with the highest degree of interpersonal contact with the faculty.

Data are presented which support each of the above hypotheses. He shows that changes in career preference are related to (a) the passing of time, (b) departmental climate, and (c) integration with the faculty.²¹ He found that "The people who are integrated with the faculty change more than those who are not, and this effect accelerates with the passage of time up to the fourth year of graduate study."²² He also found that students respond quite markedly to faculty encouragement.²³

In an article entitled "The Development of Identification with an Occupation,"²⁴ Becker and Carper discuss how student-faculty relationships

¹⁹Ibid., p. 6.

²⁰Ibid., p. 7.

²¹Gottlieb, "Processes of Socialization in American Graduate Schools," op. cit., p. 131.

²²Ibid., p. 127.

²³Ibid., pp. 130-31.

²⁴Howard S. Becker and James W. Carper, "The Development of Identification with an Occupation," The American Journal of Sociology, LXI (1956), 289-98.

play a major part in the acquisition and/or maintenance of specific kinds of occupational identities among graduate students in physiology, philosophy and mechanical engineering. In their discussion of the physiologists, Becker and Carper observed that

He (the student) is often able to model his behavior after that of a professor or of an ideal constructed of the characteristics of several professors, learning through observation of them the kind of tasks which physiologists in fact perform.²⁵

Another way in which the faculty's relationship to the student affects the latter's occupational identity is through the pattern of sponsorship, "a means by which persons low in an occupational hierarchy are recommended by more highly placed persons for better positions."²⁶ As such, the sponsorship pattern involves reciprocal obligations between the parties, for if the student fails he will have embarrassed his sponsor.

When a person is sponsored into a first position in the work world after leaving graduate school, he feels obligated to act as a true member of the occupation and to remain within it, because of the trust placed in him by his sponsor. The creation of this obligation solidifies occupational attitudes and loyalties--the individual feels that he must remain what he has become in order not to let down his sponsor--and thus strengthens identification with occupational title and ideology.²⁷

²⁵Ibid., p. 292.

²⁶Ibid., p. 297.

²⁷Ibid., p. 298.

CHAPTER III

THE SAMPLE, FIELD PROCEDURES AND DESIGN OF ANALYSIS

The sample for this study consists of 358 individuals who officially received a doctorate (Ph.D. or Ed.D.)¹ from Hypothetical University during the calendar years of 1960, 1961 and for the period January 1 to March 13 (winter quarter), 1962. It should be emphasized that this is a very select group.² The title of this thesis, "Faculty Influence and Professional Participation Among Doctoral Students," is somewhat misleading. A more accurate title would be "Faculty Influence and Professional Participation Among Successful Doctoral Students at Hypothetical U."

Hypothetical U. is a large mid-western university located in the town of Lazarsville, four miles from the city of Stoufferton. Lazarsville, a town of roughly 25,000, is almost entirely a college and residential community. Stoufferton, the state capital, is a relatively large industrial city of approximately 100,000. Employment in Stoufferton is mainly with the automobile industry and with the state civil service.

¹During the period of January 1, 1960 to March 13, 1962 the University did not grant any D.V.M. or D.B.A. degrees.

²Preliminary analysis of data from a national survey reveals that attrition for students enrolled at the post-master level is upward of 25 percent. The Graduate Student Attrition Project, directed by David Gottlieb, Michigan State University, East Lansing, Michigan.

Hypothetical U. was founded in the mid-nineteenth century, and it ranks as one of the nation's ten largest educational institutions with about 4,000 of its 24,000 students enrolled in the graduate school.

The graduate school at Hypothetical U. has eight colleges and 66 departments offering degree programs in 275 different fields. Degrees that may be earned on the doctoral level are the Doctor of Philosophy (Ph.D.), Doctor of Education (Ed.D.), Doctor of Business Administration (D.B.A.), and Doctor of Veterinary Medicine (D.V.M.). The enrollment for the fall term of 1961-62 for the total graduate school was 3,596. Of this total, 63 percent were studying on the master's level and the remaining 37 percent were doctoral candidates. The University grants approximately 200 doctoral degrees each year.

The listing and procurement of the sample was completed in two stages because the study began before the (March) 1962 group had graduated. Consequently, stage one will refer to those persons who graduated in the calendar years 1960 and 1961 and stage two will refer to those who graduated in 1962.

The list of the sample for stage one was obtained from the records of the Office of the Registrar. A total of 417 persons had officially received the doctorate during the calendar years of 1960 and 1961. Of this number 50 had foreign addresses and 367 had American addresses.

On January 24, 1962, a copy of the field questionnaire,³ a cover letter,⁴ and a self-addressed envelope were mailed first-class to each

³An approximation of the field questionnaire used in this study appears in the appendix.

⁴An approximation of the cover letter used in the mailing appears in the appendix.

person with a foreign address (50) who had officially received a doctor's degree from Hypothetical U. during the calendar years 1960 and 1961.

On January 25 and 26, 1962, a copy of the field questionnaire, a cover letter, and a stamped, self-addressed envelope were mailed first-class to each person with an American address (367) who had officially received a doctor's degree from Hypothetical U. during the calendar years 1960 and 1961.

Consistent with the best dictates on maximizing returns from a mailed questionnaire,⁵ each questionnaire was hand processed;⁶ each cover letter was individually typewritten and personally signed on letterhead stationary of the Office of Research Development, Hypothetical U.⁷ Addresses were individually typewritten on each envelope and each envelope was then hand stamped with small denomination stamps.⁸

Thirty days after the original mailing, a "follow-up" mailing was sent. The returns, as of that day, were 56 percent for the total sample--62 percent for American addresses.

⁵Mildred Parten, Surveys, Polls and Samples: Practical Procedures. New York: Harper and Brothers, 1950, pp. 383-402.

⁶D. S. Longworth, "Use of a Mail Questionnaire," American Sociological Review, 18 (1953), pp. 310-13.

⁷William J. Goode and Paul K. Hatt, Methods in Social Research. New York: McGraw-Hill Book Company, Inc., 1952, p. 179.

⁸Longworth, op. cit.

TABLE I
RETURNS OF THE MAILED QUESTIONNAIRE
(One Month After Original Mailing)

Address Group	Returns (percent)	(N)
American Addresses	62	(367)
Foreign Addresses	12	(50)
Totals	56	(417)

The follow-up included a brief cover letter,⁹ another copy of the questionnaire, and a stamped, self-addressed envelope. It was sent only to those persons who had American addresses and, as of February 26, 1962, had not returned the first questionnaire. A follow-up was not sent to persons with a foreign address because it usually takes thirty days or more just for first-class mail to reach respondents in foreign countries. A total of 138 of the original respondents were included in the follow-up.

On May 1, 1962, approximately three months after the first mailing, coding began and returns for the mailing at that time were 80 percent of the total sample; 88 percent for American addresses and 30 percent for foreign addresses.

⁹An approximation of the cover letter used in the follow-up mailing appears in the appendix.

TABLE 2

FINAL RETURNS OF THE MAILED QUESTIONNAIRE

Address Group	Returns (percent)	(N) ¹⁰
American addresses	88	(363)
Foreign addresses	31	(54)
Totals	80	(417)

During the course of the mailing, it was learned that eight persons included in the original listing of this part of the sample did not receive a doctorate, but a Diploma of Advanced Graduate Study. The Diploma of Advanced Graduate Study is usually referred to by the abbreviation "D.A.G." and is sometimes referred to as the "six year degree" (estimating four years for the bachelor's, one year for the master's and one year for the D.A.G.). The only requirement for this degree is successful completion of 45 hours of class work beyond the master's degree. It requires no language, no research and no thesis. By definition, persons with a Diploma of Advanced Graduate Study were not part of the sample and were eliminated from further analysis.

The total number of individuals in this part of the sample, 1960 and 1961, is 409. The number of individuals for whom we have completed questionnaires is 327--80 percent.

The list of the sample for stage two was obtained from the Office of the Registrar during the first week of March. Persons graduating in

¹⁰Address changes that occurred since the first mailing necessitated adjustments in these figures.

1962 were given a questionnaire and a cover letter¹¹ along with the usual official forms which must be completed in order to formally qualify for graduation.

On March 20, 1962, one week after graduation and three weeks after the official deadline to complete application for graduation, 65 percent of the 37 persons graduating had returned their questionnaires. On that same day, March 20, 1962, a copy of the questionnaire, a cover letter and a stamped self-addressed envelope were sent to each of the remaining 13 persons who had graduated but, as of that day, had not returned their completed questionnaire.

On May 1, 1962, coding began and the response from this part of the sample was 84 percent.

In summary, the selected sample N for this study is 446; the response is 358--80.2 percent of the sample.

A Comparative Description of the Sample and the Response

In an attempt to ascertain the representativeness of the sample, this section compares the original sample with the response by term officially graduated, by year officially graduated, by sex, by degree earned, by college, and by department and division.

Table 3 shows the proportion of the sample and the response for each of the nine different graduating groups included in this survey.

¹¹An approximation of the cover letter given to individuals in this group appears in the appendix.

TABLE 3

COMPARISON OF THE SAMPLE AND RESPONSE BY TERM
OFFICIALLY GRADUATED

Term Graduated	Sample (percent)	Response (percent)
Winter, 1960	6	6
Spring, 1960	14	13
Summer, 1960	11	12
Fall, 1960	12	10
Winter, 1961	10	11
Spring, 1961	13	14
Summer, 1961	11	12
Fall, 1961	14	14
Winter, 1962	8	9
Totals	99	101
	(N = 446)	(N = 358)

For two of the graduating groups--Winter, 1960 and Fall, 1961--the proportion of the sample and proportion of the response are the same. In five of the nine groups (Summer, 1960; Winter, Spring and Summer, 1961; and Winter, 1962), the response is over-represented by one percent. The only group where the response representation varies more than one percent from that of the sample is in the Fall, 1960 group where the response is under-represented by two percent.

