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Graduate student recruitment

Evans, Linda Meerdink, Ph.D.
The University of Arizona, 1993

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GRADUATE STUDENT RECRUITMENT

by

Linda Meerdink Evans

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DIVISION OF HIGHER EDUCATION ADMINISTRATION
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As members of the Final Examination Committee, we certify that we have read the dissertation prepared by Linda Meerdink Evans entitled Graduate Student Recruitment and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy/Higher Education.

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Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copy of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Dissertation Director 4/20/93
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ABSTRACT

Graduate student recruitment has received relatively little attention in the literature. Most of the research has been quantitative and narrowly focused on factors related to student choice. While graduate student enrollment has remained essentially stable for over ten years, demographic shifts and anticipated needs for doctoral prepared faculty and scientists give cause for concern.

The goals of this research were to understand how four departments at a large research university approach graduate student recruitment and what influences how departments recruit students. In addition, the study sought to understand how students experience the recruitment process and how that experience may differ by ethnic group, by gender, and by department. One hundred faculty, administrators, and graduate students were interviewed and a wide variety of documents were analyzed.

Findings indicate graduate recruitment has been left to the departments, in contrast to undergraduate recruitment where coercive mechanisms have been applied centrally, through access and equal opportunity initiatives. Departmental goals related to recruitment focus primarily on getting the best students, while central administration goals are centered on increasing diversity among students.
and enhancing the quality of research. The numbers and characteristics of the customers, suppliers, and competitors have a significant impact on departmental recruitment.

Experiences of students differed widely by department and by level of study. Generally students did not feel recruited. Masters students had different experiences than did doctoral students, and women had different experiences than male graduate students.

The practical implications are: 1) Because graduate student recruitment is a student-initiated process, communication about graduate school must improve; 2) Departments must take better care of students, both undergraduate and graduate, so that students will want to continue their education at the graduate level; 3) Faculty involvement in recruitment is important; 4) Recruitment can be enhanced by strengthening connections among units on campus; 5) Departments lack expertise in recruitment; 6) Departmental efforts to increase ethnic minority enrollment need to be improved; 7) External sources of potential graduate students need to be explored; 8) Ways to decrease the financial obstacles must be developed and maintained; and 9) Consideration should be given to increasing graduate student enrollment in particular disciplines.
CHAPTER 1

Background/Problem

We need to know more about the process of recruiting graduate students. Many of our brightest, most capable college graduates are choosing not to seek graduate school (Hauptman, 1986). The percent of doctorates awarded to American citizens in this country has decreased from 84.4 to 73.9 percent of the total in 1973 and 1989 respectively (National Research Council, 1990). The changing demographic profile of undergraduate students will have serious implications for doctorate production in future years because in the past, most doctoral students have been drawn from the 18-22 year-old undergraduate pool.

"With a 25 percent decline in this student population, we can expect fewer applications to graduate school from this pool and fewer doctorate recipients coming out of it (Brazziel, 1991, p.2)."

We need to know more about the process of recruiting minority graduate students. Undergraduate enrollments of black and hispanic students have increased during the 1980's, partly due to growth in these minority populations, but the college-going rates of these students have remained
stable at 28 and 29 percent respectively, whereas the college-going rate of white youths during the same ten-year period increased from 33 to 40 percent (U.S. Department of Education). Despite slight increases overall in applications to graduate schools over the last two years (Blum, 1991), there have been declines since 1985 in the numbers of minority doctorate recipients (National Center for Education Statistics, 1991). Scholars and practitioners now speak of the "pipeline" problem, and express concern about the diminishing pool of minority graduate students and faculty members in higher education (Brown (1987), El-Khawas (1989), Fischer (1988), Francisco (1983), Sullivan and Nowlin (1990), and Winkler (1988). In the absence of no solid statistical evidence on whether minority graduate students are less likely to complete graduate programs than are white students (Hauptman, 1987), one of the major problems appears to be that not enough minority students are applying to go to graduate school.

The number of degrees awarded to men in the last ten years has been relatively stable. During that time the number of degrees awarded to women has increased dramatically. Presently women earn half of all bachelor's and master's degrees (Glazer, 1986; United States Department of Education, 1992). In every ethnic group, except Asian where men still outnumber women, more women than men are
enrolled in college (Chronicle of Higher Education Almanac, 1992). Women have received more degrees in education and the health sciences. In recent years, greater numbers of women are choosing traditionally male-dominated fields such as Business and Management (Glazer, 1986). There is still a shortage of women in the sciences and engineering (Glazer, 1986).

