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ABSTRACT

The impact of selected aspects of the collegiate experience on changes in undergraduates' occupational preferences and personal goals is examined in this study. Two aspects of the college environment are assessed: the social structure and the students' perception of the institution's ability to facilitate the attainment of personal goals. The joint effects of family background, family socialization, and experiences at college on career choices are closely examined. Data were compiled from several national surveys of students and faculty in American colleges and universities. Undergraduates from 72 different institutions and majoring in either English, mathematics, history, or political science were surveyed. The academic department is viewed as an important influence on both faculty and students. Multiple regression analyses are provided for each major field by sex with prestige of upper division career choice as the dependent variable. Results indicate that the single most important predictor of career prestige aspirations was the prestige of the occupation to which upper division undergraduates aspired at entrance to college as freshmen. Faculty seemed to be more influential with respect to students' values than career aspirations. The results indicate the importance of examining conceptually defined organizational units when studying college impacts on career aspirations. (Author/SF)

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IMPACTS OF CAMPUS EXPERIENCES AND PARENTAL SOCIALIZATION ON UNDERGRADUATES' CAREER CHOICES

by

JOHN C. WEIDMAN

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ABSTRACT

The purpose of the present study is to assess the impacts of selected aspects of the collegiate experience on changes in undergraduates' occupational preferences and personal goals. The study focuses on two general aspects of the student's participation in a four-year college or university environment; the social structure, particularly its normative aspect as defined by the orientations of faculty and students toward the purposes of a college education; and the individual student's perceptions of the institution's capacity for facilitating the attainment of personal goals.

A departure from much of the existing research on college impacts is that close attention is paid to the concomitant influences of parental socialization that are present throughout the student's college days. The research assesses the extent to which college effects on students' occupational orientations and preferences are mediated by parental socialization and parent-child relationships maintained, in many instances, through continued contacts with parents during college.

The present research focuses on collegiate impact on occupational matters and, more generally, on socialization in organizations. On one level, it deals with situational and individual developmental constraints on the choices made by participants in an organizational environment. On another level, it explores a set of socialization processes, concentrating largely on the impact of normative contexts and interpersonal relations among an organization's members. Since the student usually takes more courses in the major than in any other field, the academic department is an important locus for the normative influences of both faculty and peers. The study investigates the joint impacts of (a) the normative influences exerted by departmental faculty and peers, (b) the perceptions held by students concerning various salient aspects of their collegiate experience, and (c) the persisting impacts of parental socialization during college, despite influences brought to bear upon students by participation in the more immediate campus social structure.

The study is a secondary analysis of both faculty and student data from the 1969 ACE-Carnegie National Survey of Higher Education.

Four academic departments representative of the traditional liberal arts curriculum were selected for study: English, mathematics, history, and political science. Multiple regression analyses are performed separately by major and sex with prestige of upper division career choice as the dependent variable.

The findings do not lend strong support to the emphases on family impacts in the conceptual framework. As anticipated, the single most important predictor of career prestige aspirations was the prestige of the occupation to which these upper division undergraduates aspired at entrance to college as freshmen. Effects of colleges (selectivity and major department environment), particularly for female history majors, were striking. Faculty seemed to be more influential with respect to students' values than career aspirations. Grades also had significant positive effects on career prestige aspirations, while extra-curricular attainment tended to have negative effects. Career estrangement also had a negative effect on aspirations. Orientations of upper division undergraduates toward becoming an expert in a field were positively related to career prestige aspirations, especially for women. The results illustrate the importance of looking at conceptually defined organizational sub-units when studying college impacts on career aspirations.

ACKNOWLEDGEMENTS

This study is the outcome of research spanning a decade. My primary intellectual debt is to Charles Bidwell, who chaired my dissertation committee at the University of Chicago, and with whom I worked on several aspects of the questionnaire development for the 1969 ACE-Carnegie National Survey of Higher Education on which the data analysis is based. Joe Spaeth, my mentor at the National Opinion Research Center, provided helpful counsel about the pitfalls of doing secondary analyses of large, national surveys.

At the University of Minnesota where the work under this particular grant began, David Krus did much of the yeoman computer file building work required in the early stages of the research and collaborated on some publications resulting from the project. Graduate assistants who helped with various bibliographic and data analytic tasks included Sherry Haskins, Mohammad Tavakoli-Yazdi, David Doth, and Robert Friedmann.

After the project moved to BSSR, Laure Sharp was particularly helpful in commenting on various aspects of the study as it progressed. Doug Neal provided invaluable assistance with the computer data analysis. John Vincent gave the final draft a careful, critical review.

Finally, I am grateful to my present colleagues in the Higher Education Program at the University of Pittsburgh for the light teaching load and resource allocation over the past seven months that enabled me to complete this study.

In the production of this report, Prem Khurana's handiwork is reflected in the typing of the tables and figures, and Kyo O'Hira did the formatting for the computer-generated typescript.

John C. Weidman

Pittsburgh, Pennsylvania
July 31, 1979

CHAPTER I

AN APPROACH TO THE STUDY OF UNDERGRADUATE CAREER DEVELOPMENT

The purpose of this study is to assess the impacts of selected aspects of the collegiate experience on changes in undergraduates' occupational preferences and personal goals. It is conceived in the tradition of Newcomb's (1943; Newcomb, et al., 1967) Bennington College studies, the Cornell Values Study (Rosenberg, 1957; Goldsen, et al., 1960), the college student surveys conducted by the American Council on Education (Astin and Panos, 1969), and the National Opinion Research Center surveys (Davis, 1965; Spaeth and Greeley, 1970).

I focus on two general aspects of the undergraduate student's participation in a four-year college or university environment - the social structure, particularly its normative aspect, as defined by the orientations of faculty and students toward the purposes of a college education; and the individual student's perceptions of the institution's capacity for facilitating the attainment of personal goals. The latter aspect of the college experience is reflected in such things as satisfaction with college, the indivdual's sense of social integration into the campus environment, and assessments of the extent to which experiences within a particular college have contributed to the attainment of desired personal ends (e.g., occupational training and personal growth).

A departure from much of the existing research on college impact is that I also pay close attention to the concomitant influences of parental socialization that are present throughout the student's college days. I consider specific aspects of parental socialization processes, notably those reflected in modes of parent-child relationships and family life style that contribute to adult development. An important aim of the research is to investigate the extent to which college effects on students' occupational orientations and preferences are mediated by parent-child relationships maintained, in many instances, through continued contacts with parents during the student's college years.

The study is intended to contribute to research focusing on collegiate impact on occupational matters and, more generally, on socialization in organizations. On one level, I am dealing with situational and individual developmental constraints on the choices made by participants in an organizational environment. On another level, I am exploring a set of socialization processes, concentrating largely on the the impact of normative contexts and interpersonal relations among an organization's members. I investigate the joint impacts of (a) the normative influences exerted by faculty and peers, (b) the perceptions held by students concerning various salient aspects of their collegiate experience, and (c) the persisting impacts of parental socialization during college despite influences brought to bear upon students by participation in the more immediate campus social structure.

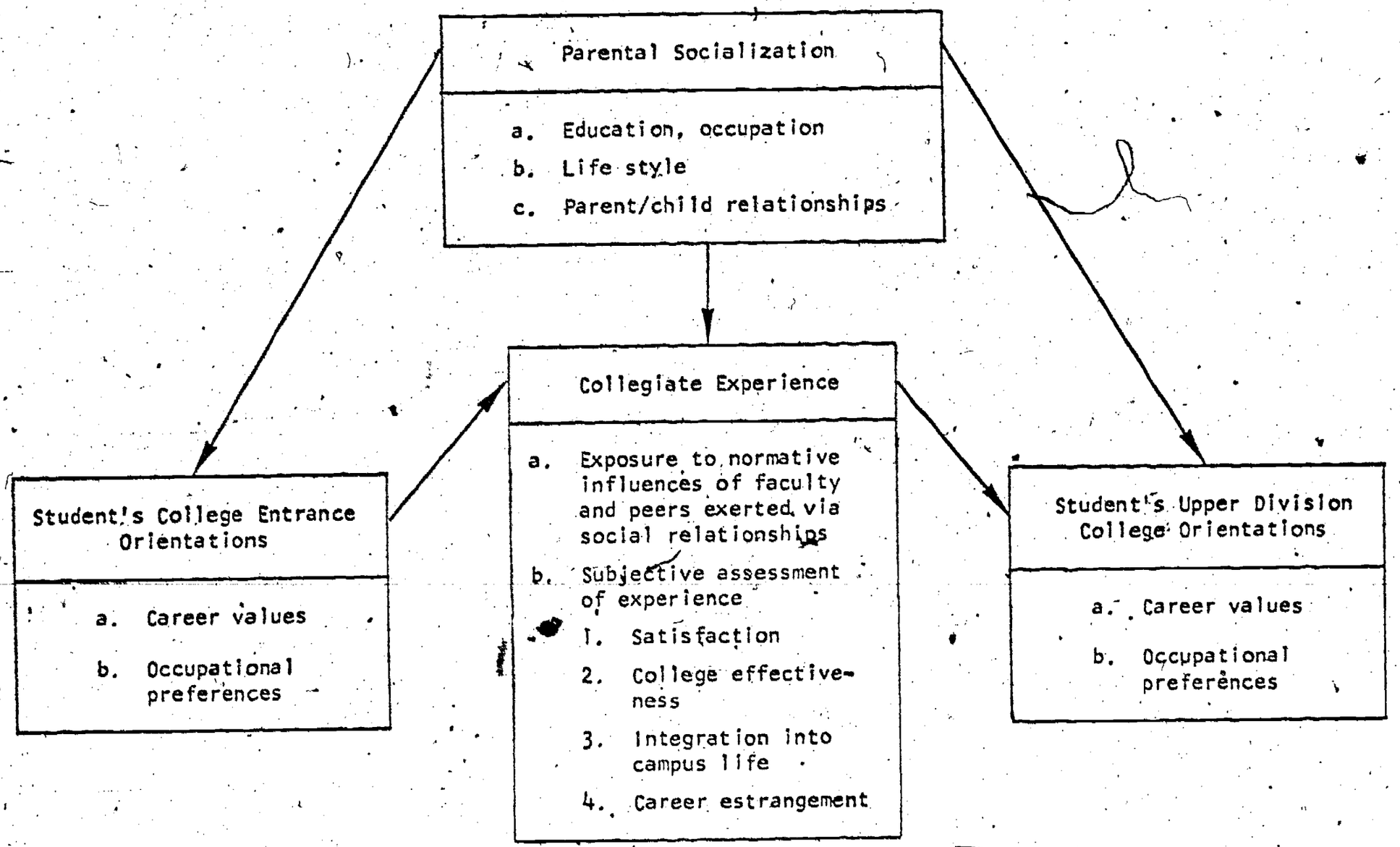
I attempt to add further specification to the general research findings about educational impacts suggesting that family background factors tend to be more potent predictors of impact than are most aspects of the educational setting by assessing effects of parent-child relationships as well as family educational and occupational characteristics. I hope to provide additional insights about socialization processes in college, thereby contributing to the elaboration and extension of existing socialization theory, particularly as it relates to occupational development of college students. I also assess some interpersonal aspects of collegiate social structure, thereby contributing information that might be used in the development of higher education policy oriented toward the "humanization" of learning environments in college.

Figure 1 contains a diagram of the general conceptual scheme for the present research. This framework grows out of research on nonintellective undergraduate socialization that I have been working on for the past few years (Weidman, 1974a, 1974b, 1978, 1979; Weidman and Krus, 1978; and Krus, et al., 1975), as well as research on similar experiences that individuals have in other organizational environments which have been identified as important contributors to the occupational choice process (Blau, et al., 1956; Osipow, 1973).

Occupational Socialization

FIGURE 1

A CONCEPTUAL FRAMEWORK FOR THE STUDY OF UNDERGRADUATE OCCUPATIONAL SOCIALIZATION



Occupational Orientations and Preferences

During college, most undergraduates seek information about various kinds of occupations and try to determine not only their own suitability for particular careers but also the reactions of others to certain occupational activities and outcomes. In addition to providing the educational credentials necessary for access to upper white collar, professional, and managerial occupations, the traditional college education has also provided experiences and resources for the student to develop more generalized orientations toward work and leisure activities. In fact, Beardslee and O'Dowd (1962: 606-607) assert that "students perceive occupations largely in terms of their implications for a style of life and a place in the community status system."

This framework focuses on change between the freshman and upper division (i.e., junior and senior) years in students' occupational orientations and preferences. To maintain continuity with previous research, particularly the Cornell Values Study (Rosenberg, 1957: 14), the study examines students' orientations toward extrinsic rewards (becoming an authority in a special field, and becoming well-off financially) and interpersonal relationships (helping others).

It should be noted that there is an important interdependence between occupational choices and values because, according to Rosenberg (1957: 24), "In addition to people choosing an occupation in order to satisfy a value, they may choose a value because they consider it appropriate for the occupational status they expect to fill in the future." Merton (1968: 438-439) calls this latter process "anticipatory socialization." Hence, it is essential that changes during college in the configurations of relationships between occupational preferences and orientations be investigated.

Of course, such attributes of students as sex and race both shape their orientations prior to college and affect the susceptibility of students to the socializing influences of college. For instance, men may be more likely than women to develop life-time career orientations in college, especially since women can attain through marriage the same sorts of financial security or community status attained by men through occupational participation. Spady (1970: 72) explains this phenomenon

in the following way:

> It is fairly clear, for example, despite the recent upsurge of feminist rhetoric, that men face the necessity of establishing a position in the occupational structure on which their future income and status will depend. For women, on the other hand, the decision to pursue a career is less often dictated by social or economic necessity. As a result, women are both freer to deal with college as an intrinsically rewarding experience and face less pressure to finish.

It seems that, increasingly, women in college are preparing for continuous careers following graduation, interrupted only for brief periods (if at all) for child-rearing or other family responsibilities. Nonetheless, value orientations of women still tend to lean more toward interpersonal relationships and less toward extrinsic rewards than those of men, mainly because of the slow movement toward increasing access for women to business and professional positions. Husbands (1972: 263) describes such sex differences among college students very succinctly: "Men tend to rank career and vocational exigencies first among reasons for attending college, while women indicate they are attracted to intellectual pursuits and a liberal education."

Perhaps even more than their white counterparts of both sexes, and despite discrimination and uncertain career progression, college-educated blacks have tended to be highly oriented toward being successful and attaining high status careers (Crain and Weisman, 1972).

Parental Socialization

Explicit in this framework is the recognition that the college campus does not, for most undergraduates, constitute a totally encapsulated environment. Parental influences are important in determining the career preferences and orientations that students bring with them at college entrance. Furthermore, since the effects of parental socialization are also very likely to persist during the course of the student's college years, parental pressures may serve to mediate any impacts of college experiences. Consequently, a major thrust of this study's investigation of undergraduate career development is its assessment of the importance of parent-child relationships in determining the susceptibility of students to the socializing influences

of the campus environment. One research question for this part of the study may be phrased as follows: How are specific aspects of parental socialization and life styles related to the persistence and change of undergraduates' career orientations and preferences? Another is, how do aspects of the collegiate experience and parental socialization interact with one another in influencing the student's career development during college?