Generally, the more recent graduates are somewhat over-represented. In Table 4 the data are categorized by year graduated rather than term

graduated. The 1960 graduates constitute 43 percent of the sample and 40 percent of the response, a difference of three percent. The 1961 graduates, on the other hand, constitute 48 percent of the sample and 51 percent of the response, an over-representation of three percent. The 1962 graduates (only one graduating group) constitute one percent less in the sample than in the response.

TABLE 4
COMPARISON OF THE SAMPLE AND RESPONSE BY
YEAR OFFICIALLY GRADUATED

Year Graduated	Sample (percent)	Response (percent)
1960	43	40
1961	48	51
1962	8	9
Totals	99	100
	(N = 446)	(N = 358)

Why do the more recent graduates return better than graduates of some time ago? Part of the answer may be found in previous researches which have shown that higher returns are realized from those for whom the organization is a significant reference group¹² and from those who

¹²Carl F. Reuss, "Differences Between Persons Responding and Not Responding to a Mailed Questionnaire," American Sociological Review, 8 (1943), pp. 433-38. Also, Richard F. Larson and William R. Catton, Jr., "Can the Mail-back Bias Contribute to a Study's Validity?," American Sociological Review, 24 (1959), pp. 243-45.

are characterized as having the more "extreme" opinions on the subject under investigation.¹³ Taken in aggregate, one might expect the above characteristics to be more predominant among the recent graduates, and thus expect the recent graduates (1961 and 1962) to have a higher percentage of returns.

TABLE 5
COMPARISON OF THE SAMPLE AND RESPONSE BY SEX

Sex	Sample (percent)	Response (percent)
Male	94	94
Female	6	6
Totals	100	100
	(N = 446)	(N = 358)

When we compare the response and the original sample in terms of sex, we see that there is no difference in terms of representativeness.

¹³Daniel Katz and Hadley Cantril, "Public Opinion Polls," Sociometry, 1, (1937), pp. 155-79. Also, Parten, op. cit., p. 391.

TABLE 6

COMPARISON OF THE SAMPLE AND RESPONSE BY DEGREE

Degree	Sample (percent)	Response (percent)
Ph.D.	89	89
Ed.D.	10	11
Totals	99	100
	(N = 446)	(N = 358)

Table 6 shows that by degree earned the Ph.D.'s constitute the same proportion of the response as they do the sample and the Ed.D.'s are slightly over-represented in the response--a difference of one percent.

TABLE 7

COMPARISON OF THE SAMPLE AND RESPONSE BY COLLEGE

College	Sample (percent)	Response (percent)
Agriculture	27	26
Business and Public Service	6	6
Communication Arts	3	3
Education	24	26
Engineering	5	4
Home Economics	-	-
Science and Arts	33	32
Veterinary Medicine	2	2
Totals	100	99
	(N = 446)	(N = 358)

Table 7 shows the percent of the sample and percent of the response for each of the eight colleges. Four of the colleges, Business and Public Service, Communication Arts, Home Economics and Veterinary Medicine, are equally well represented. Three colleges, Agriculture, Science and Arts and Engineering, are slightly under-represented--a difference of one percent--whereas the college of Education constitutes 24 percent of the sample and 26 percent of the response.

TABLE 8

COMPARISON OF THE SAMPLE AND RESPONSE BY DIVISION OF STUDY

Division of Study	Sample (percent)	Response (percent)
Humanities	6	7
Social Science	11	9
Biological Science	10	10
Physical Science	13	12
Traditional Arts and Sciences, All Divisions	39	38
Agriculture	27	26
Education	24	26
"Other Professional"	10	9
Professional Fields, All Divisions	61	62
Totals	100	100
	(N = 446)	(N = 358)

Table 8 shows that the traditional arts and sciences comprise 39 percent of the sample and slightly less, 38 percent, of the response. By division, the Biological Sciences constitute the same proportion in each category. The division of Humanities is slightly over-represented, a difference of one percent, whereas the division of Physical Sciences is under-represented by the same margin. The division of Social Sciences constitutes 11 percent of the sample but nine percent of the response, a difference here of two percent.

For the professional fields which constitute 61 percent of the sample and 62 percent of the response, both the divisions of Agriculture and "other professional" are under-represented by one percent. The division of Education is over-represented by two percent.

We have now presented a descriptive comparison of the sample and the response for each of the known sample values. We have seen that most of the variables under scrutiny were proportionately the same for the response as they were for the initial sample. The largest discrepancy between the sample and the response was for "year graduated" where we observed that the recent graduates constitute three percent more of the response than they do of the sample.

As most of the differences are quite small, no correction will be made for the sample-response discrepancies. However, the reader is asked to keep these differences in mind as we proceed with the analysis.

Table 9 shows the distribution of departments in each of the divisions of the traditional arts and sciences and Table 10 does the same for the professional fields. Using the traditional categories¹⁴

¹⁴Bernard Berelson, Graduate Education in the United States. New York: McGraw-Hill Book Company, Inc., 1960.

of classification, the divisions of the traditional arts and sciences are Humanities, Social Science, Biological Science and Physical Science. The divisions of the professional fields are Agriculture, Education and "other professional". The division of "other professional" includes the respondents of Business Administration, Home Economics, Veterinary Medicine and Engineering. As these latter four areas are all professional and since the combined N is relatively small, we have grouped them together under the division heading of "other professional". Since the number of cases in each department is quite small, the data are reported in raw numbers, rather than percentages.

TABLE 9

DESCRIPTION OF THE SAMPLE AND RESPONSE BY DEPARTMENT AND
DIVISION FOR THE TRADITIONAL ARTS AND SCIENCES

Department and Division	Sample (N)	Response (N)
Humanities:		
English	5	5
General Communication Arts	2	2
History	2	2
Music	3	3
Philosophy	3	3
Speech	10	10
Totals	25	25
Social Science:		
Economics	6	3
Political Science	7	6
Psychology	21	15
Social Science Divisional Major	2	1
Sociology and Anthropology	13	9
Totals	49	34
Biological Sciences:		
Anatomy	2	1
Botany and Plant Pathology	11	8
Entomology	5	3
Microbiology and Public Health	14	14
Physiology and Pharmacology	3	3
Zoology	9	7
Totals	44	36
Physical Sciences:		
Chemistry	34	27
Geography	4	3
Geology	2	2
Mathematics	5	4
Physics and Astronomy	9	5
Statistics	3	1
Totals	57	42

TABLE 10

DESCRIPTION OF THE SAMPLE AND RESPONSE BY DEPARTMENT AND
DIVISION FOR THE PROFESSIONAL FIELDS

Department and Division	Universe (N)	Sample (N)
Agriculture:		
Agricultural Chemistry	6	5
Agricultural Economics	17	16
Agricultural Engineering	7	5
Animal Husbandry	15	12
Dairy	5	4
Farm Crops	5	3
Fisheries and Wildlife	11	8
Food Technology	10	10
Forest Products	2	1
Forestry	11	9
Horticulture	12	8
Poultry Science	5	5
Soil Science	15	8
Totals	121	94
Education:		
Adult and Continuing Education	27	24
Agricultural Education	1	1
Business and Distributive Education	1	1
General School Administration	54	45
Guidance and Counseling	15	15
Industrial Education	1	1
Physical Education	4	4
Social-Philosophic Foundations of Education	4	4
Totals	107	95
"Other Professional:"		
Business Administration	15	13
Engineering:		
Applied Mechanics	8	7
Chemical Engineering	2	-
Civil and Sanitary Engineering	1	-
Electrical Engineering	8	6
Mechanical Engineering	2	-
Home Economics	2	1
Veterinary Medicine	5	5
Totals	43	32

The data-gathering instrument for this study was a 20-page questionnaire consisting of approximately 90 questions, many with sub-parts. Although most procedural statements on the use of the mailed questionnaire advise that " . . . it is usually unwise to expect returns from a questionnaire which requires much more than ten to 25 minutes to complete . . . ",¹⁵ Sletto's study has shown that with some groups the "shorter the questionnaire the higher the returns" axiom does not hold.¹⁶ Using three groups of university alumni of 100 persons each, he mailed questionnaires of ten pages, 25 pages and 35 pages in length and found no significant difference in returns from the three groups. This does not, however, necessarily mean that there is no threshold (high or low) for length.

The questions were designed to elicit information on items including:

A. The Independent Variable -

1. Faculty encouragement

How much encouragement did you receive from faculty members of your department to attend professional meetings?

How much encouragement did you receive from faculty members of your department to present papers at professional meetings?

How much encouragement did you receive from faculty members of your department to make professional contacts with important scholars or researchers of your field within the university, but outside of your department?

¹⁵Goode and Hatt, op. cit., p. 170.

¹⁶R. F. Sletto, "Pretesting a Questionnaire," American Sociological Review, 5 (1940), pp. 193-200.

How much encouragement did you receive from faculty members of your department to make professional contacts with important scholars or researchers of your field, in other universities?

How much encouragement did you receive from faculty members of your department to publish in professional journals or magazines?

2. Contact and "integration" with the faculty

Do you feel you had sufficient opportunity to discuss career plans with members of the faculty?

How many faculty members of your department did you know well enough during your doctoral training with whom you felt you could discuss personal problems?

How many times did you meet with your full guidance committee during your graduate training?

Did you discuss your thesis or program with members of your committee on an individual basis?

How many times in a quarter did you meet with your major professor, on the average?

B. The Dependent Variable -

1. Professional behaviors

During the period of your doctoral training did you attend one or more professional meetings?

During the period of your doctoral training did you develop professional contacts with important scholars or researchers of your field within the university, but outside of your department?

During the period of your doctoral training did you present one or more papers at professional meetings?

During the period of your doctoral training did you develop professional contacts with important scholars or researchers of your field, from other universities?

During the period of your doctoral training did you have any papers, articles, etc., published in professional journals or magazines?