Graduate student recruitment differs from the recruitment of undergraduate students, in that it is conducted at the departmental level, rather than being highly centralized and coordinated through the office of admissions. Some have suggested accordingly, the push for increased access and equity has been less pronounced at the graduate than at the undergraduate level (Olson, 1985). Increasing access to higher education through open admission policies during the 1960s was accompanied by a "proliferation of institutions and a series of systematic marketing efforts designed to maintain or increase undergraduate enrollment (Olson, 1985, p.22)." This systematic approach to recruitment is organizationally more problematic and less developed at the graduate than at the undergraduate level.

Moreover, the academic ideology of meritocracy that surrounds graduate education and the recruitment of graduate students is resistant and counterpoised to the pressure for
equity and increased access. "The objective of graduate education has always been to 'skim the cream from the top' (Olson, 1985, p.22)." Graduate education is not designed for the masses; it has been reserved for students who show the most academic promise.

To date, very little literature has dealt with graduate student recruitment. Some exceptions can be found in recent studies the recruitment of women and minority graduate students (Olson, 1985; Malaney, 1988). A consistent theme of this work and of reports addressing the need to increase minority graduate student enrollment, is that the recruitment process should be improved (Adams, H.G., 1988; Isaac, P.D., 1986; Council on Graduate Schools, 1988).

In order to attract more students, and especially more minority students, into graduate school, more information about the recruitment process is needed. I hope that learning more about the process of graduate recruitment and about the players who are involved in that process--students, faculty, recruiters, and administrators--in particular departments will facilitate the development of new recruitment strategies and lead to an improved recruitment process and a more diversified graduate student population.

The purpose of this study was to examine the graduate student recruitment process. I was interested in how
different departments recruit graduate students, and in what influenced their strategies. I wanted to understand how students experience the recruitment process, and how and why they decide on a particular graduate program. Finally, I wished to explore differences in the graduate recruitment experience as it applied to minority and majority students, men and women, and students in different disciplines. The study was framed around five research questions:

1. What influences how departments recruit graduate students?
2. How do departments recruit graduate students?
3. How do graduate students experience the recruitment process?
4. How and why do graduate students decide to attend a particular graduate program?
5. To what extent and how does the recruitment process and experience for graduate students vary by field of study, and by the gender and ethnicity of the applicant?

**Conceptual Framework**

This is a study of the process of graduate student recruitment. In examining the recruitment process from the perspective of the department, I consider various organizational dimensions of and influences on the department's activities, including the regulations and
resources of the graduate college of the University. In examining, the recruitment process from the viewpoint of the graduate students, I consider how they experience the process and what factors influence their choice of a particular program. Accordingly, to deal with departmental activities, I draw on two organizational theories—contingency theory and institutional theory. To deal with the experience of the students, I draw on two models and applications of symbolic interaction theory.

Organizational Theory

The organizational dimensions of the recruitment process are important to understanding how the process is constructed and enacted. The levels of organization to be considered are the graduate college, specific colleges, and particular departments. The graduate college plays a centralized role in managing registration and records, as well as in serving as a link between the university and the graduate students. The specialized structure of the research comprehensive university, with its functionally differentiated academic units, inhibits centralized graduate student recruiting because of the diverse nature of the academic disciplines (Olson, 1985). Separate colleges, some of which are further divided into departments, are responsible to their own graduate students. According to
Olson (1985), "what sporadic recruitment that is done in graduate education is conducted at the departmental level (p.23)." Some colleges, particularly those housing professional schools, are not organized into departments. In the College of Nursing, for example, specialty practice areas are administratively organized into three divisions. Architecture and Law colleges are not departmentalized. The focus of this study will be on the mechanisms and influences that shape how departments (or colleges, when no departmental organization exists) structure and conduct the recruitment of graduate students.