In studies of career development, parental influences have been continuously identified as important contributing factors (Borow, 1966). Sociological research consistently shows that occupational attainment is related to such measures of parental social status as occupational prestige and educational attainment (Blau and Duncan, 1967; Haller and Portes, 1973; Alexander and Eckland, 1975). Other studies indicate that occupational values concerning autonomy in work and the undesirability of close supervision in work are associated with a middle social class position as measured by educational and occupational status, and that these values are transmitted by parents to their offspring (Kohn, 1963, 1976, 1977; Wright and Wright, 1976). The phenomenon of "occupational inheritance" (i.e., the propensity of children to choose parental occupations) has also been shown consistently in studies of occupational choice among college students (Werts, 1966, 1967a, 1967b).

However, a shortcoming of these studies with respect to their assessment of socialization processes is that none deal with aspects of parent-child relationships that might be related to the transmission of parental influences. Indeed, there is sufficient evidence suggesting strong associations between family social class and parental socialization practices as reflected in parent-child relationships and familial life style to justify an empirical test of the relative contribution of global aspects of social status vs. more specific aspects of parental influence in assessing the career development of college students (Kerckhoff, 1972; Kohn, 1963; Pearlin, 1971; Schooler, 1972). Only Mortimer (1974, 1976) has provided evidence suggesting that the nature of parent-child relationships (perceived "closeness") has marked consequences for occupationally-related decisions of college students.

The present research goes beyond the foregoing analyses of parental influences by focusing on more specific aspects of processes leading to the transmission of orientations by parents to their offspring, along with the more conventionally used measures of parental status characteristics (e.g., education, income, and occupational prestige). Two dimensions of parental treatment that have been identified as particularly important for adolescent socialization are parental support and parental control, particularly pressures for achievement (Devereux, et al., 1962; Thomas, et al., 1974). These two dimensions, along with parental life style characteristics, are of primary concern in the present research.

Collegiate Experience: Normative Contexts

The remaining aspect of the conceptual scheme for the study is the student's collegiate experience. For the moment, consider the organizational environment of college independently of parental socialization. Socialization in college may be thought of as a process that "entails a continuing interaction between the individual and those who seek to influence him (Clausen, 1968: 3)." Socialization, in this sense, "does imply that the individual is induced in some measure to conform willingly to the ways of ... the particular groups to which he belongs (Clausen, 1968: 4)." Undergraduate socialization can thus be viewed as a process that results from the student's interaction in normative contexts with other members of the college community. For purposes of the present discussion, normative contexts are considered to be settings where various sorts of generally goal-oriented activities take place among groups of individuals. Norms represent generalized conceptions of what constitutes appropriate behavior when a person is confronted with certain situations or must choose among alternative courses of action.

This portion of the conceptual framework draws heavily from the seminal structural-functional analysis of American universities by Parsons and Platt (1973). Specifically, I am interested in two aspects of their argument as it relates to undergraduate socialization. One has to do with what they term the "moral authority of institutions (Parsons

and Platt, 1973: 167)." This refers to the normative order of the college or university as a potent agent of socialization. The second has to do with interpersonal relationships among various members of academic settings. These interpersonal attachments make an important contribution to the members' social integration within the college (Parsons and Platt, 1973: 167).

Furthermore, interpersonal relationships contributing to the social integration of students into the academic system are related to the attainment of not only institutional goals, but also the personal goals of individual students (Tinto, 1975). Social relationships among members of normative contexts contribute to the transmission of normative influences since, according to Moore (1969: 869), "normative internalization takes place only in situations marked by strong affectivity in relationships, and some part of the affect must be positive."

Put in a somewhat different way, the foregoing suggests two general questions that deal with the socializing effects of an individual's participation as a student in the organizational environment of a college or university. One pertains to social interaction: What are the interpersonal processes through which people are socialized? The other pertains to organizational structure: What are the normative characteristics of the organization that exert socializing influences on members (Wheeler, 1966: 54)? At college, the relationship between interpersonal and organizational variables can be explained as follows: Just as students differ in their patterns of interaction with others, colleges differ in their structuring, intentionally or not, of both normative contexts such as classrooms and student residences and of opportunities for social interaction among students and college staff. Hence, in studying college student socialization it is important to explore the impacts of normative contexts as well as the ways in which interpersonal relationships among members serve to either reinforce or counteract the normative influences exerted within various specific contexts (Lacy, 1978; Weidman, 1978).

By enrolling in a college and attending classes, a student is exposed to various socializing influences, especially those exerted by

faculty and peers (Feldman and Newcomb, 1969: 236, 237, 251). A particularly important locus of faculty and student influence is the academic department. In a study of Michigan State University students, Lehmann and Dressel (1962: 221-223) found that seniors rated major field courses and instructors (along with close friends) as having the most significant influences on their attitudes and values during college. More recent studies (Hearn, 1978; Weidman, 1979) have also shown the significance of the major department as a locus for influences on the career orientations of undergraduates.

Practically all post-freshmen students have some affiliation with an academic department since it tends to be the unit through which degree requirements are formulated and certification of their successful completion is made. Vreeland and Bidwell (1966: 238) describe the department as follows: "The department ... is the principal workplace of the college, has relatively well-defined goals and expectations for students, and commands powerful normative and utilitarian sanctions." These authors argue that the socializing impacts of the department are determined by the expressed goals of the faculty for undergraduate education which, in turn, determine faculty behavior and expectations for students. They identify three areas of faculty emphasis or goals for undergraduate education: providing a broad, liberal education; providing occupational training; and mixed goals, where both are emphasized.

The academic department can be a powerful source of normative influences on student majors, in large part because of the faculty's ability to differentially reward students for their performance in courses, both through the assignment of grades and the encouragement of social interaction (Parsons and Platt, 1973: 179). The evaluation of students' performances in class-related activities as well as other settings may also influence the career plans of undergraduates. Interestly, however, in determining the kinds of jobs actually held by a large National Opinion Research Center sample of college graduates, "plans are a more important independent influence than grades (Spaeth and Greeley, 1970: 171-172)."

The emphasis on norms and social relationships in the academic

department is pursued for several reasons. First, primary social relationships have already been discussed as contributing to the socal integration of and, consequently, to the potential normative pressure exerted on members by groups. Second, as Shibutani (1955: 568) asserts, "socialization is a product of a gradual accumulation of experiences with certain people, particularly those with whom we stand in primary relationships." Finally, both students and faculty tend to feel that the most enduring academic impacts of college attendance result from social interaction between faculty and students outside of the formal classroom setting (Wilson, et al., 1975). In sum, the assumption underlying this part of the study is that the central mechanism of socialization transmitting normative influences is primary social relationships with departmental faculty and peers. With respect to influences on students' career orientations within the department, major field peers appear to be less important than major field faculty (Phelan, 1976; Weidman, 1974a, 1979).

It must be remembered that the department is part of a larger organization, the college or university. Students are members of the entire organization, not just of the department. Consequently, there may be some socializing effects of interaction in non-departmental settings within the college that add an increment to or even cancel out the department's influences. An important dimension here is the formal extracurricular structure of the college. Presumably, those students who participate actively in extracurricular activities may be more likely than their non-participant counterparts to look to peers rather than faculty as normative referents.

On another level, the general characteristics of the college itself are also important. Student selection is of considerable interest, since departments in highly selective institutions may be more likely to stress a broad liberal education than occupational training. Interestingly, college selectivity has been shown to be positively related to the enhancement of students' scientific orientations (Skager, et al., 1966), but negatively related to increasing students' preferences for seeking educationally high level careers (Reitz, 1975). Other studies (Bassis, 1977; Drew and Astin, 1972) find positive effects

of selectivity on aspirations and self-evaluations, and Solmon and Wachtel (1975) find institutional quality to be positively associated with post-college career income.

Collegiate Experience: Subjective Assessments

The other aspect of the student's collegiate experience included in this framework involves his or her subjective assessment of that experience. As one critic of the structural-functional interpretation of socialization has argued (Wrong, 1961), socialization involves both the transmission of norms and the individual processes resulting in the development of unique personal orientations to social contexts. Not surprisingly, there is a considerable literature dealing with the related phenomena of "person-environment interaction" at college (Stern, 1970; Walsh, 1973; Moos, 1979). The general research question for this part of the study is: How do the individual's perceptions of participation in various segments of the collegiate environment affect the socialization potential of the college? Put in a somewhat different way, I am concerned with assessing whether or not student favorability toward various aspects of the collegiate experience enhances the college's impact on changes in occupational orientations and preferences.

Several dimensions of students' perceptions of their colleges are of concern here. One is student satisfaction with college. While Feldman and Newcomb (1969: 94-95) cited four studies of student satisfaction with college in their extensive literature review, none were from formally published sources. In general, the findings from these studies suggested some variability in student satisfaction at different points during college, with the lowest levels being reported by sophomores (60% satisfied) and the highest levels being reported by seniors (more than 80% satisfied). Several problems are left unaddressed by these few studies. One problem is that these studies all report simple frequencies or mean responses to items without attempting to show in which areas of undergraduate life students are relatively more or less satisfied. A second problem is the limitation of the measures of satisfaction used, since most are based on vaguely phrased

questions with only very general referents.

Some light is shed on the problem of student satisfaction with college in an analytical study done using students at the University of Minnesota by Berdie, et al. (1970). These authors found that "the extent to which a student is satisfied with college depends in part on his own history and personality, in part on the facility with which he obtains his academic objectives, and in part on the experiences, resources, and services which the University makes available to him (Berdie, et al., 1970: 265-266)."

For the purposes of the present study, one inference to be drawn from the foregoing discussion is that, presumably, the more satisfied a student is with his or her collegiate experience, the more susceptible that student is to the socializing influence of the campus. The present research attempts to specify the ways in which student satisfaction is more or less important in affecting change in students' career choices, and to show how such subjective assessments of college life mediate the impacts of campus normative contexts.

Another important subjective dimension of the student's collegiate experience suggested by the Berdie, et al. study is his or her assessment of the extent to which the college has facilitated attainment of specific outcomes that are deemed important by the student (e.g., general education, occupational skills, marriage preparation, help in formulating values). I am especially interested in the student's assessment of the effectiveness of the college as a vehicle for attaining personal goals. While there have been many studies of students' ranking of the importance of goals (Feldman and Newcomb, 1969: 11-17), virtually none have attempted to analyze the relationships among students' perceptions of having attained desired goals and other college outcomes. In this study, I attempt to expand my own work in this area (Weidman and Krus, 1978) which suggests that among female education majors at the University of Minnesota, attainment of desired general education goals was positively related to having a favorable image of the College of Education, the organizational home of their major departments. Among men in this study, favorable images of the College of Education were related to their belief that they had obtained

occupational skills, independent of whether such skills were highly desirable. These findings again suggest that favorable images of college, and hence the institution's socialization potential, are enhanced by students' subjective assessments of the college's contribution to the attainment of personal goals.

The student's perceived "fit" or subjective assessment of his or her degree of social integration into the life of the institution is another dimension of concern in the present research. Tinto (1975: 107) describes social integration into campus life as follows:

> ... social integration occurs primarily through informal peer group associations, semi-formal extracurricular activities, and interaction with faculty and administrative personnel within the college. Successful encounters in these areas result in varying degrees of social communication, friendship support, faculty support, and collective affiliation, each of which can be viewed as important social rewards that become part of the person's generalized evaluation of the costs and benefits of college attendance and that modify his educational and institutional commitments.

Social integration, particularly as it relates to primary social relationships with faculty and peers in the transmission of normative influences has already been discussed. Here, I am concerned with students' assessments of impersonal treatment on campus. My expectation is that the more favorable the student is in his or her perceptions of the campus environment, the greater the socialization potential of the college.

Finally, I am concerned with those subjective assessments that individuals make concerning their own suitability for careers and their willingness to participate in the formal occupational structure of society. It is my expectation that those students who question their ability to develop meaningful careers will also shy away from aspiring to high status, demanding occupations.

To summarize the general conceptual scheme underlying the foregoing discussion, undergraduate socialization can be conceived as a series of processes whereby the student: (a) enters college as a freshman with certain values, career aspirations, and other personal goals; (b) is exposed to various socializing influences and mechanisms while attending college, particularly (1) normative pressures exerted

via social relationships with faculty and peers in the major department and (2) parental support and achievement pressure; (c) assess the salience of the college environment as the source of both knowledge and orientations perceived to be appropriate for attaining career goals; and (d) changes or maintains those values and aspirations that were held at college entrance on the basis of parental influence, normative pressure in the major, and subjective assessments of the collegiate experience.

CHAPTER II

STUDY DESIGN

Data for this study came from several national surveys of students and faculty in American colleges and universities that were sponsored collaboratively by the American Council on Education (ACE) and the Carnegie Commission on Higher Education (Trow, 1975). Data tapes from this 1969 National Survey of Higher Education are available through the Carnegie Council on Policy Studies in Higher Education (2150 Shattuck Avenue, Berkeley, CA 94704).

The Surveys

The faculty survey was conducted in the spring of 1969. The undergraduates were surveyed when they began college as freshmen starting with the cohort that entered college in the fall of 1966, and then again during December of 1969. See Trow (1975: Appendix A) for a complete description of the sampling frames, nonresponse bias, and other technical details of the 1969 surveys. Statistical descriptions of the national norms for the 1969 faculty survey can be found in Bayer (1970); national norms for the 1966 and 1967 freshmen surveys can be found in Astin, et al. (1967a, 1967b) and Panos, et al. (1968); and a description of the sampling procedures used for selecting the institutions included in the 1966 ACE freshman survey can be found in Astin, et al. (1966). A discussion of measurement error and item reliability for the student surveys can be found in Boruch and Creager (1972).

The following is a general description of the 1969 undergraduate survey:

> The undergraduate survey utilizes a sample of those students who responded to the American Council on Education ongoing research of first time students during the fall terms of 1966-1969 inclusive. This sample design provided the benefit of panel data for all respondents and easy access to student names and addresses, though it failed to reach those students in sample institutions who first entered college more than four years earlier and those students who transferred into a sample institution after first enrolling in

another institution. However, the survey did include those who dropped out or transferred from a sample institution after entering during these 4 terms.

The undergraduate sample was designed to include approximately 200,000 students. These students were sampled from the respondents to the ACE freshman surveys in a manner which insured representation from each initial cohort in each institution sufficient to provide reliable data on the student body as a whole and on its major segments, as the other surveys aimed to do. These sampling goals were achieved by eliminating from the original sample of 310 institutions those which had not participated during all of the years 1966-69, those with poor response rates to the ACE freshman questionnaires, and those with inadequate student name and address files. This reduced the institutional sample to 189. Then, up to 1,000 students were selected from each institution, distributed by their entrance cohort (Trow, 1975: Appendix A).