The analysis of the data was facilitated by the use of the Hollerith punch card system.¹⁷ This system was developed by Dr. Herman Hollerith during the late 1880's and was first used on a large scale basis in the United States Census of 1890.

Following the collection of data, it was then coded into numerical form suitable for the Hollerith punch card. In order to afford some degree of confidence in the accuracy of the coding, it was decided to completely re-code a random sample of ten percent of all questionnaires. Questionnaires to be re-coded were selected by the use of random numbers.¹⁸ All numbers smaller than our parameter (001-358) were rejected as were all numbers larger and all ties. On a column basis, the re-coding showed a coding error of four-tenths percent.

The data were punched into two decks of cards which were then verified for accuracy of original punching. After the card-punching and verification the cards were "deck cleaned".

The Design of Analysis

The study will utilize the method of analysis variously referred to as "cross-tabulation analysis",¹⁹ "multi-variate analysis",²⁰ and "survey

¹⁷Goode and Hatt, op. cit., pp. 317-20.

¹⁸Hubert M. Blalock, Social Statistics. New York: McGraw-Hill Book Company, Inc., 1960, p. 438.

¹⁹Hans Zeisel, Say It With Figures. New York: Harper and Brothers, 1957, pp. 131-34.

²⁰Paul F. Lazarsfeld, "Introduction: Multivariate Analysis," in Paul F. Lazarsfeld and Morris Rosenberg (editors), The Language of Social Research: A Reader in the Methodology of Social Research. Glencoe: The Free Press, 1955, pp. 111-12.

design analysis".²¹ As defined by Lazarsfeld, multi-variate analysis refers to " . . . the study and interpretation of complex interrelations among a multiplicity of characteristics".²² This method of analysis is an approximation of the controlled experiment which is so characteristic of the natural sciences.

In the controlled experiment, the experimental group and the control group are, by definition, exactly comparable in all but one respect--the experimental variable.

As a result, experimental findings will be limited only by two elements: the statistical sampling error and the special conditions which accompanied the particular experiment, that is, its particular time, place, surroundings, etc.²³

The first limitation can be omitted by repetition of the experiment. The second, a more serious limitation, can be reduced by repeating the experiment under different conditions.

Survey analysis retains the limitations of the controlled experiment and adds a few of its own. In survey analysis the "control group" and the "experimental group" are, just as in the controlled experiment, different in terms of the experimental variable. However, unlike the controlled experiment, the groups are not exactly alike in all other

²¹Paul F. Lazarsfeld and Patricia L. Kendall, "Problems in Survey Analysis," in Robert King Merton and Paul F. Lazarsfeld (editors), Continuities in Social Research: Studies in the Scope and Method of "The American Soldier". Glencoe: The Free Press, 1950, pp. 133-96.

²²Paul F. Lazarsfeld, The Language of Social Research, op. cit., p. 111.

²³Zeisel, op. cit., p. 132.

respects. Consequently, it is necessary to determine if the difference presumed to be caused by the experimental variable is, in fact, the result of a spurious factor. Thus, through a series of cross-tabulations, the investigator must control or "hold constant" possible spurious factors in the groups and observe the original relationship when these factors are "controlled."

This points to another limitation of the design of survey analysis; that is, usually the investigator is able to "control" only four or five variables at a time because of the number of cases in his sample.

Still another limitation of the survey analysis design is that of properly establishing the time sequence of variables. If the researcher asserts that "a" causes "b", then he must demonstrate that "a" precedes "b" in time. As many researchers gather their data from one point in time, such demonstration becomes, at best, arduous.

To combat this difficulty, the "panel study" design²⁴ is used. The procedure here is to obtain data from two different points in time, the "before-and-after" technique.

The third and most serious limitation of survey analysis is that it is usually post factum (and sometimes ad hoc) and as such can never, at least theoretically, equal the degree of proof that the controlled experiment can. The implications of post factum research have been clearly described by Merton.²⁵

²⁴Ibid., pp. 215-54.

²⁵Robert K. Merton, Social Theory and Social Structure. Glencoe: The Free Press, 1957.

Post factum explanations remain at the level of plausibility (low evidential value) rather than leading to "compelling evidence" (a high degree of confirmation). Plausibility, in distinction to compelling evidence, is found when an interpretation is consistent with one set of data (which typically has, indeed, given rise to the decision to utilize one, rather than another, interpretation). It also implies that alternative interpretations equally consistent with these data have not been systematically explored and that inferences drawn from the interpretations have not been tested by new observations.

The logical fallacy underlying the post factum explanation rests in the fact that there is available a variety of crude hypotheses, each with some measure of confirmation but designed to account for quite contradictory sets of affairs. The method of post factum explanation does not lend itself to nullifiability, if only because it is so completely flexible.²⁶

Our findings will be reported in percentage form and the traditional tests of significance will not be used. The judgment not to use significance tests rests mainly on three points. First, "traditional tests of significance have been developed to study the probable correctness or incorrectness of single, isolated statements,"²⁷ such as, "a" is more likely than "b" to cause "x". Since the hypotheses of this research are interrelated so that no hypothesis can be viewed independently of other hypotheses, the use of significance tests would not be appropriate. What should be tested is not a relationship observed in a particular table, but the relationships between a whole series of related tables.

A second basis for not using significance tests in this research is that "these tests presuppose that the units being studied were sampled randomly

²⁶Ibid., pp. 93-94.

²⁷Merton, Reader and Kendall, op. cit., p. 301.

from the populations to which they belong."²⁸ We have data from only one university, and in no way can this be considered a random sample.

Third, the X^2 test is designed to show whether a relationship between two measurements could have been due to chance. Since our indicators are simply crude measures of the variables to be tested, it would seem irrelevant to test for independence.

For example, to show that ideologically sensitive men are more active politically, we use as an indicator the amount of talk about politics reported by the men. This is only a crude indicator of political activity and might easily fail to show the relationship if one actually exists. Thus, because the variables being related hypothetically are seldom the same as the measures being related empirically, a test of independence appears irrelevant.²⁹

Selvin has argued quite effectively that in nondescriptive and non-experimental research, tests of statistical significance are always inapplicable.³⁰

The basic difficulty in design is that sociologists are unable to randomize their uncontrolled variables, so that the differences between "experimental" and "control" groups are a mixture of the effects of the variable being studied and the uncontrolled variables or correlated biases. Since there is no way of knowing, in general, the sizes of these correlated biases and their directions, there is no point in asking for the probability that the observed differences could have been produced by random errors. The place for significance tests is after all relevant correlated biases have been controlled.³¹

²⁸Ibid., p. 303.

²⁹Seymour Martin Lipset, Martin Trow and James Coleman, Union Democracy. Garden City: Doubleday and Company, Inc., 1962, p. 484.

³⁰Hanan C. Selvin, "A Critique of Tests of Significance in Survey Research," American Sociological Review, 22 (1957), pp. 519-27.

³¹Ibid., p. 227.

As we begin the analysis of the data, it should be kept in mind that several procedural limitations will restrict the impact of the findings. First, we do not have a panel study, the data has been collected from only one point in time. Secondly, we are asking individuals to recall their experiences and, as a result, the data will be somewhat distorted since people frequently tend to forget things over a period of time. Also, the reader should keep in mind that we have a very select sample--individuals who are recent recipients of the doctorate from one university.

CHAPTER IV

FACULTY INFLUENCE AND PROFESSIONAL PARTICIPATION

We noted at the end of Chapter I that the purpose of this research is to ascertain the role of the faculty in accounting for professional participation among doctoral students. We hypothesized that a relationship will be found to exist between faculty contact, faculty encouragement, and student participation in professional activities.

To provide a test for our hypothesis, we asked each respondent to recall his graduate school experiences and to report whether he had participated in the various professional activities. Furthermore, we asked each to characterize his relationship with the faculty in six different situations and to report whether he had received specific encouragement from the faculty to participate in the professional activities and, if so, how much.

The data is presented in terms of the independent variables-- faculty contact and faculty encouragement. Tables are presented that compare the percent of participation for each of the five activities at the same time by each of the independent variables. By cross-tabulating on these dimensions, we will be able to see whether our hypothesis is borne out.

Table 11 shows the percent of students who participated in each of the five activities. The activity in which the highest proportion (93 percent) of students report to have participated is that of attendance at meetings. That such a high proportion attended these meetings is not

at all surprising, for many of the professional associations actively solicit student membership. Many have student honoraries and offer the student both membership and the official journal of the organization at a reduced price. The meetings provide the student with an opportunity to meet friends from other universities, to visit with former teachers, and to meet "important" personalities in his field. Of no less importance is the fact that the meetings provide the student with information concerning his role as a member of a professional society. Forty percent reported that they presented papers at these meetings. During the initial stages of the student's graduate training, the meetings serve as a vehicle of socialization. The closer the student gets to obtaining the degree, the more the meetings serve him as a marketplace to seek and inquire about prospective employment opportunities.

Sixty-seven percent reported to have made contacts with important scholars and researchers of their field from Hypothetical U. (but not in the student's own department), 61 percent with professionals from other universities and 40 percent presented papers at professional meetings of their field.

TABLE 11

PARTICIPATION IN PROFESSIONAL ACTIVITIES DURING THE PERIOD OF
DOCTORAL TRAINING

Activity	Participators (percent)	(N)
Attended professional meetings	93	(356)
Developed contacts with important scholars and researchers of the field from Hypothetical U.	67	(357)
Developed contacts with important scholars and researchers of the field from other universities	61	(357)
Published in a scholarly or professional journal or magazine	48	(353)
Presented one or more papers at professional meetings	40	(356)

A little less than one-half, 48 percent, published during the period of their doctoral training. There are, to be sure, journals of varying degrees of quality, but our data does not distinguish the quality of the source of publication. In addition, we know only if the respondent published one or more, and not how many. Consequently, we are not able to speak of the quality or the quantity of publication for any of the respondents.