Contingency theory, first described by Lawrence and Lorsch (1967), explains how organizations function in different environmental conditions. The organization is viewed as an open system of interrelated elements which are influenced by their environment. Organizational survival is a function of an organization's ability to adapt to and fit with environmental contingencies (Pfeffer and Salancik, 1978). Changes in the environment necessitate an adjustment by the organization. In Burrell and Morgan's (1978) words,

"the effective operation of an enterprise is dependent upon there being an appropriate match between its internal organization and the nature of the demands placed upon it by its tasks, its environment, and the needs of its members (p.164)."
Environmental contingencies can be described in terms of task environments, which are parts of environments relevant or potentially relevant to goal setting and goal attainment in organizations. Thompson (1967) explains that all organizations must establish a "domain" for themselves in terms of the range of products offered, the population served, and the services rendered. To work within an established domain, most organizations must relate to four task environments: customers, suppliers, competitors, and regulatory groups (Scott, 1981; Thompson, 1967). Customers include individuals or groups who require products or services offered by the organization. Suppliers are those organizations from which the potential consumers come. Competitors are those organizations that may lure potential customers to select an alternative product or service. Regulatory groups are the organizations and rules within organizations that impose constraints on some aspect of the functioning of the organization. Rules are regulations and policies relating to aspects of organizational activities.

Organizations are dependent on the elements of their task environments, and the task environments are interrelated. The environments are made up of "outside contingencies" that can represent "both constraints and opportunities that influence the internal structure and processes" of an organization (Lawrence and Lorsch, 1967,
p.186). The ability of an organization to attract customers from various suppliers is related to the demand or need for services and products offered by the organization. When the demand for a product or service is high, the organization has an opportunity to take advantage of this favorable environmental condition and attract more customers. Conversely, when the product is not in demand or when other elements in the environment compete to provide the same resources or services, the organization may realize constraints on their ability to function, or take advantage of the opportunity to reorganize. The ability to acquire adequate customers is also related to changes in the availability or the qualifications of the customers being sought. When increasing numbers of individuals are highly qualified, the organization has the opportunity to serve more customers, to be selective, and to set high standards. If fewer customers are available, competition increases among similar organizations. Finally, regulations imposed by outside groups may influence any or all of the other task environments. Regulations in the form of institutional or state policies may serve as constraints on organizations, limiting what they can do, or they may open new opportunities for expanding organizational domains or enhancing its ability to function. Institutional policy may define criteria for selecting customers and set limits on
numbers of customers allowed. If the state allows a broader range of services to be offered, organizations can expand and competition may grow.

Organizations use competitive and cooperative strategies to relate to task environments (Thompson, 1967). Organizations may compete with similar organizations in any of the task environments. When few customers are available, organizations may compete to obtain individuals to consume products or services. If few sources supplying customers exist, organizations may compete for these. Thompson (1967) suggests that organizations competing for support seek prestige. If organizations and their products are well regarded, it may be easier for them to attract personnel, to influence relevant legislation, to acquire informal power in the community and to ensure adequate numbers of clients, customers, donors, or investors.

Organizations also utilize cooperative strategies to relate to various task environments. Different degrees of cooperation are evident in organizational efforts at contracting and coalescing. For example, businesses having similar products may contract with a data source for a listing of potential customers. Organizations also consolidate efforts with other organizations to achieve goals related to shared portions of their task environment. Additionally, organizations bring together individuals
sharing common interests to foster development of innovative ideas and advance knowledge.

In this study, contingency theory is applied to the structure and process of graduate student recruitment. A department or college with a graduate program is viewed as the unit of analysis, or the sub-unit (Lawrence and Lorsch, 1986) of the organization. Different kinds of organizations are necessary for coping effectively with different environments. Each sub-unit, or department, is in constant interaction with environmental contingencies of its own, some distinct from and some similar to those of other departments. Departments attract students sharing interests associated with a particular field of study. Task environments of customers and sources of customers are unique for departments in specific fields of study. However, demographic changes in the ethnic and gender profile of undergraduates alters the pool of customers for nearly all departments. Departments share regulatory task environments that relate to university driven course credit requirements and entry requirements. However, regulations imposed by professional accreditation agencies are specific to a particular profession and the accompanying educational program.

One set of customers of graduate departments and colleges are the prospective students. Students holding
baccalaureate degrees are prospective graduate students, as well as individuals who may hold baccalaureate degrees in the future. Outreach activities have been developed in recent years to encourage primary and secondary students, as well as community college students to seek advanced degrees. Another set of customers are employers. Businesses and corporations needing professionals with advanced skills and knowledge are interested in acquiring products from graduate programs.