Lest the use of this particular student data set be criticized as being outdated and unrepresentative of contemporary undergraduate life, note that Martin Trow (1977: 6) replicated these surveys in 1975 and concluded that there was considerable stability in basic attitudes and values of both students and faculty from 1969 to 1975:

> The events on American college and university campuses in the late 1960's were serious and important, but to a very considerable degree they were media events; their effects and larger significance were almost certainly exaggerated at the time and continue to be in retrospective discussions of that period. This is not the place to attempt a sober assessment of the impact of the war and reactions to the war in Vietnam on American colleges and universities. But it is not inappropriate in the face of these new survey data to be reminded that American colleges and universities have been marked more by stability in the basic attitudes and values of their students and teachers than they have been by any discontinuous or great change.

Similar findings of a continuation of 1960's trends in student's' orientations into the 1970's are echoed by Hoge (1976).

The Study Sample

Institutions with poor student response rates (less than 25%) to the 1969 ACE-Carnegie survey are excluded from the analysis, thereby reducing the institutional sample for the present research to 89. There was a further reduction in the number of institutions ultimately represented in the study brought about by the focus on normative characteristcs of academic departments. Since the indicators for norms

were the aggregated responses of both departmental faculty and undergraduate majors, only those departments that had sufficient numbers of respondents for reasonably stable estimates of norms could be included. Excluding all departments with fewer than five student respondents left a total of 72 institutions. From all of the departments at these 72 institutions that met the respondent number criterion, four were selected for the study: English, mathematics, political science, and history. Not only are these departments representative of the traditional liberal arts curriculum, but there were also sufficient numbers of students in them so that separate analyses could be performed by sex. Clearly, this sample selection procedure resulted in the selection of large departments for study. In terms of socialization, however, this should lead to the underestimation of departmental effects since large departments are presumably less cohesive and socially integrated than small ones.

Since duration of influence has been shown to be an important factor in student socialization (Curtis, 1974), data analysis is based on the cohorts of students who had had maximum exposure to collegiate influences, those who were upper division students at the time of the 1969 survey. Also to maximize potential college influence, students who had attended more than one college were excluded. Thus, the final student sample included only those respondents (a) who had entered college in either 1966 or 1967; (b) who had attended only one college; (c) who had responded to both the freshman and 1969 surveys; (d) whose 1969 major field was English, mathematics, history, or political science; and (e) whose major had at least five upper division student respondents to the 1969 survey. The distribution of the sample by department and sex is shown in Table 1.

There are some problems with the study sample. One has to do with the methodological issue of backward selection to get a sample having repeated measures (Hauser, 1970). From the documentation available on these surveys, it is difficult to determine the exact differences in wave response rates. The overall response rates to the ACE freshman surveys in the late 1960's were not very high (on the order of 20%), so there is real reason to be concerned about the

TABLE 1

DISTRIBUTION OF STUDY SAMPLE

Major	Sex		Colleges[a]
	Males	Females	
English	344	627	63
Mathematics	319	242	55
History	496	301	58
Political Science	500	224	48

[a] Undergraduates from 72 different four-year colleges and universities are included in the study: 35 institutions had all four departments represented, 19 had three departments, 9 had two departments, and 9 had only one department.

representativeness of the sample selected for the data analysis. That is not to say that the response rates for particular institutions were not considerably higher than the overall response rate, but that it is virtually impossible to assess the response rate problem.

Related to the first problem is a second, namely the diffusion of departmental effects that would otherwise result from what Feldman and Weller (1976) have called the "accentuation effect" of major fields. Since the students included in the present were selected on the basis of their upper division major, there is no way to determine the effects of departments on those who shifted away from one of the four majors chosen for analysis and, hence, no way to control for "accentuation effects" of the major department. It is likely that choosing the departmental sample on the basis of size and upper division major resulted in a somewhat more homogeneous group of majors, in terms of orientations, than is actually the case in the institutions represented.

Two basic considerations, in my opinion, justify the use of this particular data base. The first is that these surveys are unique in containing both faculty and longitudinal student data at the departmental level, thereby allowing the analysis to be done on characteristics of specific academic departments rather than groups of related departments (e.g., social sciences, humanities, natural sciences). Second, the ACE surveys of entering college freshmen have been done each fall since 1966 and, hence, represent the longest ongoing effort at obtaining information from entering college freshmen. The information obtained from these surveys is disseminated widely and has been the basis for a substantial amount of influential research on undergraduates. For a comprehensive summary of this research, see Astin (1978). In sum, I believe that the shortcomings of these surveys are offset by (a) the data's availability at the departmental level for a relatively large and diverse set of colleges, and (b) the data's appropriateness for addressing the conceptualization of undergraduate socialization developed for the present research.

The Data Analysis

This report is based on secondary analysis of the 1969 ACE-Carnegie National Survey of Higher Education. For a discussion of issues and problems in secondary analysis of survey data, expecially using the data for purposes different than those originally intended, see Hyman (1972). The analysis reported herein was designed, in large part, around the available data. The surveys were, however, developed to fill a broad-based set of research needs, many of which paralleled the emphases of the present research.

A central part of the data analysis is the assessment of effects of the normative environments of academic departments on changes in students' career values and choices. While there is a substantial literature addressing the problems and procedures of contextual analysis (Blau, 1960; Campbell and Alexander, 1965), these authors' aproaches to the analysis of group-level effects on individual variables are not without their critics. Hauser (1970: 659), for example, is critical of what he calls "the contextual fallacy [which] occurs when residual group differences among a set of social groups, which remain after the effects of one or more individual attributes have been partialled out, are interpreted in terms of social or psychological mechanisms correlated with group levels of one of the individual attributes."

A problem that contextual analysis inevitably presents is determining the adequacy of the contextual measures. There is always the possibility that individual variables, unmeasured but nonetheless correlated with the individual variables aggregated to form group-level measures, are responsible for residual differences among groups on the dependent variable. In reality, there will always be "other" correlated but unmeasured variables in any study. However, one way I have avoided some of the problems of contextual analysis is to use different indicators for the aggregated variables and the other individual-level variables in the study.

Also quite worthy of note is Hauser's (1970: 569) admonition that "one should be prepared to argue that his theory of relations among individual attributes is complete and correct, or at least defensible in relation to some explicit criterion, before speculating about residual

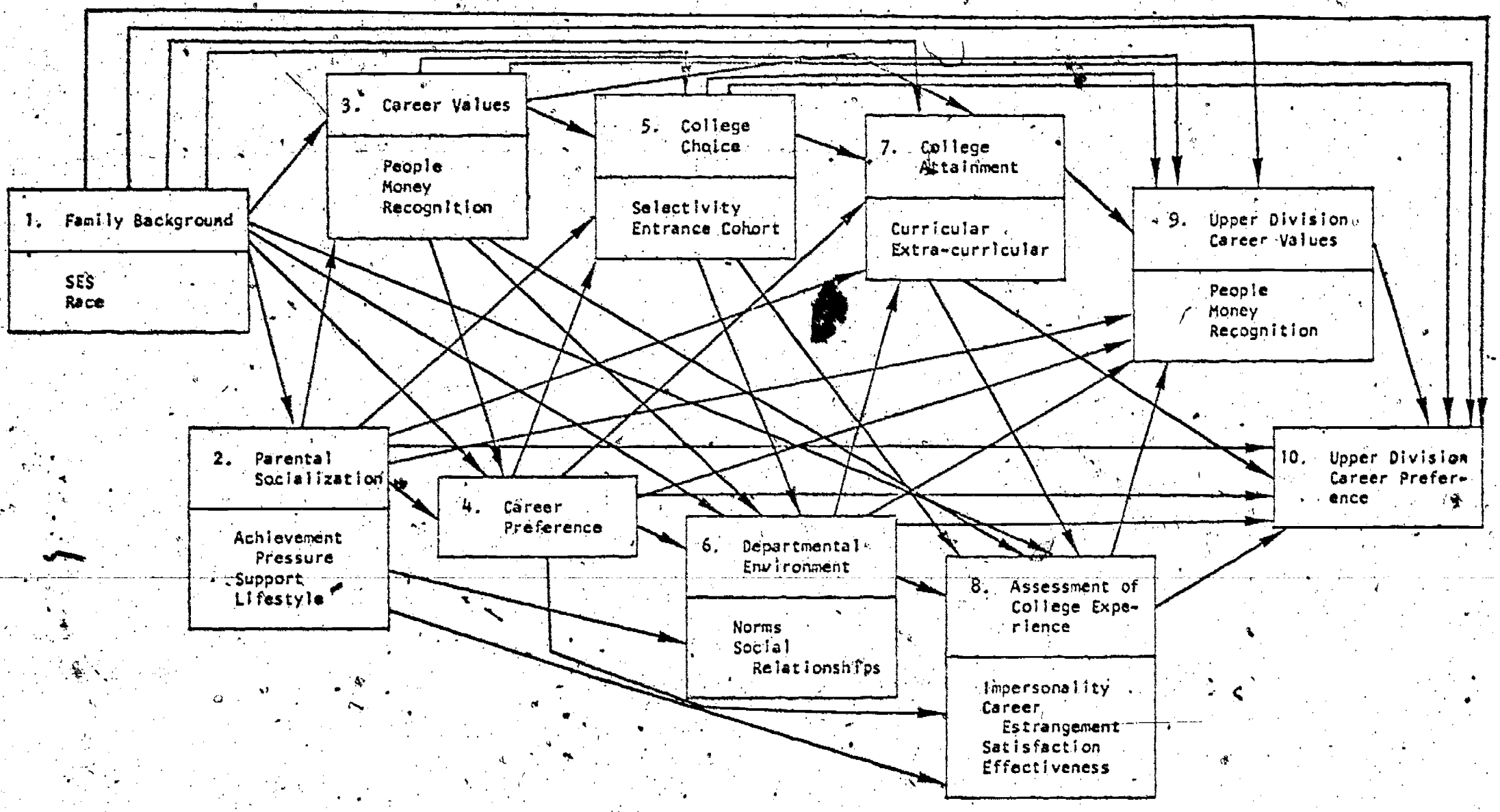
group differences." I deal with this concern for theoretical specification by basing the data analysis on the conceptual model of undergraduate socialization developed in Chapter I.

Figure 2 shows the causal model of family and campus effects on undergraduates' career choices around which the data analysis was designed. This model is simply a specification of the more general scheme outlined previously. It illustrates a set of processes whereby family social status (1. in Figure 2) and parental socialization (2.) lead to the development in their adolescent offspring of occupational values (3.) and career preferences (4.) which, in turn, affect the choice of a particular college(5.). The characteristics of the college, especially selectivity, affect the normative structure of academic departments (6.). The student's entrance cohort also affects the nature of the collegiate experience, since juniors and seniors encounter potentially different campus environments. Attainments in both the curricular and extra-curricular realms (7.) are, in turn, functions of the departmental experience (especially the transmission of norms via social relationships), and determinants of students' assessments of the campus (8.). Assessments of the campus experience influence upper division students' Undergraduates' Career Choices orientations (9.) which, in turn, influence their occupational choices (10.).

The variables included in the data analysis for each one of the blocks in Figure 2 were: 1. Family Background - family socio-economic status(SES) and race (NONWHITE); 2. Parental Socialization - supportive child-rearing by parents (PARSUPRT), parental stress on child's achievement (PARACHOR), and parental lifestyle (PARSTYLE); 3. Career Values - freshman orientations toward helping others (FHELPOTH), becoming an authority in a field (FXPRTFLD), and being well-off financially (FWELLOFF); 4. Career Preference - prestige of freshman career choice (PFJBCRER); 5. College Choice - college selectivity (COLQUAL) and entrance cohort (JUNIOR); 6. Departmental Environment - faculty and student liberal education norms (FACNORM, PEERNORM), primary social relationships with peers in the same major (PEERTIES), and primary social relationships with faculty in the major (FACTIES); 7. College Attainment - cumulative grades (GPA) and involvement in the

FIGURE 2

A CAUSAL MODEL OF FAMILY AND CAMPUS EFFECTS ON UNDERGRADUATES' CAREER CHOICES



formal college extra-curriculum (COLINVLV); 8. Assessment of College Experience - perceived impersonality of college (COLIMPER), career estrangement (ANTICRER), satisfaction with college (COLSATIS), and perceived effectiveness of the college in facilitating the attainment of personal goals (EFFECTIV); 9. Upper Division Career Values - 1969 orientations toward helping others (HELPOTH), becoming an authority in a field (XPRTFLD), and being well-off financially (WELLOFF); and 10. Upper Division Career Preference - prestige of 1969 career choice (JOBCRER). A complete description of the items used for each of these variables as well as the measurement properties of multiple-item scales is included in Appendix A. The correlations among all of these variables by department and sex are included in Appendix B.

The mode of statistical analysis selected for the study was multiple regression. Figure 2 contains "blocked" variables that is, multiple indicators for most variables. To present fully elaborated tables for the entire causal sequence of blocked variables as was done by Alexander and Eckland (1977) would result in mammoth, confusing tables. Since I am primarily interested in the net effects of the independent variables on career choice, I have included only the sequential entry of the variable blocks for the regressions in which prestige of upper division career choice was the dependent variable. This way, changes in the relative importance of the variables as new ones are entered in successive equations can be examined, a procedure roughly analogous to partial correlation. For technical discussions of these sorts of multiple regression procedures see Draper and Smith (1966) and Fennessey (1968).

The student sample was partitioned by major and sex for the data analysis. Since the respondent weights developed by the American Council on Education for reporting national college student norms from the surveys which are employed in the present research were calculated on the basis of institutional sampling strata rather than individual student characteristics, all regressions are performed with unweighted data.

As has already been mentioned, since student response rates were generally much lower than faculty response rates, only those departments

with at least five student respondents were included in the analysis. The median numbers of respondents on which departmental normative climate measures were based were 15 for faculty and 17 for students. Examination of within-department variance for both faculty and student norm measures showed no notable effects of departmental normative consistency on changes in students' orientations (Weidman, 1974a: 50-51).

CHAPTER III

RESULTS

This chapter contains the results from the regression analyses conducted separately by sex for each of four major fields: English, mathematics, history, and political science. A series of nine sequential regressions was performed for each group, with the independent variables entered according to the causal sequence shown in Figure 2. The dependent variable for each of these regressions was the prestige score (Duncan, 1961) for the student's 1969 occupational choice. The coefficients included in the tables for this chapter may be interpreted as net, standardized effects (Alexander and Eckland, 1977: 174).

English Majors

Table 2 shows the regression results for female English majors. As can be seen from this table, there were no significant effects of family background (sex and race) on 1969 career prestige. For parental socialization, there was a significant negative effect of parental support. Note that this coefficient only reached significance in the seventh equation, that is, after all variables through college attainment had been entered. This effect of parental support is rather small, but it remains significant after entering students' subjective assessments of college and 1969 career values. The negative sign for parental support suggests that highly supportive parents do not encourage aspirations for high status occupations among their female offspring who wind up majoring in English, the only one of the academic departments considered here that has a predominance of female over male students.