When we cross-tabulate professional participation by the number of meetings the students have with their major professors, we find (Table 12),

contrary to our hypothesis, very little relationship. Of the group that had the fewest number of meetings with their major professor and the group that had the highest number of meetings with their major professor, the same proportion attended professional meetings. Although participation in the other four activities is more characteristic of the group that had most meetings, the data is not consistent for any of them. For example, 48 percent of the students who met with their major professors five times or less, but only 44 percent of the students that met six to ten times published. Of the students who had 11 to 20 meetings 55 percent published whereas only 52 percent of the students who had more than 20 meetings published. This same type of inconsistency appears with involvement in presenting papers and in meeting professionals of the field. It should be noted, however, that presenting papers at professional meetings appears to be related at the "extremes." The group that had fewest meetings, had the smallest proportion and the group that had most meetings had the largest proportion of students who presented papers. For the two middle groups, however, the trend doesn't hold.

TABLE 12

PARTICIPATION IN PROFESSIONAL ACTIVITIES BY AVERAGE NUMBER OF MEETINGS
WITH MAJOR PROFESSOR PER TERM

(percent that participated)

Number of Meetings	Attended	Professional Contacts		Presented	Published	(N)
	Meetings	Hypothetical U.	Other Universities	Papers		
Five times or less	94	61	49	32	48	(123-125)
Six to ten times	91	70	59	43	44	(105)
11 to 20 times	90	60	42	40	55	(49-50)
More than 20 times	94	78	79	54	52	(71-72)

TABLE 13

PARTICIPATION IN PROFESSIONAL ACTIVITIES BY NUMBER OF MEETINGS
WITH FULL GUIDANCE COMMITTEE

(percent that participated)

Number of Meetings	Attended Meetings	Professional Contacts, Hypothetical U.	Professional Contacts, Other Universities	Presented Papers	Published	(N)
One	87	51	48	42	44	(75-77)
Two	94	71	60	37	49	(98-100)
Three	93	68	65	41	50	(99-100)
Four	96	72	67	43	50	(46)
Five or more	100	83	77	33	47	(30)

When we compare professional participation by the number of meetings the student has with his (full) guidance committee (Table 13), the data again is very inconsistent showing little or no relationship for four of the five activities. Contact with important scholars and researchers of the field from other universities, is the one exception. Here, the more meetings one has with his guidance committee the more likely one is to have made contacts with important professionals of the field from other universities.

In terms of publication, those students that had three and four meetings with their guidance committee published proportionately more than the other three groups. However, attendance at meetings and contact with important professionals from Hypothetical U. is most characteristic among those students who had five or more meetings with their committees. One-third of the students that had more than five meetings presented papers, 42 percent of those that had one and 43 percent of those that had four meetings presented papers.

In summary, there is little or no relationship between professional participation and (1) average number of meetings per term with one's major professor and (2) the number of meetings a student has with his full guidance committee. It should be noted that meeting with one's major professor and with one's guidance committee are formal requirements of the system. Both are required of the student and of the department by the bureaucratic organization of the university and both cause us to reject our hypothesis, or to change it. We originally hypothesized that the more interaction the student has with the faculty, the more he would participate in professional activities. At this point, we must either reject the hypothesis or change it in such a way as to

exclude the formal required meetings between student and faculty.

Although it is required that a student meet with his full guidance committee, it is not formally required that he meet with members of his committee on an individual basis. We asked each of the respondents to report whether he had met with members of this committee on an individual basis and cross-tabulated their responses with their reports of professional participation. Table 14 shows that participation in professional activities is higher for the group that discussed individually with committee members than those that did not, although the differences are not great. There is only a two-percent difference between those who do and those who do not read papers at professional meetings. The difference is four percent for both attendance and publication. When we compare those who made contacts with important professionals with those who did not, the difference ranges from five to eight percent.

TABLE 14

PARTICIPATION IN PROFESSIONAL ACTIVITIES BY DISCUSSION OF PROGRAM WITH
MEMBERS OF GUIDANCE COMMITTEE ON AN INDIVIDUAL BASIS

		(percent that participated)				(N)
Discussion	Attended Meetings	Professional Contacts, Hypothetical U.	Professional Contacts, Other Universities	Presented Papers	Published	
Yes	93	68	62	41	48	(307-312)
No	89	63	54	39	44	(39)

We also asked the respondents to indicate how many of the committee members they met with individually to discuss their program, and Table 15 shows their responses. Except for one instance, the higher the number of members the student met with, the higher was the percentage of students involved in the various professional activities. The only inconsistency in the data is for the activity of presenting papers. Here, 43 percent of the students that met with three committee members presented papers and only 41 percent of the students that met with four members did: instead of rising, the proportion dropped two percent. Of the students who reported that they met individually with one committee member, 89 percent attended meetings whereas 100 percent of those that met individually with five or more did. Fifty-six percent of those that met individually with one member made contacts with important scholars and researchers of Hypothetical U. and 48 percent did so with professionals from other universities. However, of the students that met individually with five or more committee members, the percentages are 88 and 100 respectively. For the activity of presenting papers at professional meetings, the percent of students involved rises from 33 percent for those that met individually with one to 53 percent for those that met with five. Forty-three percent of the group that met with one member and 59 percent of those that met with five or more members reported that they had published.

TABLE 15
PARTICIPATION IN PROFESSIONAL ACTIVITIES BY NUMBER OF COMMITTEE MEMBERS MET WITH INDIVIDUALLY

Number of Members Met With Individually	(percent that participated)				
	Attended Meetings	Professional Contacts, Hypothetical U.	Professional Contacts, Other Universities	Presented Papers	Published (N)
One	89	56	48	33	43 (70-73)
Two	90	56	52	38	45 (60-61)
Three	93	70	61	43	49 (144-146)
Four	96	83	76	41	55 (58)
Five or more	100	88	100	53	59 (17)

Table 16 shows how participation is related to the students opportunity to discuss career plans with members of the faculty. For each professional activity, participation was higher for the group that reported that they had sufficient opportunity for such discussion than for the group that did not. Of the former group, three percent more attended meetings, 13 percent more made contacts with professionals of other universities, five percent more presented papers and 25 percent more published. With the exception of publication, the percentage differences are not great, but they do run in the hypothesized direction. Publication, it would seem is an activity that the student does not do alone, or at least does not do without consultation from the faculty. It also suggests that publication, more than the other activities, is directly related to careers.

TABLE 16

PARTICIPATION IN PROFESSIONAL ACTIVITIES BY OPPORTUNITY TO DISCUSS
CAREER PLANS WITH MEMBERS OF THE FACULTY

Opportunity To Discuss Career Plans	(percent that participated)				Published Papers	(N)
	Attended Meetings	Professional Contacts, Hypothetical U.	Professional Contacts, Other Universities			
Yes	95	69	63	41	51	(307-312)
No	92	56	54	36	26	(39)

The next measure of student-faculty interaction that we consider is the most informal, least required and most personal of all that we have considered. We asked each respondent "How many faculty members of your department did you know well enough during your doctoral training with whom you felt you could discuss personal problems?" The respondents were then classified into three groups, those that reported "all of them", those that reported "some, but not all", and those that reported "none of them".

As Table 17 shows, professional participation is most characteristic of students who reported to have known personally all of the departmental faculty, and is least characteristic of those who knew "none at all", with the group knowing "some of them" falling in the middle. The differences between the "some of them" group and the "all of them" group are less than the differences between the "some of them" group and the "none of them" group. This is somewhat expected, since departmental size varies greatly throughout the university.

Of the group that knew all of the faculty members in the department well enough to discuss personal problems with them, 95 percent attended meetings, 71 percent made contacts with professionals, 50 percent presented papers and 67 percent published. Of the group that reported "none of them", the percentage of attenders was ten percent less, the percentage that made professional contacts with men from Hypothetical U. was 40 percent less, the percentage for those making contacts with professionals from other universities was 32 percent less, the percentage that presented papers was 37 percent less, and the percentage that published was 36 percent less.

TABLE 17

PARTICIPATION IN PROFESSIONAL ACTIVITIES BY NUMBER OF FACULTY MEMBERS KNOWN ON A PERSONAL BASIS

Number of Faculty Members Known	(percent that participated)				Published	(N)
	Attended Meetings	Professional Contacts, Hypothetical U.	Professional Contacts, Other Universities	Presented Papers		
All of them	95	71	71	50	67	(42)
Some of them	93	69	57	40	46	(295-298)
None of them	85	31	38	13	31	(13-15)

On the basis of these data, we would suggest that one result of frequent contact with the faculty is the establishment of a personal relationship.

One of the more serious limitations of this research is that, although we are able to discern the number of contacts the student has with various members of the faculty, we are not able to discern the relative prestige of the faculty members. In every department, faculty members are evaluated by the students and a cue from Professor X may have an entirely different meaning than the same cue from Professor Y. Not only are we unable to distinguish from whome the cue comes, but also the cue itself, that is, the content of the interaction. It is not altogether unlikely that a student might receive a negative or discouraging cue from the faculty. However, it would seem that a student who has an unpleasant or negative experience with a faculty member would tend to limit his contacts with that faculty member.

We did obtain one measure of the kind of interaction the student had with the faculty--that of whether he was specifically encouraged to participate in the various activities.

As we have suggested, one of the most salient variables in accounting for participation by the doctoral student in professional activities is faculty encouragement. Table 18 shows the relationship of faculty encouragement to participation in each of the five activities. For each of these activities, the group that receives the most encouragement is the group that participates the most and group that is next in encouragement is the group that is next highest in the proportion of participators, the group that ranks third in encouragement is also third

in participation and the group which receives no encouragement is lowest in participation.

Of those students who reported that they received "a great deal of encouragement" from the faculty to attend professional meetings, 98 percent of them did so. Ninety-six percent of the students who reported "a moderate amount of encouragement" also attended. As we hypothesized, those students who received no encouragement attended least of all, only 72 percent. Here, the big difference occurs between those that received encouragement and those that did not, rather than how much.