Suppliers are undergraduate programs from which graduate students would likely come. For example, graduate programs in nursing look to undergraduate nursing programs to supply a potential student population. A graduate program in biochemistry seeks students in biology and chemistry undergraduate programs to supply their applicant pool. Another example of a supplier for graduate programs is an employer interested in supporting workers to pursue advanced degrees to serve particular workforce needs. For example, a manufacturing corporation needs engineers with advanced training to meet certain demands of design and production. Such a corporation would send their engineers to graduate programs to obtain the advanced training, with the understanding that they return and work for the company.

Competition for graduate students comes from similar departments at other universities, or from colleges
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and departments within a university seeking students with similar interests and educational preparation. For example, graduate programs in gerontological nursing compete with other graduate programs in gerontological nursing across the country. On the other hand, graduate programs in biochemistry compete with graduate programs in chemical engineering and molecular biology for students from biology and from chemistry programs. Another source of competition lies outside the university. Business and industry offers prospective graduate students financial incentives and career advancement opportunities that may persuade them to not choose or postpone graduate education.

Graduate programs must also relate to regulations imposed by the university and outside agencies. Within the university, graduate college policy dictates certain academic requirements as well as fellowship and scholarship criteria. Outside the university, professional accrediting agencies regulate curriculum requirements and stipulate faculty qualifications and up to date facilities necessary to achieve or maintain accreditation. Likewise, business and industry require particular certifications viewed as essential to fulfill workforce requirements. Moreover, state and federal governments set guidelines for affirmative action, requiring institutions to increase the number of individuals from underrepresented minority groups in student
populations and on the faculty.

Competitive strategies employed by departments include competing in various pools of potential sources graduate students. Departments may look to various other universities and departments as well as to a variety of employers, recruiting through mechanisms such as mass mailings or targeted letters. Another competitive effort is the acquisition of prestige. Hiring distinguished faculty, who, in turn attract exceptional students is one way departments acquire prestige.

Cooperation may take place between graduate departments within a university system through the graduate college, or between departments in a particular field of study located at a number of distant universities. Cooperative strategies include sharing mailing lists of prospective students and offering university fellowships. One example of this is The Minority Locator Service, a computerized national data base listing promising minority undergraduates across the country. Coordination of recruitment activities by the graduate college takes place in various degrees but is limited. Events for prospective students are sponsored by the graduate college involving representatives from various graduate programs. Brochures are developed to illustrate graduate school opportunities for the university in general, listing available graduate programs. Departmental autonomy
resists further coordination particularly for concerns specific to individual programs such as enrollment and recruitment (Olson and King, 1985; Malaney, 1985). This "loose coupling" (Weick, 1976) confounds the coordination and cooperation with regards to the recruitment process for graduate students. Minimum coordination by a central control such as the graduate college is suggested as a helpful way to facilitate recruitment, as long as the graduate college takes on the role of integrator or liaison (Weick, 1976; Malaney, 1985; Turcotte, 1983).

Cooperation may also be established among several departments or colleges of a specific field of study. For example, the Council on Legal Education Opportunity is a national law school preparatory program and a law student scholarship program. Through consortia of law schools in regions throughout the country, institutes are held to facilitate eligible students' progress through the admissions process and into law school. In engineering, there is a national consortium for graduate degrees for minorities in engineering and science. The Graduate Engineering for Minorities (GEM) program provides fellowships sponsored by corporations to recruit minority students into graduate schools preparing them for particular jobs in their respective business.
Institutional Theory

While contingency theory provides a framework to analyze parts of the environment which are relevant or potentially relevant to graduate programs, it does not afford adequate analytical emphasis on transactions that tie organizations together. For this study, it is important to view graduate programs as a part of an organizational field, influenced by other programs and organizations within the field. Institutional theory provides a framework to study programs from this perspective. Institutional theory defines an organizational field as a collectivity of organizations that produce similar services or products (DiMaggio and Powell, 1983). When organizations are conceptualized as a part of an organizational field, the importance of connectedness and structural equivalence can be recognized. Connectedness may occur by way of formal contracts, participation of personnel in professional associations, unions, or boards of directors, or through informal links. Structural equivalence refers to "similarity of position in a network structure (DiMaggio and Powell, p.148)." Organizations are structurally equivalent if they have ties of the same kind to the same set of other organizations, even if they themselves are not connected. DiMaggio and Powell (1983) describe four parts to the process of defining the structure of an organizational
an increase in the extent of interaction among organizations in the field; the emergence of sharply defined interorganizational structures of domination and patterns of coalition; an increase in the information load with which organizations in a field must contend; and the development of a mutual awareness among participants in a set of organizations that they are involved in a common enterprise (p. 148).