For career values at college entrance, there are no persisting significant effects on prestige of 1969 career choice among female

TABLE 2[a]

REGRESSION RESULTS: FAMILY AND CAMPUS EFFECTS ON CAREER CHOICES OF FEMALE ENGLISH MAJORS (STANDARDIZED PARAMETERS)

	1	2	3	4	5	6	7	8	9
SES	-.057	-.066	-.055	-.030	-.055	-.056	-.076*	-.050	-.038
NONWHITE	-.031	-.035	-.035	-.030	-.035	-.041	-.041	-.043	-.041
PARSUPRT		-.044	-.038	-.036	-.032	-.048	-.067*	-.072*	-.072*
PARACHOR		.021	.017	.006	.010	-.001	-.005	.003	-.003
PARSTYLE		.029	.022	.034	.041	.047	.060	.040	.046
FHELPOTH			.031	.036	.034	.029	.030	.027	.031
FXPRTFLD			.093*	.067*	.076*	.081*	.069*	.073*	.037
FWELLOFF			-.015	-.007	-.011	-.010	-.013	-.012	-.020
PFJBCRER				.203*	.206*	.207*	.194*	.169*	.162*
COLQUAL					.058	.099*	.107*	.170*	.182*
JUNIOR					-.048	-.038	-.036	-.053	-.064*
PEERNORM						-.102*	-.120*	-.125*	-.134*
FACNORM						.018	.025	.024	.030
PEERTIES						.020	.014	.025	.007
FACTIES						.109*	.075*	.074*	.051
GPA							.149*	.148*	.146*
COLINVLV							.051	.049	.066*
COLIMPER								.043	.041
ANTICRER								-.174*	-.178*
COLSATIS								-.079*	-.088*
EFFECTIV								.076*	.049
HELPOTH									-.060
XPRTFLD									.171*
WELLOFF									-.015
R^2	.004	.006	.016	.056	.061	.081	.104	.141	.167

[a]The dependent variable for the analysis is JOBCRER - prestige of 1969 career choice. The independent variables are SES - parental socio-economic status; NONWHITE - racial background other than Caucasian; PARSUPRT - perceived supportive childrearing by parents; PARACHOR - perceived parental stress on child's achievement; PARSTYLE - perception of parents' life style; FHELPOTH - freshman orientation toward helping others in difficulty; FXPRTFLD - freshman orientation toward becoming an authority in one's subject field; FWELLOFF - freshman orientation toward becoming very well-off financially; PFJBCRER - prestige of freshman career choice; COLQUAL - selectivity of college; JUNIOR - entered college as freshman in 1967; PEERNORM - liberal education norms of peers in the major department; FACNORM - liberal education norms of faculty in the major department; PEERTIES - social relationships with peers in the major department; FACTIES - social relationships with faculty in the major department; GPA - 1969 cumulative grade average; COLINVLV - involvement in formal college extra-curriculum; COLIMPER - perceived impersonality of college; ANTICRER - career estrangement; COLSATIS - satisfaction with college; EFFECTIV - perceived effectiveness of college; HELPOTH - 1969 orientation toward helping others in difficulty; XPRTFLD - 1969 orientation toward becoming an authority in one's subject field; and WELLOFF - 1969 orientation towafd becoming very well-off financially.

The derivation of each of the foregoing variables is included in Appendix A. The means, standard deviations, and correlations among all of the variables for men and women in each of the four departments studied are included in Appendix B.

*$p < .05$.

English majors. Orientation toward becoming an expert in a special field retained its significance until the last equation, when 1969 scores on the same value measures were entered. This suggests that the effects of female English majors' values at college entrance are mediated by their collegiate experience and later values. Not surprisingly, the prestige of the freshman career choice had a strong, persisting effect on prestige of the 1969 career choice among these female English majors. The same was also true for college selectivity, one of the two indicators reflecting college choice in the model. For the other college choice indicator, entrance cohort, a significant net negative effect appeared for being a junior as opposed to a senior only on the final regression. This suggests that among female English majors, juniors have lower career aspirations than seniors. Another way to say this is that female English majors build greater confidence in themselves as reflected in higher prestige career aspirations during the course of their college years.

For departmental normative climate, only peer liberal education norms had a significant effect on female English majors' career choices. That this effect was negative suggests that a strong emphasis on the liberal arts by students majoring in English is accompanied by a de-emphasis on seeking high prestige occupations. Certainly the sorts of careers traditionally available to women in literary fields (notably editing, teaching at the elementary or secondary level, and writing for periodicals of various sorts) do not carry the highest prestige.

College attainments of both the curricular and extra-curricular sort showed significant positive net effects on prestige of 1969 career choice among female English majors. For assessments of the collegiate experience, both satisfaction with college and career estrangement were negatively related to 1969 career prestige aspirations. Finally, a strong 1969 orientation toward becoming an expert in a special field showed a strong, positive net effect. This suggests that orientations toward gaining recognition in a career field are reflected in aspirations for a high prestige career.

A few additional observations help to place the results for female English majors in perspective. First, the overall explained

variance (.167) is not very high, which leads to the conclusion that the model developed here is not very effective for explaining the prestige of upper division English majors' chosen careers. The greatest contributor to total explained variance was prestige of freshman career choice (24% of total), followed by personal assessments of the collegiate experience (22%), and 1969 career values (16%). Clearly, for female English majors personal preference as reflected in career choices and values, and personal assessments of their collegiate experiences were more important factors in determining the prestige of their 1969 career aspirations than were either family or institutional variables.

Table 3 shows the regression results for male English majors. A significant, negative net effect of being nonwhite on prestige of 1969 career preference appeared through each regression. This suggests that white males majoring in English tend to have higher career aspirations than their nonwhite counterparts. Neither any dimensions of parental socialization nor of career values at entrance to college have any significant net effects on 1969 career preferences.

As was true for female English majors, prestige of career preference at college entrance was strongly related to prestige of 1969 career preference. For the college choice variables, only being a junior was related to prestige of 1969 career choice. As compared with female English majors, males in the same major appear to become less rather than more oriented toward high prestige occupations during college. Males majoring in English showed no significant effects of departmental normative environment on career choice.

With respect to college attainments, grades were positively related to prestige of career choice, a finding that agrees with general expectations. Also as one might expect, career estrangement was negatively related to high prestige career aspirations among male English majors. The only career value that reached significance was orientation toward helping others, and its effect was negative among male English majors.

The explained variance for males in English was greater than for their female counterparts (.220 vs. .167), but was still not particularly high. As was true for females in English, prestige of

TABLE 3

REGRESSION RESULTS: FAMILY AND CAMPUS-EFFECTS ON CAREER CHOICES OF MALE ENGLISH MAJORS (STANDARDIZED PARAMETERS)

	1	2	3	4	5	6	7	8	9
SES[a]	.038	.040	.032	.026	.016	.007	.004	.005	.010
NONWHITE	-.130*	-.127*	-.121*	-.125*	-.121*	-.118*	-.109*	-.103*	-.102*
PARSUPRT		.047	.048	.050	.053	.051	.048	.030	.044
PARACHOR		.047	.042	.031	.022	.021	.062	.071	.059
PARSTYLE		-.016	-.011	-.017	-.015	-.011	-.034	-.053	-.051
FHELPOTH			-.033	-.043	-.036	-.029	-.042	-.045	-.017
FXPRTFLD			-.025	-.021	-.015	-.023	-.043	-.030	-.010
FWELLOFF			.066	.002	.007	.012	.057	.041	.024
PFJBCRER				.278*	.274*	.269*	.263*	.262*	.258*
COLQUAL					.050	.037	.041	.061	.065
JUNIOR					.095*	.095*	.081*	.091*	.088*
PEERNORM						.046	-.012	-.002	.002
FACNORM						-.073	-.052	-.054	-.041
PEERTIES						.046	.032	.032	.037
FACTIES						-.007	-.053	-.071	-.059
GPA							.263*	.255*	.260*
COLINVLV							.046	.024	.029
COLIMPER								-.029	-.021
ANTICRER								-.145*	-.151*
COLSATIS								.020	.014
EFFECTIV								.039	.057
HELPOTH									-.091*
XPRTFLD									-.048
WELLOFF									.049
R^2	.019	.023	.029	.101	.112	.119	.182	.210	.220

[a]Variable abbreviations are explained in Table 2.

*$p < .05$.

career choice at college entrance contributed the greatest proportion of explained variance (33%) for males in English. The only other substantial contribution to explained variance for males in English was made by college attainments (29%).

Mathematics Majors

Results for female mathematics majors are shown in Table 4. There is a substantial positive net effect of being nonwhite on the prestige of 1969 career choices among female mathematics majors. Race is the only family variable that is of significance, since none of parental socialization indicators showed strong effects.

With respect to career values at college entrance, orientation toward helping others remained persistently negative in successive regressions. Not only did this orientation show a significant effect, but prestige of occupational choice at college entrance was also significant (and positive). For this group of female mathematics majors, both indicators of college choice also were significant. Attendance at a high quality institution had a positive net effect on prestige of 1969 career choice, while being a junior was negatively related to the dependent variable. Notice that for the junior cohort, only after all college variables and individual assessments of the collegiate experience were entered did entrance cohort make a difference. This pattern agrees with the notion that length of membership in an organizational environment can be an important determinant of socialization (Curtis, 1974).

None of the four indicators of the departmental normative environment reached significance in the final regression analyses. While social relationships with departmental faculty showed a positive net effect on prestige of 1969 career choice for these female mathematics majors when the variable was first entered in the sequence of regression equations, this effect became insignificant when curricular attainment was included in the model. This suggests that the socializing effects of social relationships with faculty are mediated by the student's scholastic performance. Presumably, faculty in mathematics departments are more likely to interact with students who do

TABLE 4

REGRESSION RESULTS: FAMILY AND CAMPUS EFFECTS ON CAREER CHOICES OF FEMALE MATHEMATICS MAJORS (STANDARDIZED PARAMETERS)

	1	2	3	4	5	6	7	8	9
SES	-.010	.010	.006	.011	-.035	-.047	-.112	-.111	-.097
NONWHITE	.080	.082	.084	.072	.079	.090	.125*	.121*	.122*
PARSUPRT		-.009	.002	.008	.017	.001	.006	.026	.022
PARACHOR		-.005	.007	-.016	-.006	.018	.034	.034	.030
PARSTYLE		-.038	-.054	-.049	-.011	-.013	.010	.022	.023
FHELPOTH			-.134*	-.131*	-.130*	-.144*	-.134*	-.122*	-.133*
FXPRTFLD			-.031	-.038	-.032	-.040	-.045	-.060	-.091
FWELLOFF			-.032	-.011	-.002	-.008	.030	.038	.024
PFJBCRER				.183*	.188*	.173*	.194*	.201*	.192*
COLQUAL					.130*	.170*	.179*	.193*	.189*
JUNIOR					-.100	-.090	-.081	-.092	-.118*
PEERNORM						-.085	-.117*	-.108	-.093
FACNORM						-.020	-.039	-.038	-.046
PEERTIES						-.053	-.044	.030	-.038
FACTIES						.128*	.074	.073	.064
GPA							.315*	.316*	.322*
COLINVLV							.060	.073	.062
COLIMPER								.060	.070
ANTICRER								-.097	-.093
COLSATIS								-.072	-.063
EFFECTIV								-.030	-.043
HELPOTH									.077
XPRTFLD									.136*
WELLOFF									.020
R^2	.007	.008	.027	.059	.084	.107	.201	.216	.240

[a]Variable abbreviations are explained in Table 2.

*$p < .05$.

well in class than with those students whose academic performance is undistinguished.

Personal assessments of the college experience had no effects on prestige of 1969 career choices. Wanting to be an expert in one's chosen field was the only 1969 career value that showed a significant net effect on 1969 career choice.

Looking at the proportion of the total explained variance attributable to each of the nine blocks of variables in the model indicates that the largest single contribution was made by college attainment, especially grades (39%).

Table 5 shows the results for male mathematics majors. There were no significant net effects of either family background or parental socialization on the prestige of the 1969 career choice for this group of students. Family socio-economic status had positive net effects until the college choice variables were entered. This suggests that for male mathematics majors the effects of family socio-economic status are transmitted through educational attainment, a finding in agreement with Blau and Duncan (1967).

The only college entrance occupational value that reached significance in this analysis for male mathematics majors was orientation toward becoming an expert in one's chosen field. The prestige of the career choice indicated at college entrance was also strongly positive in its relationship with prestige of 1969 career choice. An additional positive net effect appeared for college selectivity.

Of the four indicators of departmental normative climate, only social relationships with faculty was significant (and positive). Unlike the findings for females in mathematics, their male counterparts continued to reflect positive net effects of social relationships with faculty even after academic performance was added to the regression equation. For men, unlike women, in mathematics the socializing effects of departmental faculty remain after grades are taken into account. Unlike academic attainment, extra-curricular attainment is negatively related to career prestige aspirations. This finding suggests that

TABLE 5

REGRESSION RESULTS: FAMILY AND CAMPUS EFFECTS ON CAREER CHOICES OF MALE MATHEMATICS MAJORS (STANDARDIZED PARAMETERS)

	1	2	3	4	5	6	7	8	9
SES[a]	.072	.113*	.117*	.106*	.055	.061	.021	.027	-.000
NONWHITE	-.020	-.018	-.023	-.014	.021	.017	.010	.008	.002
PARSUPRT		-.011	-.013	.016	.046	.028	.021	.018	.018
PARACHOR		.027	.021	.015	.034	.011	.024	.023	.011
PARSTYLE		-.085	-.062	-.064	-.063	-.077	-.072	-.072	-.072
FHELPOTH			-.024	-.021	.015	-.005	.010	.005	-.026
FXPRTFLD			.156*	.147*	.155*	.138*	.124*	.122*	.084*
FWELLOFF			-.080	-.082*	-.082*	-.074	-.058	-.063	-.064
PFJBCRER				.219*	.199*	.183*	.194*	.197*	.205*
COLQUAL					.202*	.217*	.202*	.208*	.196*
JUNIOR					.025	.061	.039	.038	.028
PEERNORM						-.042	-.061	-.057	-.038
FACNORM						-.061	-.056	-.047	-.030
PEERTIES						.030	.013	.012	.011
FACTIES						.178*	.175*	.174*	.115*
GPA							.142*	.140*	.145*
COLINVLV							-.107*	-.105*	-.107*
COLIMPER								-.008	-.009
ANTICRER								-.042	-.016
COLSATIS								-.031	-.011
EFFECTIV								.024	-.012
HELPOTH									.068
XPRTFLD									.197*
WELLOFF									-.024
R^2	.006	.012	.040	.087	.120	.152	.180	.183	.216

[a]Variable abbreviations are explained in Table 2.

*$p < .05$.

there is considerable tension between curricular performance and extra-curricular performance for males in mathematics. Apparently, in demanding majors little time is left for extra-curricular activities after assignments are completed.