There does not appear to be much difference in the proportion of persons who reported to have made contacts with the important men in their field in terms of whether or not the contacts were made with men from Hypothetical U. or from other universities--at least by the amount of encouragement they received from the faculty. Of the students who reported to have received a "great deal" of encouragement to make contacts, 89 percent did so with professionals of Hypothetical U. and 88 percent with men from other universities. For the group that received "a moderate amount" the percentages are 78 and 72 respectively. For the "some encouragement" group the percentages are 56 and 60 and for the "no encouragement" group the percentages are 23 and 25. Again, the biggest difference is between those respondents who received some encouragement and those who received none at all, and not the "degree of encouragement".

Presenting papers at professional meetings has a somewhat higher encouragement threshold than do the three previous activities. The big break here occurs between "a moderate amount of encouragement" and "some

encouragement". It may well be that the reason only forty percent of the doctoral students present papers at the professional meetings is that the faculty (the accomplished professionals) reserve this activity, more or less, for themselves. Such a speculation would receive support from Table 18 where it can be seen that only two percent of the students who do not receive any encouragement from the faculty present papers. Sixty-one percent of the group that reported to have received a "great deal of encouragement", 35 percent of those who received a "moderate amount" and eight percent of those who received "some encouragement" also presented papers at professional meetings.

Publication is the only activity where the largest difference occurs between the group that received "a great deal" of encouragement and those that received a "moderate amount". Seventy-four percent of those that received "a great deal" of encouragement to publish did so whereas of the group that received a "moderate amount" 46 percent published. Of the group that received "some" encouragement 31 percent published and of the group that received no encouragement, only 18 percent published.

TABLE 18

PARTICIPATION IN PROFESSIONAL ACTIVITIES BY FACULTY ENCOURAGEMENT

Faculty Encouragement	(percent that participated)					
	Attended Meetings	Professional Contacts, Hypothetical U.	Professional Contacts, Other Universities	Presented Papers	Published	
	percent (N) ¹	percent (N) ²	percent (N)	percent (N) ¹	percent (N)	
A great deal	98 (125)	89 (99)	88 (74)	61 (125)	74 (117)	
A moderate amount	96 (83)	78 (103)	72 (116)	35 (83)	46 (108)	
Some	89 (44)	56 (77)	60 (80)	8 (44)	31 (71)	
None	72 (25)	23 (48)	25 (79)	2 (25)	18 (57)	

¹Twenty-three percent of the respondents did not answer these questions; see Appendix V.

²Nine percent of the respondents did not answer this question; see Appendix V.

When we cross-tabulate participation in one of the activities with participation in each of the other activities (Table 19), we see that persons who have published are most likely to have presented papers at professional meetings. Although, persons who presented papers at meetings are least likely to have published. This would seem to suggest that presenting papers at professional meetings occurs before publications. It may be that individuals use meetings of their professional societies to "test" their writings. If, in fact, these speculations are true it would tend to explain why respondents who have published present more papers than respondents who have participated in the other professional activities, but who have not published. It would not, however, explain why persons presenting papers are less likely to have published than persons who have participated in the other activities. Going out on the speculative limb, we would suggest that one reason persons who have presented papers are lowest in publication is the very fact that they presented their papers. It is quite possible that presenting one's paper at a public meeting of his professional colleagues serves as a screening device, discouraging some of the persons who have presented them from publishing it. Attendance at meetings is, excluding the group that presented papers, most characteristic of the group that published. Meeting professionals of the field from other universities is most characteristic of persons who presented papers at professional meetings. Since one function of these meetings is to bring professionals of many universities together and since persons who present papers have to attend meetings, the relationship is not unexpected. Moreover, the person who presents a paper is in a situation in which personal contact with other professionals is structured into the situation. First, it is

necessary that he meets the chairman of the section in which he is presenting his paper, and at the time of the meeting he is also introduced to other persons who are presenting papers. Furthermore, his paper may frequently serve as a topic of discussion, bringing him into contact with other professionals of his field during the more informal meetings that are usually a part of these "conventions".

It is also interesting to note the percentage differences that occur for participation in each activity by participators in each of the four other activities. That is, there is a six percent difference in attendance at meetings by the participators in each of the other activities--ranging from 94 to 100 percent. For meeting professionals of the field, the difference is 12 percent. The difference rises to 17 percent for presenting papers and to 28 percent for publishing papers.

TABLE 19

INTERRELATIONSHIPS OF DOCTORAL STUDENT PARTICIPATION IN PROFESSIONAL ACTIVITIES

	(percent that participated)				
	Attended Meetings	Professional Contacts, Hypothetical U.	Professional Contacts, Other Universities	Presented Papers	Published (N)
Attended Meetings	--	68	64	43	49 (333)
Professional Contacts, Hypothetical U.	94	--	73	47	53 (240)
Professional Contacts, Other Universities	96	80	--	50	57 (219)
Presented Papers	100	78	76	--	29 (144)
Published	98	76	73	60	-- (169)

Table 20 shows the interrelationships between faculty encouragement for each of the five different activities. Here we see that the activity the student received least encouragement to participate in is the one in which he does participate least, presenting papers at professional meetings. Similarly, the activity in which he participated the most is also the one which he received most encouragement to participate in--attendance at meetings.

There is a tendency for persons who are encouraged to publish or present papers to be encouraged to participate more in the other three activities, but the differences are always less than ten percent.

Table 20 also shows that if you received encouragement from the faculty to participate in one activity, the chances are that you also received encouragement from them to participate in each of the other activities.

TABLE 20
INTERRELATIONSHIPS OF FACULTY ENCOURAGEMENT FOR DOCTORAL STUDENT
PARTICIPATION IN PROFESSIONAL ACTIVITIES

(percent encouraged)						
	Attended Meetings	Professional Contacts, Hypothetical U.	Professional Contacts, Other Universities	Presented Papers	Published	
	percent (N) ³	percent (N) ⁴	percent (N)	percent (N) ³	percent (N)	
Attended Meetings	--	90 (246)	82 (247)	71 (237)	88 (250)	
Professional Contacts, Hypothetical U.	95 (234)	--	85 (273)	75 (263)	90 (278)	
Professional Contacts, Other Universities	98 (210)	94 (245)	--	77 (257)	92 (269)	
Presented Papers	100 (168)	93 (210)	88 (227)	--	97 (231)	
Published	96 (229)	90 (272)	85 (291)	80 (281)	--	

³Twenty-three percent of the respondents did not answer these questions; see Appendix V.

⁴Nine percent of the respondents did not answer this question; see Appendix V.

CHAPTER V

SUMMARY AND CONCLUSIONS

✓ The purpose of this study was to determine the role of the faculty in accounting for the professional participation of doctoral students. We hypothesized that participation in professional activities would be related to the amount of encouragement the student received from the faculty and the amount of contact he had with the faculty.

As an indication of the student's professional participation, each student was asked whether he attended professional meetings of his field, presented papers at these meetings, made contacts with important scholars and researchers of his field (both from the university where he did his graduate training and from other universities), and if he published one or more papers in professional journals of his field.

As an indication of the students' contact with the faculty, each student was asked to report the number of meetings he had with his major professor, the number of meetings he had with his full guidance committee, the number of guidance committee members he met with on an individual basis, if he felt he had sufficient opportunity to discuss career plans with the faculty and the proportion of faculty members in his department that he knew well enough with whom he could discuss personal problems.

In Chapter IV we compared participation in professional activities by each of the six different measures of student-faculty interaction.

We have seen that no relationship exists between the number of meetings a student has with his major professor and his participation in professional activities. Also, there is no relationship between his participation and the number of meetings he has with his full guidance committee. We have pointed out that student-faculty interaction in these situations is required for both the student and the faculty.

The remaining five measures of student-faculty interaction were related to professional participation. None of these are required. The difference in participation by whether the student met with members of his guidance committee on an individual basis is quite small--ranging from two percent for the activity of presenting papers to eight percent for establishing contacts with important professionals of "other" universities. When we compared participation by the number of committee members the student met with individually, we found a greater difference. For attendance at meetings, the difference was 11 percent. The difference between these groups for publication was 16 percent and for presenting papers it was 20 percent. The number of committee members a student meets with on an individual basis distinguished participators from non-participators best for the activity of meeting professionals of the field. Whereas 56 percent of those who met with one committee member made contacts with professionals from Hypothetical U., 88 percent did of those that met with five or more committee members. These percentages were 48 and 100 for those who made contacts with professionals from other universities. This would seem to suggest that making contacts with important scholars and researchers of one's field is perhaps more related to the number of faculty members that a student has contact with, than how well the

student knows the faculty member.

When we cross-tabulated participation by whether the student reported to have had sufficient opportunity to discuss career plans with members of the faculty, we found that participation was more characteristic of the students that reported that they had. The difference in participation varied, however, from three percent for attendance at professional meetings to 25 percent for publication.

Of the six measures of student-faculty contact, the one which best predicts participation in professional activities is the one which reports the proportion of departmental faculty that the student knows on a personal basis. The difference between the group that knew all of the faculty members and the group that knew no faculty members of their department on a personal basis was ten percent for attendance, 40 percent for making contacts with professionals from Hypothetical U., 33 percent for making contacts with professionals from other universities, 37 percent for presenting papers, and 36 percent for publication.

Of all the variables that we have dealt with, the one which best predicts student participation in professional activities is that of encouragement from the faculty. In every case, we have seen that participation was more characteristic among those students who were encouraged to participate by the faculty than those who were not encouraged. Moreover, respondents who reported that they were encouraged were sub-grouped in terms of the amount of encouragement and here again we have seen that the group with the highest percentage of participators was that which reported the most faculty encouragement. The group with the second highest percentage of participators was the

group characterized as receiving a "moderate amount" of encouragement and the group with the fewest participators was the group that received the least amount of encouragement.