None of the four indicators of personal assessments of the college environment reached significance. 1969 orientation toward becoming an expert in one's field showed a significant, positive net effect on the prestige of male mathematics majors' 1969 career choices. Since the same orientation at entrance to college also remained significantly positively related to the prestige of 1969 career choice, this suggests that career achievement values held by this particular group of students are consistently important influences on career aspirations throughout the college years.

Looking now at the explained variance, the results for men are not much worse than those obtained for women in mathematics using this model (.240 vs. .216). Different blocks of variables were important for men in mathematics than were important for their female counterparts. Prestige of career choice at college entrance made the greatest contribution to explained variance (22%), followed closely by college choice (15%), departmental environment (15%), and upper division career values (15%). Notice that by combining the contribution to explained variance of both college choice and departmental environment, a substantial 30% of the total explained variance for male mathematics majors is contributed by characteristics of the college. For mathematics majors, these findings suggest that the most important determinant of high prestige career orientations is academic performance for women and attributes of the college attended for men.

History Majors

Table 6 shows the results for female history majors. No significant effects appear in this table for family background, but one aspect of parental socialization, support, has a significant negative net effect on female history majors' 1969 career choices. This finding parallels the one for female English majors and again suggests that those parents perceived to be most supportive of their daughters are not

encouraging high status career aspirations.

None of the college entrance career values were significantly related to prestige of 1969 career choice. It should be noted, however, that only after 1969 career values were entered into the equation did the significant negative net effect of students' college entrance orientations toward helping others disappear. College selectivity was significantly related to prestige of 1969 career choice for these female history majors, but the negative effect of being a junior became insignificant when college attainment was added to the equation. Of the four indicators of departmental environment, only social relationships with faculty showed a positive net effect on prestige of 1969 career choice.

As with each of the major fields discussed so far, grades were positively related to prestige of 1969 career choice. Paralleling the finding for male mathematics majors, female history majors showed a significant negative net effect of extra-curricular involvement on prestige of 1969 career choice. Also paralleling the findings for English majors of both sexes, career estrangement had a negative effect on career choice. Finally, of the 1969 career values, only orientation toward becoming an authority in a field was significant (positive effect).

Looking now at the proportion of explained variance attributable to each block of variables in the model, for female history majors the most important block is departmental environment (33%) and the next most important is college choice (19%), yielding a combined contribution of 52%. These contributions are conveyed primarily by social relationships with departmental faculty and institutional selectivity.

Table 7 shows the results for male history majors. No significant effects of either family background or parental socialization appear in the final equations for this group. The moderate effects of socio-economic status and parental achievement pressure are mediated by the values of the student at college entrance. This suggests that parental influences are reflected only to a limited extent in long-term career choices, and may rather simply lead to the development of certain values. Male history majors showed significant

TABLE 6

REGRESSION RESULTS: FAMILY AND CAMPUS EFFECTS ON CAREER CHOICES OF FEMALE HISTORY MAJORS (STANDARDIZED PARAMETERS)

	1	2	3	4	5	6	7	8	9
SES[a]	-.039	-.014	-.024	-.015	-.076	-.089	-.080	-.080	-.062
NONWHITE	.018	.017	.019	.042	.031	.024	.034	.027	.026
PARSUPRT		-.045	-.056	-.074	-.097*	-.108*	-.113*	-.105*	-.092*
PARACHOR		.024	.011	.002	.013	.007	.030	.026	.032
PARSTYLE		-.054	-.031	-.022	.003	-.021	-.010	-.001	-.008
FHELPOTH			-.091*	-.086	-.078	-.114*	-.105*	-.116*	-.088
FXPRTFLD			.111*	.083	.099*	.080	.068	.062	.029
FWELLOFF			-.002	.011	.008	.004	.004	.015	.016
PFJBCRER				.159*	.189*	.212*	.210*	.192*	.184*
COLQUAL					.181*	.201*	.181*	.194*	.191*
JUNIOR					-.120*	-.099*	-.077	-.069	-.084
PEERNORM						.029	.028	.031	.025
FACNORM						.079	.075	.069	.067
PEERTIES						-.101*	-.081	-.071	-.080
FACTIES						.259*	.270*	.291*	.254*
GPA							.150*	.140*	.129*
COLINVLV							-.089*	-.088*	-.092*
COLIMPER								.039	.032
ANTICRER								-.107*	-.103*
COLSATIS								-.089	-.090
EFFECTIV								-.009	-.041
HELPOTH									-.028
XPRTFLD									.164*
WELLOFF									-.034
R^2	.002	.009	.028	.052	.098	.176	.203	.219	.240

[a]Variable abbreviations are explained in Table 2.

*$p < .05$.

negative net effects on prestige of 1969 career choice for both orientation toward becoming an expert in a field and becoming well-off financially.

For men majoring in history, several institutional characteristics emerged as having significant effects on prestige of senior career choice. College selectivity's effect was positive, as was the effect of being a junior. Men seem to adjust their aspirations downward as they progress through college, while the women we have been studying adjust their career aspirations upward. Interaction with major field faculty was also positively related to 1969 career choice.

The pattern of significant, positive net effects of grades on prestige of 1969 career choice continued for these male history majors. However, for this major group, personal assessments of college took on additional importance. Perceived impersonality of college was positively related to career aspirations. This suggests that possibly those institutions which pride themselves on pre-professional preparation of students, especially in high prestige fields such as law and medicine, may also be perceived by their students as being impersonal. History has traditionally been a major with broad applicability to career opportunities for men, especially for continuing advanced study in law, public affairs, and business. Career estrangement's negative effect is what would be expected. For perceived college effectiveness in facilitating the attainment of personal goals, the negative effect on male history majors' 1969 career choices is surprising. This suggests that those students who felt that they had gotten desired career training and liberal education from college were not seeking the highest status careers. On the other hand, 1969 orientations toward becoming well-off financially were positively related to prestige of 1969 career choice.

Prestige of career choice at entrance to college contributed the largest fraction to the total explained variance (31%) in prestige of 1969 career choice among male history majors. Next in importance was personal assessments of college (17%).

TABLE 7

REGRESSION RESULTS: FAMILY AND CAMPUS EFFECTS ON CAREER CHOICES OF MALE HISTORY MAJORS (STANDARDIZED PARAMETERS)

	1	2	3	4	5	6	7	8	9
SES[a]	.071*	.075*	.074*	.057	.026	.018	.002	.007	-.000
NONWHITE	-.042	-.035	-.038	-.023	-.031	-.037	-.028	-.018	-.017
PARSUPRT		.047	.055	.052	.053	.051	.056	.056	.063
PARACHOR		-.087*	.091*	.063	.059	.057	.062	.039	.030
PARSTYLE		-.046	-.058	-.058	-.058	-.068	-.055	-.055	-.072
FHELPOTH			.099	.018	.029	.026	.025	.014	.031
FXPRTFLD			-.151*	-.146*	-.147*	-.156*	-.166*	-.150*	-.165*
FWELLOFF			.000	-.024	-.024	-.022	-.012	-.029	-.073*
PFJBCRER				.246*	.239*	.242*	.236*	.226*	.207*
COLQUAL					.091*	.073*	.055*	.057*	.089*
JUNIOR					.076*	.083*	.093*	.088*	.082*
PEERNORM						.038	.044	.044	.062
FACNORM						-.035	-.057	-.053	-.055
PEERTIES						-.014	-.013	-.014	-.001
FACTIES						.098*	.083*	.080*	.075*
GPA							.137*	.113*	.119*
COLINVLV							.004	.002	.013
COLIMPER								.089*	.096*
ANTICRER								-.167*	-.158*
COLSATIS								-.006	-.035
EFFECTIV								-.077*	-.088*
HELPOTH									-.044
XPRTFLD									.061
WELLOFF									.130*
R^2	.008	.018	.040	.098	.110	.122	.139	.170	.188

[a]Variable abbreviations are explained in Table 2.

*$p < .05$.

Political Science Majors

Table 8 shows the results for female political science majors. This is the only group for whom there is a significant effect of family socio-economic status on the prestige of 1969 career choices. While logic would suggest that this effect should be positive, that it is negative is consistent with the work of Alexander and Eckland (1975) who suggest that this finding is simply a reflection of ceiling effects, that is, a very limited distribution of occupational aspirations clusterd toward the high end of the status ladder. Spaeth (1978) has also drawn a similar conclusion, and gone further to argue that the problem of ceiling effects is made even worse when the Duncan (1961) prestige scores are used. No significant effects appear for parental socialization or for career values at entrance to college for female political science majors.

There is a significant, positive net effect of prestige of college entrance career choice on subsequent 1969 career choice among these students, a finding which parallels previous findings for all sex and major groups. Also, there is a significant, positive net effect of college selectivity which again parallels the findings for females in each of the four majors. Departmental environment is unrelated to these women's upper division career choices.

Grades again have a positive effect on prestige of 1969 career choices. Only career estrangement, of the personal assessments of college, has a significant, negative net effect, a finding that is also congruent with previously discussed findings. The only 1969 career value that was significant, but negative, was wanting to be well-off financially.

Examining the proportion of explained variance accounted for by each block of variables shows that prestige of college entrance career choice contributes most (31%), followed by 1969 career values (17%) amd college choice (15%).

The directionality of the signs for this group is somewhat anomalous, particularly for socio-economic status and 1969 orientation

TABLE 8

REGRESSION RESULTS: FAMILY AND CAMPUS EFFECTS ON CAREER CHOICES OF FEMALE POLITICAL SCIENCE MAJORS (STANDARDIZED PARAMETERS)

	1	2	3	4	5	6	7	8	9
SES[a]	-.062	-.043	-.048	-.037	-.081	-.085	-.106	-.101	-.119*
NONWHITE	-.014	-.022	-.021	-.037	-.054	-.053	-.035	-.046	-.038
PARSUPRT		-.074	-.075	-.053	-.067	-.070	-.071	-.069	-.068
PARACHOR		-.029	-.022	-.049	-.072	-.062	-.027	-.038	-.041
PARSTYLE		-.033	-.035	-.022	-.033	-.047	-.029	-.043	-.001
FHELPOTH			.054	.040	.037	.030	.042	.027	.041
FXPRTFLD			.063	.013	.031	.024	.017	-.008	-.008
FWELLOFF			.012	-.006	-.005	.003	.010	-.004	.067
PFJBCRER				.278*	.298*	.299*	.286*	.289*	.295*
COLQUAL					.195*	.195*	.157*	.171*	.166*
JUNTOR					-.039	-.027	-.017	-.039	-.025
PEERNORM						.026	.022	.033	.012
FACNORM						.035	.034	.030	.010
PEERTIES						-.003	.009	.022	.029
FACTIES						.101	.072	.052	.063
GPA							.194*	.176*	.171*
COLINVLV							.028	.034	.030
COLIMPER								.038	.039
ANTICRER								-.155*	-.131*
COLSATIS								-.057	-.038
EFFECTIV								.005	.015
HELPOTH									-.091
XPRTFLD									.088
WELLOFF									-.191*
R^2	.004	.013	.021	.094	.129	.140	.172	.194	.233

[a]Variable abbreviations are explained in Table 2.

*$p < .05$.

toward becoming well-off financially. Aside from possible ceiling effects of the measures, political science may be a major that draws women who are less career-oriented than in some other fields. Predominantly male, political science may be seen as a major where goals other than preparing for a high status career are pursued by female majors.

Table 9 contains the results for male political science majors. For this group, there are no significant effects on career aspirations of family background, family socialization, or career values held at entrance to college. There is the consistently positive net effect of career choice at entrance to college. For this group, however, college selectivity has a negative effect on prestige of 1969 career choice, a finding in accord with Reitz (1975).

Departmental normative environment has no significant effects on prestige of male political science majors' 1969 career choices. Grades again show positive effects. As was the case for male history majors, perceived impersonality of college is postively related to career aspirations. The negative net effect for career estrangement is consistent with the findings for the other majors. There are no effects of 1969 career values.

With respect to the relative contribution of each block of variables to the total explained variance in the model, the most important contributors are prestige of college entrance career choice (35%), followed by college attainment (25%) and personal assessments of the college experience (21%). Overall, however, this model explains less variance (.127) for male political science majors than for any of the other major groups studied.

TABLE 9

REGRESSION RESULTS: FAMILY AND CAMPUS EFFECTS ON CAREER CHOICES OF MALE POLITICAL SCIENCE MAJORS (STANDARDIZED PARAMETERS)

	1	2	3	4	5	6	7	8	9
SES*	.020	-.003	.001	-.004	.012	.012	-.002	.009	.011
NONWHITE	.044	.044	.041	.052	.042	.045	.047	.069*	.065
PARSUPRT		.019	.021	.017	.016	.014	.011	-.001	.006
PARACHOR		-.014	-.014	-.003	-.003	-.004	.003	-.013	-.017
PARSTYLE		.052	.047	.041	.040	.039	.050	.051	.044
FHELPOTH			.041	.021	.028	.026	.033	.022	.054
FXPRTFLD			-.027	-.002	-.005	-.004	-.033	-.046	-.037
FWELLOFF			.071*	.046	.049	.049	.059	.046	.023
PFJBCRER				.214*	.211*	.211*	.195*	.165*	.161*
COLQUAL					-.066	-.065	-.110*	-.115*	-.104*
JUNIOR					-.012	-.010	.002	.013	.015
PEERNORM						.009	.029	.060	.057
FACNORM						.020	.001	-.009	-.007
PEERTIES						-.021	-.024	-.044	-.041
FACTIES						.003	-.015	-.015	-.007
GPA							.188*	.180*	.182*
CO[illegible]LV							-.002	.017	.024
CO[illegible]ER								.102*	.109*
ANTICRER								-.145*	-.142*
COLSATIS								.056	.042
EFFECTIV								-.007	.003
HELPOTH									-.055
XPRTFLD									-.043
WELLOFF									.070
R^2	.002	.005	.011	.056	.060	.060	.092	.119	.127

*Variable abbreviations are explained in Table 2.

*p < .05.

CHAPTER IV

SUMMARY AND IMPLICATIONS

In this study, the primary purpose was to assess the joint effects of family background, family socialization, and experiences at college on the prestige of career choices of undergraduates majoring in four academic departments. The conceptualization presented in the first chapter relied heavily on notions of the impacts of parental socialization and the normative environment of the academic department on changes during college in undergraduates' career orientations and preferences.

Summary

In examining the findings discussed in the previous chapter, it is apparent that the emphasis on family impacts in the conceptual framework did not receive strong support. Only for female political science majors was there a significant effect of family socio-economic status, and that was negative. Opposite effects of being nonwhite appeared for males in English (negative) and females in mathematics (positive). For no major group, however, did the contribution to total explained variance by these two variables exceed 9%, and in most instances the contribution was less than 4%. For parental socialization, significant negative effects on prestige of 1969 career choice appeared on parental support for females majoring in English and history. Again, however, these variables tended to contribute only 2-4% of the total variance explained. Similarly, values held at entrance to college, while contributing as much as 13% of the total explained variance in prestige of 1969 career choice for male mathematics majors, tended to explain only 6-8% of the total variance across all majors.

As anticipated, the single most important predictor of the prestige of these undergraduates' 1969 career choices was the prestige

of the career to which they aspired at college entrance. Roughly 25% of the total explained variance in 1969 career choice was contributed by this variable. It is interesting to note that career preference at college entrance tends to be correlated with parental socio-economic status and lifestyle, but these correlations are modest. Hence, the impacts of parental influences upon college students probably do not reflect direct transmission of orientations. In fact, the findings for this study support the conclusion drawn by Bengston (1975: 369) that the family is, " ... an important mediating link in selecting or orienting the child to the multiple reference groups to which he or she can turn for value development in a pluralistic society."

If Bengston's observation about the role of the family in what he calls "social location" is accurate, there is reason to expect that characteristics of the college attended, especially qualitative and normative aspects, could exert potent socializing influences on undergraduates. For females in each of the four majors, college quality did, in fact, have a positive effect on prestige of senior career choice. A similar pattern appeared for men majoring in mathematics and history, but college quality had a negative effect on the career choices of political science majors. Junior cohort effects were opposite in sign for males (positive) and females (negative), suggesting that the longer the student is exposed to college the more career aspirations decrease for males and increase for females.

The effects of the normative climates of academic departments were not particularly striking in terms of the significance of specific indicators. The only significant effect of departmental norms was the negative one for student liberal education norms on prestige of female English majors' 1969 career choices. Social relationships with departmental faculty, on the other hand, were positively related to prestige of senior career choice for males in mathematics and history, and females in history. This relative absence of effects for particular indicators of departmental climate also was confirmed by Hearn (1978). However, as was also the case with Hearn (1978: 191), for one group of women (history majors) more of the total explained variance in prestige of 1969 career choice could be explained by the departmental environment

(33%) than by any other block of variables. Furthermore, for female history majors, when the contribution of college choice was added, the total institutional contribution to the explained variance in 1969 career prestige was 52%!

Of the college attainment variables, grades were a significant positive influence on prestige of 1969 career choice for all undergraduates in the study. This is the expected finding, since movement into the advanced study required for access to most high status professional careers is dependent upon good academic performance in college. Extra-curricular attainment had a negative effect on career aspirations, except for female English majors. Taken together, however, these two variables contributed 39% of the total explained variance in presige of 1969 career choices among female mathematics majors. Clearly, in this major academic performance has a substantial effect on career aspirations of women. Similar findings were obtained for males in English and political science, where these variables contributed 29% and 25%, respectively, of the total explained variance in career aspirations.

Of the personal assessments of college, the one that was most consistently related to career aspirations was career estrangement, and its effect was negative as would be expected. For males in history and political science, perceived impersonality of college was positively related to prestige of 1969 career choice. These two groups also showed the largest proportion of explained variance in career aspirations attributable to personal assessments of college - 17% for male history majors, and 21% for male political science majors. The largest contribution of this block of variables to the explained variance in career aspirations appeared for female English majors (22%).

Finally, 1969 career values accounted for 10-15% of the total explained variance in prestige of 1969 career choice across the entire group of respondents, except for males in English and political science. This finding is somewhat at odds with Mortimer and Lorence (1979) who find senior values of a sample of University of Michigan male graduates to be strongly related both to career choice and later career values. The Michigan students were not classified by major, however, so any

departmental effects on values would not be reflected in the Michigan study. Especially for women in the present research, being oriented toward becoming an expert in a special field had a positive net effect on 1969 career aspirations.

One other observation is in order here. The model developed in the present research for examining parental and college impacts on undergraduates' career choices contributed only modestly to the explained variance of career aspirations (ranging from .127 for male political science majors to .240 for male English majors and female history majors). However, this is in line with other studies of college effects on occupational attainment, in particular Alwin (1974, 1976), whose models contribute explained variances of roughly .2 to .3.

Implications

Contrary to some of the research on parental socialization of college students, especially Winch and Gordon (1974), the present study showed very limited persisting influences of parental socialization on changes in the career orientations and aspirations of college students. Looking at the correlations between parental life style and career orientations at college entrance does affirm the findings of strong parental influences on career orientations of adolescents in the cross-cultural work of Kandel and Lesser (1972). The findings from the present research suggest that parents become less and less important influences on the career orientations of their offspring as they move away from the overall supervision of the family and into college.

The present study did unearth some rather striking effects of colleges on career aspirations, especially for female history majors (52% of total explained variance) and male mathematics majors (30% of total explained variance). These findings are at odds with studies by Alwin (1976) and Bachman, et. al. (1978) who find very small net effects of colleges on career attainment. Neither one of these studies employed other than school-level variables in their assessments of college effects. In the present research, the college effects were attributable primarily to college selectivity and social relationships with

departmental faculty. With respect to the impacts of college selectivity, the strong positive effect for females affirms the findings of Bassis (1977) and Drew and Astin (1972). For males, however, selectivity has a significant net effect only for mathematics (positive) and political science (negative) majors. This negative effect adds fuel to the fire of the controversy over the effects of college quality on aspirations since it is in accord with the findings of Reitz (1975), but in opposition to the findings of Bassis (1977) and Drew and Astin (1972). What seems clear in this regard, however, is that institutional effects on career aspirations do vary by the undergraduate's academic major and sex.

In addition, it might also be inferred from these findings about the effects of institutional quality that the assertions about the important status-conferring capacity of the institutional "charter" (Meyer, 1970, 1972, 1977) are indirectly affirmed, though the "charter" is conceived as being more a function of societally perceived institutional mission than of student selectivity.

The findings that social relationships with departmental faculty have important influences on career matters of undergraduates agree with other research, notably Wilson, et. al. (1975) and Hearn (1978). However, the relative absence of normative impacts of academic departments is somewhat disappointing in view of my earlier findings to the contrary for undergraduates' career values (Weidman, 1974a, 1979). Because doing the analyses by department reduces considerably the variation in norms for students in a given major, it stands to reason that any effects due to this restricted variation of normative climate measures in the same departments (but across institutions) would be minimal. There is, of course, a trade-off here. For the present research I was primarily interested in looking at differences by sex in impacts of major departments. Certainly, it would be desirable for future research to probe more systematically than the data at hand allow for the dimensions of disciplinary differences in the structure of undergraduate studies or other programmatic aspects that might reflect more accurately the normative variation across academic departments.

It is striking that the orientations of female undergraduates

toward becoming an expert in a field have a consistently positive net effect on their career aspirations. This suggests that those women who build confidence in themselves during college, especially through academic rather than extra-curricular attainments, and develop orientations toward career success also tend to aspire to high status careers. It is interesting to note in this regard, that the negative effect of junior cohort on career aspirations of women in two of these majors suggests that females tend to adjust their aslrations upward during college while certain of their male counterparts tend to adjust career aspirations downward during college.

Contrary to my previous findings for departmental impacts on career values which suggested that women are influenced more than men by social relationships with departmental faculty, the present study shows virtually no sex differences on this dimension in its impact on career aspirations. Institutional characteristics appear to have even a bit more important influence for women (especially history majors) than for men in the four departments included in the present research. These findings underscore the importance of college and major choice in the career development process.

Also of interest is the finding that while the effects of social relationships with departmental faculty on women's career aspirations tend to be positive, the effects of peer norms for women in English are negative. Apparently, those women who emphasize relationships with peers and extra-curricular attainment tend to aspire to lower prestige occupations than their counterparts who emphasize relationships with departmental faculty and curricular attainments.

These effects on women's career aspirations must, however, be interpreted cautiously since women tend to be less likely than men to be able ultimately to fulfill their aspirations. According to Spaeth (1977: 206), " ... compared with men, women showed greater instability in occupational expectations, reaped lesser returns in occupational status from investments in advanced education, and were less likely to realize their occupational expectations."

In sum, the present research demonstrates the importance of looking at various subunits in colleges and assessing the effects of

those subunits on students of both sexes separately. It should be remembered, however, that the present study is restricted to undergraduates majoring in only four traditional liberal arts departments. In order to gain a more complete understanding of the undergraduate career socialization process, additional research is needed which would include majors in some of the currently more popular fields (especially business and related fields) and more contemporary cohorts of college students. While the findings presented here certainly do not answer all the questions that might be asked about impacts of the academic major on career aspirations of undergraduates, they do carry the research on this topic a step farther.

Research is always limited by the selection of variables, the methodology employed, and the nature of the evidence used to test the relationships posited among those variables. An important shortcoming of this study was the small case base for the computation of departmental norms for undergraduates majors. Sociometric data on a broader range of both normative and interactional variables would be desirable for a more rigorous test of the conceptual position put forward in this study, especially since that would enable the direct, rather than inferred, linking of specific norm senders with socialization outcomes. In addition, it would allow the direct specification of an important determinant of socializing impacts, the content of and sentiment exchanged in social interaction with departmental faculty and peers (Hearn, 1978; Lacy, 1978).

It must also be remembered that this study of undergraduate career development dealt only with occupational status aspirations. There are other, non-vertical dimensions of occupations such as employment setting (e.g., public agency, corporation, independent practice, and small business) or type of activities (e.g., working with people, ideas, data, or things) that are also important dimensions of occupational attainment (Mortimer and Lorence, 1979). Certainly, for the present research it could be argued that the negative net effect of parental support on the career prestige aspirations of female English and history majors simply reflects parental emphases on such non-vertical dimensions of occupations as personal fulfillment and the

selection of careers that are most appropriate for the personal interests and abilities of these women, regardless of the career's status.

The foregoing suggests that future research should be designed to incorporate estimates of parental and campus influences on both vertical and non-vertical dimensions of careers, especially since it appears that normative contexts at college seem to affect undergraduates' values much more than their career status aspirations. Other studies might build on this one by focusing on single institutions where detailed sociometric data could be obtained to supplement the data from survey instruments, and by paying closer attention to non-vertical dimensions of careers. Synthesizing results from several such small studies could help to expand and clarify the interpretations of undergraduate career development set forth in the present study.

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APPENDIX A

DESCRIPTION OF VARIABLES USED IN THE STUDY

All of the scales used in the data analysis were derived by using the theoretical method of scale development outlined by Hase and Goldberg (1967). As the data analysis turned out, the best scale indicators resulted from either Guttman (1950) scalogram analysis or principal component factor analysis. See Rummel, 1970 and Stinchcombe, 1971 for discussions and interpretations of this latter procedure. The following is a brief description of each indicator used in the data analysis.

SES, family socioeconomic status, was a factor scale. The four items used to construct this scale, with their factor loadings in parentheses, were: Duncan (1961) prestige score of father's occupation (.780); father's education (.864); mother's education (.774); and family income (.776). There were six categories for parents' education, ranging from "grammar school or less" to "postgraduate degree;" and nine categories of family income, ranging from "less than $4000" to "$30,000 or more." Since the number of response categories varied from item to item, the factor weighted response for each item was divided by the number of response categories for that item and then these adjusted weighted item scores were summed to obtain the scale score for SES.

NONWHITE was a dummy variable with a score of 0 assigned for those students who indicated "White/Caucasian" as their race. All other responses were given a score of 1.

PARSUPRT, supportive child-rearing by parents, was a Guttman scale with a .95 coefficient of reproducibility (Guttman, 1950) and a .79 coefficient of scalability (Menzel, 1953). The instructions given for the set of items used to construct this scale were: "The following are descriptions of how some parents raise their children. Mark the response which best describes your mother and father as they were most of your life up to the time you graduated from high school." Response options were: 3. Very true; 2. Somewhat true; and 1. Not true at all. The responses for each item were averaged to get a score for both parents on each item. Scalogram analysis was then performed on these average parental scores. A score of one was assigned as follows for each of the four parental average item scores comprising this scale:

"They made me feel I could talk with them about everything" (average response of 3, i.e., responses of "Very true" for both parents); "They comforted and helped me when I had troubles" (average response of 3); "When they wanted me to do something, they explained why" (average response at least 2); and "If I had some kind of problem, I could count on them to help" (average response at least 2).

PARACHOR, parental stress on child's achievement, was also a Guttman scale (Reproducibility=.91; Scalability=.74) constructed in the same way as PARSUPRT. One point was assigned as follows for each of the three parental average item scores comprising this scale: "They kept after me to do better than other children" (average response at least 2); "They kept pushing me to do my best in everything" (average response of 3); and "They kept after me to do well in school" (average response at least 2).

PARSTYLE, parental life style, was a factor scale of five items with the instructions, "In general, I would characterize my parents as:," and response options of 1. Not at all; 2. Somewhat; and 3. Very much so. Items , with their factor weights in parentheses, were: "Interested in intellectual pursuits"(.834); "Interested in cultural pursuits"(.819); "Religious"(.153); "Interested in politics"(.646); and "Financially comfortable"(.537).

FHELPOTH, HELPOTH, FXPRTFLD, XPRTFLD, FWELLOFF, and WELLOFF are single-item indicators of occupational values that appeared on both the freshman and 1969 questionnaires. Instructions for these items were: "Indicate the importance to you personally of each of the following:," and response options were 1. Not important; 2. Somewhat important; 3. Very important; and 4. Essential. The items were, respectively: "Helping others who are in difficulty," "Becoming an authority on a special subject in my subject field," and "Being very well-off financially."

PFJBCRER was the Duncan (1961) prestige score of the freshman occupational choice. JOBCRER, the dependent variable used in the data analysis, was the Duncan prestige score of the 1969 occupational choice. Because the categories of occupations included in the freshman and 1969 questionnaires were not exactly the same, the freshman categories were

recoded to conform to the 1969 categories before prestige scores were assigned.

COLQUAL, the ACE college selectivity index, was based on "National Merit Scholar Selectivity" from Astin (1965). Scores on this index range from 1 (Low) to 7 (High).

JUNIOR was a dummy variable with a score of 1 assigned to all respondents who entered college in the fall of 1967, and a zero assigned to all respondents who entered college in the fall of 1966.

PEERNORM and FACNORM, the indicators used for both departmental faculty and student liberal education norms was based on a single item appearing in both the faculty and undergraduate surveys conducted in 1969: "Undergraduate education in America would be improved if there were less emphasis on specialized training and more on broad liberal education." Scores for individuals could range from one ("strongly disagree") to four ("strongly agree"). Each respondent was assigned the average score for his department on both of these variables.

PEERTIES, primary social relationships with college peers in the same major as the respondent, was a Guttman scale (Reproducibility=.91; Scalability=.58) with one point assigned as follows to each of three items: "Of your close friends, what proportion are students at your college?" ("All"); "Of your close friends at your college only, what proportion are living in the same building as you?" ("Most" and "All"); and "Of your close friends at your college only, what proportion are in your major field?" ("A few," "Most," and "All").

FACTIES, primary social relationships with faculty in the major field, was a Guttman scale (Reproducibility=.87; Scalability=.66) with a score of one assigned to every "Yes" response to each of four items with the stub, "Is there any professor in your major field at college with whom you:" "Ever talk about personal matters;" "Often discuss other topics of intellectual interest;" "Often discuss topics in his field;" and "Sometimes engage in social conversation."