We then presented cross-tabulations which showed the interrelationships for participation in each of the activities by participation in each of the other activities. Similarly, we presented cross-tabulations which showed the interrelationships of faculty encouragement for each of the activities. We pointed out that if a respondent received encouragement for one activity, the chances were that he received encouragement for each of the other activities. Additionally, we found that encouragement to attend meetings was received by the highest proportion of students and encouragement to present papers was received by the lowest proportion.

In summary, it appears that the faculty do influence the participation of doctoral students in their respective fields. Not only do the faculty influence the amount of participation, but also the kind of participation. This influence is discerned in both the amount of contact the student has with the faculty and the encouragement he received from the faculty. Moreover, it appears that the processes of socialization in the graduate school are informal. The student's contact with the faculty in the formal and structured situation is not related to his professional participation. However, participation is related to student-faculty contact where the interaction is informal and face-to-face. The strongest relationship observed between student participation and faculty influence occurs between participation in a particular activity and faculty encouragement to participate in that activity.

Here, we observed that the more the encouragement, the more the participation for each of the five different indicators of professional participation.

There are, to be sure, many limitations of this research. Without a doubt, the most serious of these limitations is that it attempts to speak of changes in behavior with data that is from just one point in time. Ideally, of course, we should have had a panel study. Throughout this study we have assumed that faculty encouragement and faculty interaction determined the extent to which a doctoral student would participate in the professional affairs of his field. Although we have shown a relationship between encouragement and participation, we have not demonstrated that encouragement occurred before participation. However, we would argue, with Merton,¹ that the consistency of the data not only makes such a relationship plausible, but, also reasonable.

Another limitation of this study is that the data is not sufficient in scope. We do not, for example, have data on peer group influences. More important, we do not have sufficient data about the faculty. It is almost certain that an encouraging cue from some faculty members has a different impact on the students than the same cue from other faculty members. Although we were able to obtain data on the number of student-faculty relationships and, in some cases, the circumstances under which the relationship took place, we did not have data concerning the content of the interaction. Although we know that a particular student had an opportunity to discuss his career plans with a member of the faculty,

¹Merton, Reader and Kendall, op. cit., pp. 303-05.

we were not able to know the dialogue of the discussion. However, we found that the more contact the student had with the faculty the more he participated, and, it would seem that if a student had an unpleasant or discouraging experience with a member of the faculty he would tend to have few contacts with that faculty member. Moreover, we found that encouragement from the faculty was the variable most associated with participation; since we also found that contact was positively associated with participation, it seems reasonable that the contacts the student had with the faculty were positive and encouraging for him, especially in the high contact group. Also, we were not able to know whether the student or the faculty member initiated the interaction.

It should also be pointed out that no deviant case analysis has been done. We have, as purposed, described student participation in professional activities by their relationships with the faculty. Yet, although we have seen that the hypothesized relationship between participation and faculty encouragement and contact does exist, we also found that some students of high encouragement did not participate and some students of low encouragement did participate.

Also, as we have noted, our data comes only from those doctoral students who earned the degree. We do not have data from persons who attended at the doctoral level but did not earn the degree. Furthermore, we only have data from one university. It may be that student-faculty relationships vary by the size of the school, control of the school, school policy, etc.

Another limitation of this study is that no multi-variate analysis has been completed. The reason for this is that the working N for this

study was only 358 and many times we reported on groups that had an N of less than 25. Were we to introduce test variables, the size of the cells would be too small to be reliable. However, we do not mean to suggest by this that other variables would not affect the data.

Finally, the reader should again be reminded that the student's conformity to the cues of the faculty does not necessarily mean that the student has internalized the values which have prescribed the behavior.

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APPENDICES

To provide that the individuals and the university which actually participated in this study remain anonymous, we have not included actual copies of the instruments which were used. We have, however, included an approximation of the instruments.

The questionnaire, presented as Appendix I, differs from the one actually used in only two major ways: First, the university name has been changed and second, the original questionnaire was mimeographed.

The cover letter used in the mailing, Appendix II, was individually typed on letterhead paper. The cover letter used for the 1962 graduating group, Appendix III, appeared as a single page letter and was mimeographed. The cover letter used for the follow-up, Appendix IV, was also mimeographed. All cover letters used in the study carried the name of the university which actually participated.

[illegible]

3. When did you first seriously consider going into your current field of study? (Circle one number).

Before entering high school. 1

During high school 2

During the first two years of college. 3

During the junior year of college. 4

During the senior year of college. 5

After being out of college 6

4. Have you seriously considered any other field or career since you entered graduate school?

Yes 1

No. 2

If "yes" what field or fields?

5. Please think back to the time when you first definitely decided to go to graduate school. Circle the number of the statement which comes closest to describing your career plans at that time.

Definitely committed to the field and a preference for a specific type of job in that field 1

Definitely committed to the field, but no preference for a specific type of job in that field 2

Trying out the field of see if it might lead to a desirable career 3

Other (SPECIFY). 4

6. Please write the number of the statement in Question 5 which comes closest to describing your situation right now. _____

7. Listed below are some of the things you might have considered when you weighed the advantages and disadvantages of different graduate schools. Please circle the appropriate number in each row in terms of the importance of each factor to you at the time you decided to go to Hypothetical University.

<u>Reason</u>	<u>One of the Most Impor- tant Reasons</u>	<u>Quite Important</u>	<u>Fairly Important</u>	<u>Not Important</u>
Reputation of institution	1	2	3	4
Particular man I wanted to study with.	6	7	8	9
Reputation of Department.	1	2	3	4
Ease and speed in getting degree.	6	7	8	9
Opportunities for teaching experience	1	2	3	4
Opportunities for research experience	6	7	8	9
Chance of getting a better job in the long run.	1	2	3	4
Housing	6	7	8	9
Scholarship or Assistantship	1	2	3	4
Not wanting to cut home ties	6	7	8	9
Other important reasons (SPECIFY) _____				

8. Which single factor in question 7 do you consider most important to your choice of Hypothetical University? _____

9. Looking back, do you think you made the best decision by choosing Hypothetical University for your graduate training?

I definitely made the best decision by coming here . 1

I am pretty sure I made the best decision in coming here. 2

I am pretty sure I should have gone elsewhere. . . . 3

I definitely made a poor decision in coming here . . 4

10. Given your current knowledge about Hypothetical University and your department would you still select this school for your doctoral training if you had to make the choice once again? (Circle one number.)

Yes. 1

No 2

If "no" to Question 10, what graduate school would you attend?

Why would you choose this school?

11. If a close relative or friend was interested in entering your field and wanted to attend Hypothetical University, what advice would you give him?

12. In terms of general reputation among experts in the field, how would you rate your department?

Among the five best in the country 1

Among the top 20 departments, but not
among the 5 best 2

Not among the top 20 3

I have no idea at all 4

13. How would you rate the training opportunities in your department for a student who is interested in.
(Circle one number in each row.)

TRAINING OPPORTUNITIES

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
Teaching only	1	2	3	4
Teaching and research	6	7	8	9
Research. . . .	1	2	3	4
Applied areas of the field	6	7	8	9

14. Do you feel you have had sufficient opportunity to discuss your career plans with members of the faculty?
(Circle one.)

Yes. 1

No 2

15. How many faculty members of your department did you know well enough, during your doctoral training, with whom you felt you could discuss personal problems? (Circle one.)

All of them. 1

Many of them 2

About half of them 3

Very few of them 4

None of them 5

16. As far as graduate training, all in all how would you rate your department's faculty in respect to the following . .
(Circle one in each row.)

	<u>Excellent</u>	<u>Fair</u>	<u>Poor</u>
Sensitivity to student needs. . .	1	2	3
Knowledge of their field.	5	6	7
Teaching ability.	1	2	3
Awareness of current trends in the field.	5	6	7
Publishing productivity	1	2	3
Research skills	5	6	7
Helpfulness in obtaining jobs for the doctorate recipients.	1	2	3

17. From your own experiences and from what you have heard, how would you say Hypothetical University compares to other universities in respect to the following

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
Housing for graduate students . .	1	2	3	4
Concerts, foreign films, art fairs	6	7	8	9
Stipends for graduate assistantships.	1	2	3	4
Study facilities.	6	7	8	9
Research facilities	1	2	3	4
Library (Journals, references, etc.)	6	7	8	9
General academic climate.	1	2	3	4

18. As you think back, what kind of course do you believe was most valuable?

Lecture.	1
Seminars	2
Individual reading	3
Can't decide	4

19. From what you know, how important are the following criteria as the basis for assistantships, fellowships or scholarships awarded to graduate students in your department. (Rank in order of importance 1, 2, 3.)

Grades. _____
 Faculty personal impressions _____
 Financial need. _____

20. American graduate schools have been criticized and defended on a number of accounts. Listed below are some of the criticisms which have been made. For each, indicate whether you consider it valid or not for the department in which you completed your degree work. (Circle the appropriate number in each row.)