GPA was the self-reported 1969 cumulative grade point average of each respondent. Categories were scored from one ("C- or below") to eight ("A or A+").

COLINVLV, involvement in the formal college extra-curriculum, was a Guttman scale (Reproducibility=.91; Scalability=.62) with one point assigned for the following responses to each of four items: "How often, on an average, do you:" "Participate in student government" ("Once or twice a week" and "Nearly every day"), and "Attend a meeting of some college organization" ("A few times a month," "Once or twice a week," and "Nearly every day"); and "Which of the following experiences applies to you since entering college (Mark all that apply.):" "Worked in a college political campaign" ("Yes"), and "Voted in a student election" ("Yes").

COLIMPER, perceived impersonality of college, was a Guttman scale (Reproducibility=.83; Scalability=.61) with a score of one assigned to a response of "Yes" on each of three items with the stub, "Answer each of the following as you think it applies to you:" "I felt 'lost' when I first came to the campus;" "Most students are treated like 'numbers in a book';" and "Athletics are overemphasized."

ANTICRER, career estrangement, was a Guttman scale (Reproducibility= .94; Scalability=.63) with a score of one assigned for responses of "Agree with reservations" or "Strongly agree" to "I cannot imagine being happy in any of the careers available to me;" and "Probably" or "Definitely" to "Never have a career at all" and "Graduate without a specific career in mind."

COLSATIS, satisfaction with college, is a factor scale of items with the stub, "How satisfied are you with the following at your college?" Response options were: 1. Very dissatisfied, 2. Dissatisfied, 3. Satisfied, and 4. Very Satisfied. Items included in the scale with their factor weights in parentheses were: "The college's academic reputation" (.649); "The intellectual environment" (.761); "Faculty/student relations" (.678); "The quality of classroom instruction" (.725); "The variety of courses I can take" (.609); "Friendships with other students" (.365); and "The administration" (.628).

EFFECTIV, perceived effectiveness of the college in facilitating the attainment of personal goals, was based on a simple sum of responses to four items. These items were factor analyzed and the loadings were virtually identical. Respondents were asked to indicate on a a three-

point response option scale how important a particular goal was to them and then how much of each they had received from their college. The two goals comprising this combined importance and receipt from college scale were: "A detailed grasp of a special field," and "A well-rounded general education."

APPENDIX B

MEANS, STANDARD DEVIATIONS, AND CORRELATIONS AMONG VARIABLES BY MAJOR FIELD AND SEX

TABLE 10

CORRELATIONS AMONG VARIABLES FOR ENGLISH MAJORS*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Male mean	Male s.d.
1. SES.		-.141	.146	.079	.457	-.031	-.077	-.027	-.154	.330	-.037	.115	-.058	.083	.002	.062	.097	-.033	.099	.081	-.229	.029	-.144	-.013	-.052	2.454	.836
2. NONWHITE . . .	-.081		-.065	.065	-.078	-.007	.032	.052	.005	.036	.008	-.004	.011	.001	.034	-.019	.022	-.037	-.007	.006	.022	.003	.014	-.054	-.024	.032	.176
3. PARSUPRT . . .	.103	-.019		-.059	.320	.023	-.078	-.016	-.058	-.045	-.017	-.042	.042	.045	.097	-.088	.105	-.126	-.129	.219	.125	-.059	-.027	.043	-.044	2.141	.555
4. PARACHOR . . .	-.009	-.055	.097		.090	.036	.039	.013	.042	.012	.071	.020	-.042	.025	.098	.008	.144	.056	.048	.058	.049	.007	.062	.020	.019	1.638	1.004
5. PARSTYLE . . .	.354	-.045	.426	.123		.070	-.011	.046	-.116	.093	.055	.067	-.016	.034	.035	-.027	.121	-.011	-.076	.212	.073	.047	-.026	.101	-.010	6.117	1.314
6. FHELPOTH . . .	-.024	.051	.041	.069	.056		.097	-.057	-.010	-.075	-.076	.017	-.023	-.097	.114	-.032	.147	-.102	-.043	-.032	.051	.275	.083	-.061	.044	2.694	.774
7. FXPRTFLD . . .	-.098	-.041	.011	.095	-.020	.187		.052	.132	-.076	.118	.024	-.006	-.020	-.005	.042	.097	.013	.044	-.064	.136	.057	.268	.060	.101	2.915	.842
8. FWELLOFF . . .	.040	-.085	.010	.146	-.003	-.049	.127		-.031	-.039	-.098	-.048	-.047	.089	-.045	-.008	.039	.017	-.009	.073	.036	-.026	.091	.393	-.011	2.386	.829
9. FPJOBCRER . . .	.038	-.009	.009	.076	.031	.026	.022	.235		-.004	.134	.024	.050	-.004	-.005	.061	.043	.026	-.159	.076	.088	-.007	.095	-.034	.215	80.227	11.739
10. COLQUAL . . .	.237	-.026	.003	-.022	.061	-.140	-.143	-.039	.125		-.002	.394	-.128	-.003	.012	.057	-.096	-.161	.143	.154	-.324	-.031	-.142	-.167	.034	5.894	1.228
11. JUNIOR	-.016	-.037	-.016	.086	-.008	-.005	.003	-.009	-.058	-.081		.011	.021	-.058	-.082	-.051	.082	.005	-.090	-.003	.076	.049	.104	.017	-.008	.455	.500
12. PEERNORM . . .	.184	.028	-.021	-.099	-.038	-.187	-.096	-.014	.018	.385	-.106		.174	-.083	.006	.085	.023	.035	.092	-.071	-.143	-.027	-.034	-.054	-.055	2.899	.256
13. FACNORM. . . .	-.025	.053	-.057	-.015	-.045	-.065	-.035	.039	-.035	-.030	-.006	.133		.055	-.017	-.017	-.028	.019	-.055	.013	.049	-.012	-.007	-.002	-.004	3.179	.419
14. PEERTIES . . .	-.009	-.045	-.027	.066	-.022	-.067	.095	.015	.068	-.086	.069	-.048	.074		-.040	.030	.006	-.065	.012	.095	-.015	-.100	.057	.069	.015	1.250	.592
15. FACTIES	.032	-.025	.169	-.026	.108	.042	-.033	.005	-.006	-.040	-.128	.102	.023	.056		.160	.231	-.159	-.085	.163	.077	.107	.148	-.053	.109	2.302	1.452
16. GPA.	.083	-.032	.040	-.181	.069	.009	.006	-.180	-.024	.098	.000	.221	-.074	.021	.175		.064	.007	.008	-.023	-.066	.005	.026	-.015	.164	4.360	1.756
17. COLINVLV . . .	-.026	.049	.137	.064	.147	.142	.154	.003	.019	-.221	-.007	-.048	.079	.137	.181	.112		-.060	-.068	.038	.058	.097	.013	.104	.071	1.822	.974
18. COLIMPER . . .	-.158	.043	-.153	.076	-.168	-.006	.110	-.072	.044	-.255	.048	-.119	-.036	.052	-.176	.030	-.041		.049	-.141	-.032	.063	.019	-.044	.011	.802	.852
19. ANTICRER . . .	.004	.010	-.120	.011	-.099	-.011	.032	-.067	-.038	.196	.073	.096	.004	-.010	-.110	-.051	-.155	.115		-.261	-.393	-.144	-.114	-.046	-.196	.859	.940
20. COLSATIS . . .	.020	-.110	.278	-.019	.226	.036	-.011	.049	-.001	.177	-.064	.050	.081	.076	.174	.059	.100	-.325	-.325		.253	-.056	.067	.098	.023	12.693	2.351
21. EFFECTIV . . .	-.029	-.022	.093	.031	-.150	.189	.093	-.015	-.031	-.208	.065	-.101	-.019	.046	.152	.058	.211	-.101	-.322	.145		.063	.259	.124	.111	7.409	1.670
22. HELPOTH. . . .	-.005	-.010	.158	-.042	.109	.263	.090	-.032	-.022	-.115	.007	-.041	.108	-.006	.090	.025	.146	.029	-.107	.033	.122		.117	-.119	.019	2.763	.762
23. XPRTFLD. . . .	.000	.040	.119	-.014	.027	.149	.298	.026	.040	.004	-.083	.001	-.059	.119	.193	.184	.240	-.078	-.206	.228	.384	.043		.180	.205	2.433	.937
24. WELLOFF. . . .	-.079	-.056	.068	.100	-.002	-.075	-.009	.343	.129	-.034	.023	-.094	-.040	.005	-.031	-.095	.102	-.060	-.188	.167	.047	-.071	.071		-.004	1.991	.860
25. PJOBCRER . . .	.049	-.133	.051	.057	.030	-.043	-.016	.083	.279	.089	.081	.045	-.080	.066	-.007	.240	.050	-.035	-.170	.098	.078	-.092	.057	.125		78.071	13.619
Female mean	2.350	.019	2.341	1.318	6.427	3.039	2.879	2.120	70.000	5.407	.471	2.696	3.035	1.495	2.093	4.679	1.948	.729	.586	12.475	8.306	2.984	2.409	1.879	66.852		
Female s.d.	.879	.137	1.054	.974	1.283	.731	.881	.799	13.298	1.324	.500	.234	.424	.655	1.385	1.427	1.005	.872	.756	2.241	1.765	.719	.928	.778	16.823		

*Coefficients are above and to the right of the diagonal for females; below and to the left of the diagonal for males. Variable abbreviations are explained in Table 2.

TABLE 11

CORRELATIONS AMONG VARIABLES FOR MATHEMATICS MAJORS[a]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Male mean	Male s.d.
1. SES		-.029	.250	.085	.454	-.068	-.070	.126	-.057	.189	-.009	.176	.072	-.077	.147	.176	.138	-.200	-.019	.112	-.020	-.043	-.056	.116	-.013	2.153	.528
2. NONWHITE	-.199		-.030	.031	.053	-.010	.089	-.015	.077	-.020	.085	-.006	.053	-.082	-.119	-.129	-.057	.041	-.046	-.032	.042	-.086	.079	-.010	.080	.082	.274
3. PARSUPRT	.035	-.006		.022	.322	.032	.024	.028	-.050	-.002	.092	-.012	.159	-.095	.125	.048	-.021	-.175	-.118	.252	.160	-.019	.055	.043	-.022	2.076	.992
4. PARACHOR	-.023	-.073	.099		.196	.063	-.102	.122	.099	-.004	.138	.074	.099	-.034	-.120	-.099	.078	-.047	.070	.001	-.102	.051	-.001	.053	-.009	1.513	.560
5. PARSTYLE	.473	-.092	.268	.165		-.086	-.076	.080	-.032	-.025	.191	-.077	.055	.036	.010	-.031	.090	-.127	-.012	.140	.041	.077	-.050	.041	-.033	5.891	1.350
6. FHELPOTH	-.045	.019	.022	.063	.098		.032	-.139	.011	-.076	-.097	-.054	.002	.032	.094	-.032	.120	-.089	-.031	.096	.089	.221	-.010	-.085	-.127	72.567	.757
7. FXPATFLD	-.129	.068	.005	.061	-.148	.142		.006	.031	-.053	-.007	-.025	-.077	.018	.068	.018	-.075	.079	-.145	-.057	.104	.051	.216	.015	-.025	3.082	.828
8. FWELLOFF	-.045	.032	.051	.081	-.017	.056	.074		-.106	-.053	-.001	-.078	.067	-.024	-.017	-.098	-.012	.014	-.003	.037	.081	-.162	.122	.348	-.017	2.532	.780
9. PFJBCRER	.053	-.052	-.125	.023	-.001	-.011	.032	.004		-.046	.015	-.117	-.173	-.020	-.022	-.074	-.128	.066	-.006	-.008	.183	.057	.055	.061	.185	78.755	8.902
10. COLCUAL	.294	-.230	-.159	-.122	.069	-.194	-.118	-.037	.131		-.037	.446	-.067	.020	-.023	.089	-.118	-.086	.007	.225	-.174	-.047	-.089	.021	.128	5.490	1.502
11. JUNIOR	.028	.045	-.046	.056	-.059	-.133	.030	-.088	.062	-.024		.003	.040	-.833	-.101	-.087	.072	.095	.062	-.100	-.059	.126	.103	.019	-.083	.464	.500
12. PEERNORM	.127	.031	-.080	-.102	.065	-.118	-.120	-.057	-.011	.432	-.066		.079	.062	-.016	.124	.135	-.155	.123	.030	-.238	-.066	-.100	.013	-.033	2.434	.244
13. FACNORM	.169	-.029	-.047	-.067	.032	.061	-.016	-.030	-.090	-.046	.044	-.021		-.114	.055	.058	.125	-.097	-.076	.120	-.076	-.026	.035	.062	-.054	2.450	.587
14. PEERTIES	-.028	-.044	-.071	.124	-.027	-.026	.023	.139	.122	-.019	.064	.013	-.034		.081	-.057	.216	-.174	-.051	.158	-.010	.164	-.008	-.071	-.052	1.325	.684
15. FACTIES	.057	.031	.123	.092	.147	.185	.082	-.041	.001	-.048	-.216	.016	.051	-.024		.195	.142	-.189	-.144	.102	.075	.069	.062	-.051	.089	1.532	1.397
16. GPA	.262	.029	.011	-.052	.054	-.067	.091	-.030	-.032	.145	.081	.145	.029	.133	.154		.135	-.091	.022	-.012	.017	-.003	-.031	-.133	.293	4.752	1.713
17. COLINVLV	-.038	.054	.009	.080	-.026	.141	.098	.134	-.004	-.112	-.115	-.099	.018	.065	.227	-.017		-.225	.091	-.007	-.115	.113	.020	-.027	-.001	1.613	.532
18. COLIMPER	-.169	-.004	-.041	.076	.016	.044	.005	.030	.156	-.153	.044	-.129	.020	-.028	-.230	-.190	.036		.059	-.198	-.037	-.084	.007	-.044	.049	.853	.926
19. ANTICRER	.052	-.044	-.166	-.090	-.031	-.112	-.020	-.092	.023	.077	.029	.077	.041	-.011	.017	.001	.031	.010		-.130	-.299	.097	-.144	-.065	-.081	.607	.743
20. COLSATIS	.146	-.098	.194	.048	.125	-.007	-.077	-.033	-.037	.178	-.033	.062	.124	-.017	.130	.137	-.079	-.260	-.086		.214	-.004	-.045	.107	-.050	12.766	2.144
21. EFFECTIV	-.180	.013	.169	.100	.012	.075	.095	.043	-.119	-.152	.050	-.160	-.159	.036	.172	.112	.019	-.016	-.272	.133		-.102	.192	.096	.016	8.618	1.736
22. HELPOTH	-.069	-.003	.034	.063	-.040	.401	.173	-.015	.025	-.071	.001	-.128	.049	-.152	.091	-.178	.118	.047	-.076	-.049	.008		.080	-.181	.031	2.567	.811
23. XPATFLD	.057	.033	.086	.138	.104	.117	.215	.095	-.027	.070	.024	-.118	-.130	.062	.313	.109	.082	-.064	-.178	-.016	.294	.089		.142	.142	2.668	.915
24. WELLOFF	-.071	-.007	.041	.122	.002	-.030	.112	.048	.035	-.044	-.053	-.085	-.185	.023	-.067	-.112	-.030	.005	-.068	.044	.012	-.044	.171		-.031	2.210	.808
25. PJOBCRER	.076	-.034	-.027	.010	-.028	-.017	.140	-.074	.229	.205	.043	.038	-.071	.041	.161	.202	-.082	-.070	-.030	.038	.047	.062	.235	-.018		73.024	14.065
Female mean	2.162	.058	2.414	1.335	6.153	2.958	2.847	2.187	69.975	5.311	.471	2.356	2.626	1.424	1.644	4.872	1.870	.655	.404	12.805	.713	2.817	2.179	2.029	59.896		
Female s.d.	.858	.234	1.050	1.036	1.210	.719	.825	.715	12.659	1.234	.500	.277	.416	.616	1.305	1.701	.947	.798	.656	2.116	1.630	.713	.790	.733	18.236		

[a]Coefficients are above and to the right of the diagonal for females; below and to the left of the diagonal for males. Variable abbreviations are explained in Table 2.

TABLE 12

CORRELATIONS AMONG VARIABLES FOR HISTORY MAJORS*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Male mean	Male s.d.
1. SES		-.159	.109	.047	.390	-.065	-.033	-.046	-.039	.291	-.010	-.006	-.035	.054	.090	-.008	.080	-.174	-.067	.152	-.182	-.052	-.128	-.018	-.042	2.431	.903
2. NONWHITE	-.179		-.004	.048	-.075	-.035	-.039	-.003	-.133	.000	-.066	-.028	.032	-.117	-.032	-.032	.001	.162	.042	-.055	-.046	.070	.023	.105	.025	.052	.223
3. PARSUPRT	.150	-.205		-.098	.355	.082	.088	-.121	.104	.090	.000	-.102	-.106	-.085	.090	.061	.044	-.106	-.098	.165	.118	.044	-.007	.042	-.068	2.206	1.020
4. PARACHOR	.119	-.065	.050		.047	.022	.122	.121	.044	-.050	.037	.108	.162	.001	-.022	-.160	.015	.018	-.057	.005	.058	.013	.021	.121	.026	1.727	.910
5. PARSTYLE	.447	-.199	.366	.106		.107	-.053	-.077	-.027	.090	.088	.012	-.050	-.093	.104	-.080	.023	-.112	-.105	.238	.101	.063	.007	.095	-.076	6.306	1.266
6. PHELPOTH	-.013	.019	.111	.016	.089		.021	-.143	-.001	-.049	.045	.070	.122	-.126	.056	-.018	.059	.020	-.068	-.035	.063	.341	-.116	-.196	-.095	2.745	.766
7. PXPRTFLD	-.036	-.007	.028	.018	-.061	.054		.044	.198	-.101	.036	-.017	-.034	.068	.101	.059	.033	-.015	-.012	-.084	.046	-.015	.225	-.032	.107	3.061	.818
8. PWELLOFF	.097	.005	.019	.157	.043	.002	.148		-.064	-.049	-.076	.101	.014	.170	.052	.001	.046	-.093	.040	.053	.012	-.227	.099	.443	.028	2.584	.835
9. PFJBCRER	.106	-.083	.035	.142	.060	-.035	-.006	.119		-.073	.181	.058	-.016	-.027	-.098	.023	.016	.045	-.088	-.110	.033	-.021	.063	-.084	.163	81.979	11.295
10. COLQUAL	.387	-.008	.016	.058	.126	-.137	-.039	.027	.129		-.107	.210	-.072	.159	.006	.129	.033	-.180	.067	.060	-.275	-.082	-.184	-.065	.142	5.890	1.281
11. JUNIOR	-.064	.033	-.000	.032	-.001	.005	.030	.027	-.007	-.047		-.028	-.025	-.112	-.107	-.120	.046	.053	.051	-.049	.119	.043	.109	.089	-.106	.468	.500
12. PEERNORM	.275	-.002	-.052	.035	.111	.044	-.046	.020	.004	.392	-.037		.327	.073	-.059	.104	.168	-.078	-.004	.008	-.080	-.051	.032	.001	.122	2.697	.246
13. FACNORM	.017	-.009	-.060	.052	-.037	.028	-.045	.033	-.085	-.046	.006	.239		.069	.041	.017	.081	.014	.011	-.097	.049	.036	.019	-.057	.077	3.012	.262
14. PEERTIES	.010	.034	-.003	.016	.028	.070	-.002	.047	.041	-.018	-.041	.003	.013		.088	-.073	.012	-.162	.060	.039	-.051	-.174	.068	.110	-.009	1.328	.674
15. FACTIES	.037	.027	.060	.044	.102	.037	.076	.020	-.025	.042	-.075	.108	-.030	.106		.124	.313	-.201	-.031	.215	.056	.035	.246	.032	.228	2.054	1.359
16. GPA	.125	-.069	-.034	-.016	-.035	-.026	.057	-.047	.040	.150	-.096	.080	.134	-.005	.101		.048	-.023	-.015	-.052	-.133	-.058	.049	-.078	.221	4.143	1.531
17. COLINVLV	.123	-.006	.060	.085	.136	.108	.085	.031	.077	-.002	-.028	-.000	-.067	.059	.254	-.032		-.082	.016	.047	-.073	.149	.107	.021	.004	1.970	.984
18. COLIMPER	-.150	-.046	-.174	.060	-.123	.031	.000	.036	.065	-.230	-.055	-.100	.013	-.006	-.161	.017	-.131		.017	-.255	.007	.100	.007	-.071	.010	.841	.867
19. ANTICRER	.037	.065	-.133	-.127	-.085	-.081	.018	-.072	-.006	.108	-.078	.053	-.009	-.013	-.171	-.096	-.121	.019		-.238	-.313	-.127	-.099	-.077	-.083	.549	.764
20. COLSATIS	.139	-.010	.226	.067	.160	.033	.051	-.006	.028	.267	-.095	.196	-.027	-.023	.187	.066	.031	-.304	-.156		.205	-.106	.057	.137	-.071	13.234	2.183
21. EFFECTIV	-.225	-.047	.042	.018	.010	.045	.072	-.023	-.087	-.288	.059	-.164	.001	-.019	.114	-.018	.049	.053	-.306	.025		.085	.241	.022	-.043	7.637	1.756
22. HELPOTH	-.035	.053	.001	.049	.017	.291	.065	.021	-.027	-.025	.005	.078	.096	.018	.149	.017	.199	-.019	-.117	-.014	-.027		.025	-.210	-.048	2.822	.763
23. XPRTFLD	-.061	-.014	.005	.063	.104	.011	.319	.088	-.010	-.081	.091	-.048	.017	-.033	.186	.099	.082	-.016	-.140	.034	.288	.108		.159	.221	2.554	.878
24. WELLOFF	.107	-.040	.092	.161	.128	-.015	.040	.354	.128	-.0	.030	-.062	.010	-.065	.036	-.092	.021	-.072	-.146	.203	.007	-.075	.074		-.037	2.232	.845
25. PJOBCRER	.079	-.055	.053	.096	.022	.002	-.146	-.002	.259	.126	.064	.072	-.043	-.000	.080	.142	.029	.058	-.173	.043	-.066	-.023	.017	.145		79.359	14.883
Female mean	2.406	.017	2.374	1.409	6.590	3.000	2.862	2.220	70.469	5.603	.452	2.047	3.010	1.473	2.139	4.658	1.990	.729	.551	12.704	7.816	3.028	2.453	1.959	66.580		
Female s.d.	.899	.128	1.010	1.018	1.320	.741	.879	.788	13.274	1.281	.499	.239	.336	.747	1.424	1.512	.988	.881	.774	2.169	1.762	.710	.865	.811	18.114		

*Coefficients are above and to the right of the diagonal for females; below and to the left of the diagonal for males. Variable abbreviations are explained in Table 2.

TABLE 13

CORRELATIONS AMONG VARIABLES FOR POLITICAL SCIENCE MAJORS*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Male mean	Mal s.d
1. SES.		-.088	.106	.058	.329	.015	.062	.059	-.045	.256	.042	.145	-.116	.003	-.085	.115	.137	-.218	-.039	-.021	.015	.105	-.034	-.092	-.061	2.439	.6
2. NONWHITE . . .	-.169		-.086	-.027	-.026	.030	-.030	-.057	.061	.039	-.066	.052	.006	.049	-.018	-.087	-.010	-.091	-.074	.056	-.057	-.019	-.000	.022	-.009	.036	.1
3. PARSOPRT . . .	.130	-.062		.006	.488	.003	.024	.007	-.105	.127	-.002	.069	-.019	.003	.082	.001	.066	-.136	-.115	.174	.129	.120	.024	.053	-.093	2.304	1.0
4. PARACHOR . . .	.117	-.069	.021		.047	-.073	-.042	.001	.078	.139	.061	.018	-.113	.212	-.058	-.166	-.026	-.072	-.053	.069	-.012	-.053	-.059	.004	-.033	1.721	.9
5. PARSTYLE . . .	.406	-.063	.325	.105		.050	-.004	.071	-.086	.182	.012	.073	.025	.114	.126	-.054	.201	-.160	-.179	.218	.087	.173	.098	.174	-.084	6.259	1.3
6. PHELPOTN . . .	-.005	.074	.135	-.038	.076		.113	-.145	.054	.002	.017	.135	-.141	-.065	.109	-.057	.118	-.013	-.113	.030	.424	.272	.073	-.065	.057	2.746	.7
7. PXPRTFLD . . .	.070	-.049	-.017	.018	.016	.169		.074	.180	-.091	.067	-.095	.079	.058	.064	.037	.051	.066	-.147	-.072	.169	.167	.308	.094	.066	3.039	.8
8. PHELLOFF . . .	-.003	-.022	-.090	.026	.009	-.063	.175		.062	-.022	-.064	-.063	.088	-.038	-.084	-.027	.013	-.076	-.108	.034	-.006	-.057	.015	.383	.004	2.659	.8
9. PFJBCRER . . .	.034	-.045	.036	-.047	.048	.071	-.078	.089		-.117	.067	.014	-.022	.024	-.020	.025	-.035	.087	.028	-.133	.058	.105	.091	.039	.285	81.721	13.0
10. COLGOAL. . . .	.267	-.169	.034	.020	.091	.094	-.001	.022	-.018		-.028	.306	-.450	.231	.112	.179	-.053	-.375	-.090	.278	-.084	.047	-.030	-.031	.111	5.950	1.2
11. JUNIOR	-.004	-.067	-.013	.043	.031	-.101	.021	.029	.086	-.086		.033	-.011	-.048	-.120	-.071	.050	.075	-.124	.048	.106	.064	.003	.006	-.026	.506	.5
12. PEERNORM . . .	.244	-.202	.085	-.021	.116	.061	-.028	-.048	.036	.572	.012		-.326	.010	.121	.075	.063	-.084	.055	.035	.002	.095	-.004	-.130	.067	2.745	.2
13. FACNORM. . . .	-.044	-.065	-.014	-.005	.036	.043	-.043	.006	.009	-.160	-.123	.005		-.031	-.129	-.099	.062	.220	.048	-.160	.102	-.125	.084	.076	-.065	2.956	.5
14. PEERTIES . . .	.018	-.025	-.038	-.035	.017	-.002	-.005	.006	-.025	.095	-.003	.103	-.000		.093	-.042	-.042	-.151	.020	.044	.039	.074	-.034	-.002	.036	1.323	.6
15. FACTIES. . . .	.055	.083	.074	.009	.118	.218	.119	.004	.009	.034	-.109	.031	-.032	.014		.155	.181	-.078	-.178	.152	.040	.172	.184	.029	.109	2.040	1.4
16. GPA.	.109	-.045	.016	-.025	.006	.047	.148	-.010	.054	.178	-.083	.050	.056	.025	.119		-.056	-.064	-.087	-.011	-.023	.043	.144	-.035	.233	4.437	1.4
17. COLINDLV . . .	.013	-.040	.024	-.026	.029	.173	.096	.007	.077	-.049	-.047	-.040	.002	.013	.292	.027		-.066	-.054	.062	.149	.126	.160	.042	-.004	2.172	1.0
18. COLINPER . . .	-.075	-.005	-.061	.005	-.131	-.060	.037	-.005	.013	-.246	-.056	-.266	.138	.012	-.112	.042	-.127		.014	-.325	.003	.044	.076	-.056	.039	.822	.8
19. ANTICRER . . .	.060	.105	-.020	-.087	-.018	-.073	-.104	-.145	-.172	.039	.021	.085	-.022	-.052	-.015	-.012	-.009	.044		-.301	-.202	-.049	-.226	-.107	-.140	.595	.7
20. COLSATIS . . .	.117	-.033	.185	.015	.198	.110	-.064	-.016	.020	.382	.014	.276	-.067	.111	.136	.113	.024	-.391	-.137		.192	-.044	.050	.194	-.032	12.888	2.3
21. EFFECTIV. . . .	-.103	.075	-.061	.074	.071	-.008	.093	.082	.007	-.265	.093	-.284	-.020	-.000	.078	.013	.033	.056	-.238	-.020		.078	.316	.180	.022	7.386	1.6
22. HELPOTN. . . .	.054	.021	.087	.000	.053	.382	.132	-.074	-.008	-.024	-.034	.031	.071	.040	.161	.050	.151	.023	-.005	-.045	-.003		.256	.048	-.018	2.910	.8
23. XPRTFLD. . . .	.038	-.010	.027	.024	.046	.123	.297	.144	-.030	-.032	-.038	-.062	.003	-.010	.162	.126	.108	.035	-.205	.029	.311	.142		.109	.148	2.690	.8
24. HELOFF. . . .	.056	.022	-.029	.088	.108	-.156	.067	.354	.040	-.090	.007	-.013	.081	.011	.002	.016	-.012	-.078	-.178	.095	.104	-.090	.192		-.148	2.312	.8
25. PJOBCRER . . .	.012	.041	.033	-.012	.054	.048	-.009	.061	.220	-.066	.004	-.024	.033	-.033	.019	.172	.820	.082	-.669	.039	.056	-.035	.017	.108		80.893	14.1
Female mean	2.633	.018	2.493	1.406	6.521	2.833	2.928	2.333	68.214	6.192	.496	2.615	2.870	1.509	2.127	4.716	2.149	.507	.648	12.968	7.647	2.859	2.502	2.113	67.215		
Female s.d.	.781	.133	1.067	1.019	1.427	.771	.798	.794	14.184	1.056	.501	.213	.382	.690	1.386	1.338	.994	.763	.808	2.127	1.542	.766	.809	.832	19.042		

*Coefficients are above and to the right of the diagonal for females; below and to the left of the diagonal for males. Variable abbreviations are explained in Table 2.