	<u>Valid</u>	<u>Somewhat Valid</u>	<u>Not Valid</u>	<u>Dead Wrong</u>
It encourages over-specialization. . .	1	2	3	4
It stifles student creativity. . . .	6	7	8	9
Training not really related to jobs students will get.	1	2	3	4
Too many formal hurdles and ini- tiation rites which are not genuine training	6	7	8	9
Does not help students get desirable jobs	1	2	3	4
It accepts more students than it should	6	7	8	9
Admission standards are too low. . .	1	2	3	4
It exploits its students by using them for cheap labor	6	7	8	9
It rewards conformity, punishes individuality.	1	2	3	4
Faculty members are more interested in research than they are in students.	6	7	8	9
Other (SPECIFY).	_____			

21. To what extent did any of the following factors affect the length of time it took you to get a doctor's degree?

	<u>Length- ened Time Consider- ably</u>	<u>Length- ened Time A Bit</u>	<u>Did Not Lengthen Time</u>	<u>Actually Short- ened Time</u>	<u>Not Appli- cable</u>
Inadequate preparation before coming to Hypo- thetical University. . . .	1	2	3	4	5
Repeating work here you had already done . . .	1	2	3	4	5
Passing foreign language requirements	1	2	3	4	5
Being teaching assistant .	1	2	3	4	5
Being research assistant .	1	2	3	4	5
Having to work off- campus while studying on campus.	1	2	3	4	5
Lack of financial pressure to get doctorate speedily, owing to continued GI benefits	1	2	3	4	5
Being financially obliged to leave here in mid-course and work to earn money . .	1	2	3	4	5
Family obligations	1	2	3	4	5
Preparation of preliminary (or general) examinations.	1	2	3	4	5
Research for and writing of thesis.	1	2	3	4	5

22. Of all the above factors, encircle the one which probably was most important in lengthening the time it took you to get a doctorate.

23. If some other factor was more important than any of the above, please note it here.
-

24. Which of the following comes closest to describing your career plans now that your studies are completed?
(Circle one.)

Position with academic institution	1
Position with industry	2
Position with federal or state government.	3
Private practice	4
Other (SPECIFY)_____	5

25. Which of the following comes closest to describing your present job situation?

Definitely have a job.	1
Negotiating, looks good.	2
Negotiating, looks doubtful.	3
Have not really started serious job hunting.	4

26. If you answered "1" (have job), how satisfied are you with the position?

Very satisfied	1
Satisfied.	2
Not satisfied.	3
Very dissatisfied.	4

27. There are many factors which might lead a graduate student to consider or actually drop out of school. For example, some students have mentioned finances, poor grades, failure of graduate school to measure up to expectations, illness, faculty, marriage, military service, children and so forth.

In as much detail as necessary, discuss the occasions when you seriously considered dropping out or actually did drop out of graduate school. What were the reasons, how did they come about, what did you do, with whom did you speak?

28. If you actually did drop out of school once you began your post-master's work, discuss the factors which led to your returning for the completion of your doctorate.

BACKGROUND INFORMATION

29. What is your age? _____

30. What is your marital status?

Single, never married. 1

Married, no previous marriage. 2

Married, a previous marriage 3

Separated or divorced. 4

31. Number of children _____

IF MARRIED

32. During your doctoral work, did your spouse:

Work full time. _____ Work part time . _____

Study for Bachelor's Degree _____ Master's _____

Doctor's. _____ Non degree _____

Housewife only. _____

Other (SPECIFY) _____

33. Which of the following would you say comes closest to describing your spouse's attitude during the time you worked on your doctorate? (Circle one.)

She thought I spent:

- | | |
|--|---|
| Much too much time on my studies | 1 |
| Somewhat too much time on my studies | 2 |
| About the right amount of time on my studies . . | 3 |
| Somewhat too little time on my studies | 4 |
| Much too little time on my studies | 5 |
34. Please discuss in as much detail as necessary the procedures by which you were assigned a major professor and a guidance committee. Discuss whether the choice was yours, the extent to which you were involved in the selection, and your general evaluation of the procedures which were followed.

35. From the date of your admission as a doctoral student, how long a period was it before you had a major professor? (Circle one.)

During my first quarter. 1
 During my second quarter 2
 During my third quarter. 3
 After my first year but before my second 4
 After the start of my second year. 5

36. How long a period was it before you had a guidance committee? (Circle one.)

During my first quarter. 1
 During my second quarter 2
 During my third quarter. 3
 After my first year but before my second 4
 After the start of my second year. 5

37. How soon after the selection of your major professor and your guidance committee did your committee hold its first meeting with you? (Circle the answer which comes closest.)

About one month later. 1
 About two months later 2
 About three months later 3
 About four months later. 4
 About five months later. 5
 About six months later 6
 Between six months and a year later. 7
 After a year 8

38. Please discuss your feeling about how your guidance committee operated. Were you satisfied with their attendance and co-operation? Was it difficult to get them together? Did they meet a sufficient number of times?

39. Please discuss your thesis topic and how it was selected. Was it something you were interested in and wanted to do or was it a "practical choice", i.e., something that came from a faculty member's research project? To what extent was your major professor involved in this decision? Were other faculty members involved?

40. How many times did you meet with your full guidance committee during your graduate training? (Circle one.)

Once	1
Twice.	2
Three times.	3
Four times	4
Five times	5
Six times.	6
Seven times.	7
Eight times.	8
Nine or more	9

41. How many members were there in your guidance committee? _____

42. Did you discuss your thesis or program with members of your committee on an individual basis? (Circle one.)

Yes. 1

No 2

IF YES

43. How many members of your guidance committee (excluding your major professor) did you meet with on an individual basis?

(enter number here)

IF YES

44. Of those you did meet with on an individual basis, how frequent were these meetings? (Circle one in each row for each guidance committee member included in question 43 above.)

NUMBER OF TIMES

First member 1 2 3 4 5 6 7 8 or more

Second member. 1 2 3 4 5 6 7 8 or more

Third member 1 2 3 4 5 6 7 8 or more

Fourth member. 1 2 3 4 5 6 7 8 or more

45. How many times in a quarter did you meet with your major professor on the average? (Circle one.)

Less than five times per quarter 1

Between six and ten times per quarter. 2

Between 11 and 20 times per quarter. 3

More than 20 times per quarter 4

46. To what extent did your department engage in any of the following activities? (Circle one number in each row.)

	<u>Very Active</u>	<u>Active</u>	<u>Inactive</u>	<u>Very Inactive</u>
1. Organized orientation programs for new graduate students. . .	1	2	3	4
2. Organized informal activities for graduate students	1	2	3	4
3. Organized informal activities for faculty-student get-togethers .	1	2	3	4
4. Organized programs or seminars for graduate teaching assistants on teaching methods . . .	1	2	3	4

47. Which of the above activities do you feel the department should organize? (Circle as many as apply.)

Number 1	1
Number 2	2
Number 3	3
Number 4	4
All of the above	5
None of the above.	6

48. In looking back on your experiences at Hypothetical University, what would you say the administration could have done to make your experience more meaningful in terms of social activities, graduate student organizations and married student activities?

49. In conducting research (laboratory, library, field, etc.) for your doctoral thesis, how much supervision were you given by your major professor (or thesis advisor if not the same person), and how much supervision would you have preferred?

Supervision Given
(Circle one.)

Supervision Preferred
(Circle one.)

1	Very close and continuous supervision	1
2	Close supervision but not on a continuous basis	2
3	Continuous supervision, but not very close	3
4	A moderate degree of supervision	4
5	Very little supervision	5

50. If you were a major professor (or thesis advisor) and were directing the research of doctoral students in your department, how much supervision (both in frequency and attentiveness) would you give your students? (Circle one.)

More than I received from my major professor 1

Less than I received from my major professor 2

About the same as I received from my major professor. 3

51. How much opportunity did you receive from your thesis advisor to incorporate your own ideas into the research design for your doctoral thesis? (Circle one.)

Unlimited opportunity 1

Limited opportunity 2

No opportunity. 3

52. If you were a major professor (or thesis advisor) in your department, how much opportunity would you give your doctoral students to incorporate their own ideas into the research design for their doctoral thesis? (Circle one.)

More than I received from my major professor 1

Less than I received from my major professor 2

About the same as I received from my major professor. 3

53. During the period of your doctoral training, did you participate in professional meetings? (Circle one.)

I attended one or more professional meetings but did not present any papers at these meetings 1

I attended one or more professional meetings and presented one or more papers at these meetings . . . 2

I did not attend any professional meetings 3

54. How much encouragement did you receive from faculty members of your department to attend professional meetings and to present papers?

To Attend
Professional Meetings
(Circle one.)

To Present
Papers
(Circle one.)

1 A great deal of encouragement

1

2 A moderate amount of encouragement

2

3 A small amount of encouragement

3

4 No encouragement

4

55. During the period of your doctoral training, did you develop professional contacts with important scholars or researchers outside of your own department either in your own field or in related fields?

Yes 1

No. 2

56. If yes, were these professional contacts made with individuals?
(Circle one.)

In other departments of Hypothetical U. 1

In other universities. 2

Both 3

57. How much encouragement did you receive from faculty members of your department to make professional contacts with important scholars or researchers outside of your department?

With People in Other
Departments of
Hypothetical University
(Circle one.)

With People in
Other Universities
(Circle one.)

1	A great deal of encouragement	1
2	A moderate amount of encourage- ment	2
3	A small amount of encouragement	3
4	No encouragement	4

58. During the period of your doctoral training, did you have any papers, articles, etc., published in professional journals or magazines? (Circle one.)

Yes 1

No. 2

59. How much encouragement did you receive from faculty members of your department to publish in professional journals or magazines? (Circle one.)

A great deal of encouragement .	1
A moderate amount of encourage- ment.	2
A small amount of encouragement	3
No encouragement.	4

WE SINCERELY APPRECIATE YOUR HELP.

PLEASE RETURN THE QUESTIONNAIRE TO OUR OFFICE AS SOON AS POSSIBLE.

APPENDIX II

HYPOTHETICAL UNIVERSITY

Lazarsville

Office of Vice President for Research Development
School for Advanced Graduate Studies - Office of the Dean
January 25, 1962

Dr. John Smith
World City
Anywhere

Dear Dr. Smith:

Having recently completed requirements for the doctoral degree at Hypothetical University, you are in a most favorable position to assist us in gaining insights and understanding of the graduate program at this institution. We are assisted through views and recommendations of faculty and academic administrators on a continuing basis as provided in established administrative arrangements. Their reactions are invaluable. However, the views and evaluations of those who have recently completed their graduate studies appear to us as constituting a further important and helpful source of information.

Our purpose is not to seek fault or praise but to obtain candid evaluations based on personal experience and observations. We want an indication how students appraise their graduate education experiences, how they evaluate the graduate program at Hypothetical University and how they regard the effectiveness of the manner in which it was carried out.

A questionnaire has been prepared by our office. We realize that you are busy and that asking you to complete a questionnaire may be an imposition. Your cooperation, however, is most important to our study and we would appreciate sincerely your taking time to respond to the items involved. Kindly rest assured that what you say will be treated in absolute confidence. Answers will never be read by anyone in your department or college. Any final report resulting from this survey will not identify individuals.

May we thank you in advance for your consideration and assistance and ask that you return the completed questionnaire to our office as soon as possible in the enclosed stamped self-addressed envelope. If there are any comments you would like to make about things not covered in the questionnaire, please feel free to do so.

Sincerely,

Vice President and Dean

APPENDIX III

HYPOTHETICAL UNIVERSITY

Lazarsville

Office of Vice President for Research Development
School for Advanced Graduate Studies - Office of the Dean

January 26, 1962

Dear Doctor:

Having recently completed requirements for the doctoral degree at Hypothetical University, you are in a most favorable position to assist us in gaining insights and understanding of the graduate program at this institution. We are assisted through views and recommendations of faculty and academic administrators on a continuing basis as provided in established administrative arrangements. Their reactions are invaluable. However, the views and evaluations of those who have recently completed their graduate studies appear to us as constituting a further important and helpful source of information.

Our purpose is not to seek fault or praise but to obtain candid evaluations based on personal experience and observations. We want an indication of how students appraise their graduate educational experience, how they evaluate the graduate program at Hypothetical University and how they regard the effectiveness of the manner in which it was carried out.

A questionnaire has been prepared by our office. We realize that you are busy and that asking you to complete a questionnaire may be an imposition. Your cooperation, however, is most important to our study and we would appreciate sincerely your taking time to respond to the items involved. Kindly rest assured that what you say will be treated in absolute confidence. Answers will never be read by anyone in your department or college. Any final report resulting from this survey will not identify individuals.

As you probably know, the Graduate School at Hypothetical University is developing more rapidly than almost any other segment of the University. Its increase in size constitutes an important response to the national need for more people with advanced graduate training of quality. We wish, therefore, to obtain as complete information as possible as we proceed in our development of the graduate program.

May we thank you in advance for your consideration and assistance and ask that you return the completed questionnaire to our office as soon as possible. If there are any comments you would like to make about things not covered in the questionnaire, please feel free to do so.

Sincerely,

Vice President and Dean

APPENDIX IV

HYPOTHETICAL UNIVERSITY

Lazarsville

Office of Vice President for Research Development
School for Advanced Graduate Studies - Office of the Dean

February 26, 1962

Dear Doctor:

As you know, our office is conducting a study to evaluate the Graduate Program here at Hypothetical University. During the last week of January we sent a questionnaire asking for evaluations based on your own personal experience and observations.

We realize that you are busy and that to complete a questionnaire is an imposition. Your appraisal, however, is most important to our study and we would appreciate sincerely your taking time to respond to the items involved.

We are enclosing another copy of the questionnaire along with a stamped self-addressed envelope and ask that you return the completed questionnaire to our office as soon as possible.

Sincerely,

Vice President and Dean

APPENDIX V

A Research Note on the No Answer

Because two of the questions dealing with encouragement had a high percent of "no answer" and since they are treated as independent variables, they are crucial to the analysis. We have written this note to argue the propriety for including them in this study. We maintain that the high rate of no answer to these questions does not bias the data. These no answer "responses" are randomly distributed within the sample and are due to faulty question construction.

Excluding the front sheet data, open-ended questions and questions that were applicable only in certain situations, there were a total of 93 questions in the questionnaire.

In concerning ourselves with how to handle the "no answer"* we decided to follow the procedure outlined by Zeisel** for those questions where the "no answer" response was five percent or less.

Of the 93 questions, 88 had a "no answer" response of five percent or less. These questions were cross-tabulated with several variables including age, degree obtained, sex, division of study, hiatus, etc., to determine if the "no answer" respondents were of a particular group. This was done for each of the 88 questions, and we found no homogeneity in the "no answer" response. Thus, having some confidence that the "no answer" respondents for these questions were randomly

*By "no answer" we mean to include only times when the respondent did not answer a particular question to which he was asked to respond.

**Hans Zeisel, Say It With Figures. New York: Harper and Brothers, 1957.

distributed, we included the questions in our analysis. The "no answers" were excluded from the tables and subtracted from the working N for that table. Had we included them in the base figure of the table, we would have superficially increased the reliability of that question. However, by completely omitting the "no answer" category from the table assumes that they would distribute in exactly the same way as the group for whom a substantive response was known. The "save" here is that the "no answer" constitutes such a small percentage of the population that they wouldn't make any difference.

Five questions had a "no answer" response higher than the arbitrary five percent level. The exact percent of "no answers" for these questions was 8, 9, 11, 20 and 23 percent. In searching for some explanation of the high "no answer" response for these questions, we observed that three of the five questions were set in a somewhat unusual format. The remaining two questions were also set in a format which is somewhat different from that which is standard for survey questionnaires. Hence, we began to suspect the "question format" as the cause of the high "no answer" response for the five questions.

The 93 questions of the questionnaire represent four different styles of question format. We shall identify each of them and refer to them as styles A, B, C, and D.

FIGURE I

Question Style "A"

"How many members were there in your guidance committee? ____."

The first question style is the "fill-in" type which is quite standard in surveys. There were six questions of this type in the questionnaire and the mean number of "no answer" response for this type of question style was 4.1 which equals 1.1 percent of the sample (the range was 10 which is 2.8 percent of the sample).

FIGURE 2

Question Style "B"

What is your marital status?

Single, never married.	1
Married, no previous marriage.	2
Married, a previous marriage	3
Separated or divorced.	4

Question type "B" is probably the most common style of question format that is used in questionnaires. A question, followed by a series of responses and the respondent is merely to check or circle one or more codes corresponding to the responses under the question. There were 28 questions of this type in the questionnaire. The mean number of persons failing to answer this type of question was 3.1 which equals .8 percent of the sample (the range was 19 which is 5.3 percent of the sample).

FIGURE 3

Question Style "C"

How would you rate the training opportunities in your department for a student who is interested in . . . (Circle one number in each row).

TRAINING OPPORTUNITIES

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
Teaching only	1	2	3	4
Teaching and research	1	2	3	4
Research only	1	2	3	4
Applied areas of the field. . .	1	2	3	4

In the third format style, a lead statement is made which is applicable for each of the immediately following circumstances. The responses are also uniform in that the set of fixed alternatives for each question is exactly the same. The respondent then reads each individual "sub-question" and circles the appropriate response that appears to the right of the question. There were 53 questions of this type, counting each item ("Teaching only", "Teaching and Research", etc.) as individual questions. The mean number of persons failing to answer this type of question was 8.5 which is 2.3 percent of the sample (the range is 39 which is 10.8 percent of the sample).

FIGURE 4

Question Style "D"

"How much encouragement did you receive from the faculty members of your department to attend professional meetings and to present papers?"

<u>To Attend Professional Meetings</u>		<u>To Present Papers</u>	
(circle one)		(circle one)	
1	A great deal of encouragement	1	
2	A moderate amount of encouragement	2	
3	A small amount of encouragement	3	
4	No encouragement	4	

The fourth question format style is quite similar to the previous one ("C"), in that a lead or introductory statement is made which is appropriate to more than one specific question and the categories of response are exactly the same for each of the questions. It differs from the third in that the categories of response are placed on the horizontal axis and the questions on the vertical axis--one on each side of the categories of answer. There were six questions with this particular question format style and the mean number of persons failing to respond to this type of question was 32.0 which is 8.9 percent of the sample (the range was 72 which is 20 percent of the sample).

TABLE 1

Question Style	Number of Questions	Mean Number of "No answers" Per Question	Percent of the sample with One or more No response
"A"	6	4.1	1.1
"B"	28	3.1	.8
"C"	53	8.5	2.3
"D"	6	32.0	8.9

From Table 1 we can easily see that there is a sizeable difference in the number of "no answer" responses which various question format styles yield. For each question of style "D" an average 32 persons failed to answer; 32 represents nearly nine percent of the total number of persons surveyed. Of the other three question styles, "C" had the highest percent of persons failing to respond, an average 2.3 percent of the total group questioned.

The explanation for so many respondents failing to answer questions put in the format of "D" probably lies in their failure to see them. In the questionnaire, the place where the respondent was to indicate his "choice of answer" to a question was to the right of the category of response, (the right side of the sheet) except where the questions were put in the format of "D". Here, half of the time the respondent indicated his answer to the right of the response category and half of the time to the left. When the respondent had to indicate his response to the left of the category of response the percent of "no answer" was nearly 11 percent higher than when it was on the right.

TABLE 2

Place of Answer	Number of Questions	Mean Number of "No answers" Per Question	Percent of the sample with one or more no response
Right	3	12.6	3.5
Left	3	51.3	14.3

Each of the five questions which yielded more than five percent "no answer" response were cross-tabulated with several control variables in order to determine if some particular group or category of persons were failing to respond. Control variables were department, division of study, type of degree obtained, sex, age, specific time of graduation and number of years taken to obtain the degree. In no case was the percent of "no answer" response in any one category significantly different than any other. Also, we analyzed these data to determine if the same respondents were failing to answer the questions. We found that only 3.5 percent failed to answer three of the five questions and 4.9 percent failed to answer two of them.

In conclusion, it appears that the reason for a high percent of "no answer" to questions included in the survey reported here was due to faulty question construction. When the place for the respondent to indicate his choice of answer was on the "wrong" side of the page--the left side--and when there is also, as usual, a response requested to the right of the question, the percent of persons failing to answer the question on the left was 14.3. When the place is to the right side, the percent of persons failing to answer varied from .8 to 3.5 percent.

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