Using connectedness and structural equivalence from institutional theory as a backdrop, organizations in the same field, affected by competition and professional collaboration, are shaped by powerful forces that cause them to become more similar to one another. This process of homogenization is referred to as isomorphism, "a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions (DiMaggio and Powell, p. 149)."

The institutional view of isomorphism maintains that "the major factors that organizations must take into account are other organizations (Aldrich, 1979, p.265)."

Organizations compete for resources and customers while vying for political power and institutional legitimacy. DiMaggio and Powell (1983) identify three mechanisms of isomorphic change: coercive, stemming from political influence; mimetic, resulting from standard responses to uncertainty; and normative, associated with
professionalization.

Coercive isomorphism evolves from "formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in society (DiMaggio and Powell, 1983, p. 150)." For example, organizations hire affirmative action officers to meet requirements to alleviate discrimination.

Mimetic isomorphism takes place when organizations model themselves on other organizations. Distinct from coercive isomorphism, mimetic processes derive from conditions of uncertainty, such as when goals are ambiguous or when organizational technologies are poorly understood (DiMaggio and Powell, 1983). "Organizations tend to model themselves after similar organizations in their field that they perceive to be more legitimate or successful (DiMaggio and Powell, p.152)." Old established organizations, perceived as being successful, become models for newly developing organizations.

Professionalization, "the collective struggle of members of an occupation to define the conditions and methods of their work (DiMaggio and Powell, p.152)," the effort to control the production of professionals and establish a knowledge base, is the primary source of normative isomorphism. This type of isomorphism derives primarily from two aspects of professionalization:
One is the resting of formal education and of legitimation in a cognitive base produced by university specialists; the second is the growth and elaboration of professional networks that span organizations and across which new models diffuse rapidly (DiMaggio and Powell, p. 152).

Professional associations and training institutions such as universities are important vehicles in the development of professional standards of knowledge and practice. These associations and the institutions that train professionals become valuable sources of personnel who hold similar positions and share a common core of knowledge, and similarly shape organizational practice.

DiMaggio and Powell’s (1983) interpretation of institutional theory will be used in this study to help explore how graduate programs interact with other organizations, and how these organizations influence programs in terms of graduate student recruitment. Mechanisms of coercive isomorphism related to the graduate student recruitment process can come from inside or outside the university system. Departments are pressured by their institutions to meet certain academic standards and to maintain adequate class sizes to be economically efficient. From outside the institution, state and federal mandates are imposed to meet affirmative action goals. Coercive mechanisms are comparable to the rules and regulations
explained in the task environment analysis of contingency theory.

Mimetic mechanisms of isomorphic change related to the recruitment process of graduate students are also evident in departments. Though graduate student recruitment is usually based in the departments, integration or coordination within a university system does occur. Programs having successful track records of recruiting graduate students serve as models for new programs or existing programs seeking improvement. In addition, departments in similar fields of study from different institutions copy each others' efforts found to be successful. Departments of a particular discipline share task environments as described in contingency theory, which promotes mimetic mechanisms. For example, nursing departments share the task environment of suppliers of their student population. Shortages of professionals in this discipline effect nursing education across the country. Established and successful nursing departments are modeled by smaller and developing departments in designing ways to draw upon suppliers for students to fill educational programs.

Normative isomorphism is also an important element to be considered in analyzing the recruitment process of graduate students. Professional organizations, such as the American Nurses' Association and the Association for the
Study of Higher Education, provide a network for sharing ideas about standards and workforce issues germane to each respective professional group. Exchanging names of promising new professionals occurs at annual meetings, as does interchanges of research ideas and knowledge. These organizational arrangements have an impact on graduate programs and on the recruitment practices subsequently designed and implemented.

Symbolic Interaction Theory

To analyze how students experience the recruitment process symbolic interaction theory will be utilized. Two conceptualizations inform my application of symbolic interaction, one having to do with meanings and perspectives developed by individuals and the other being a sociological calendar of individuals' experience of a social setting and process. In conceptualizing perspectives, the emphasis is on understanding the social meanings that people attach to their environments and on the strategies they adopt to deal with the situations they confront (Taylor and Bogdan, 1984). The sociological calendar is a device for condensing and analyzing data about social processes (Light, 1975).

According to Blumer (1969), symbolic interactionism is based on three principles. The first is that people act toward things and people on the basis of the meanings these
things have for them. These things include physical objects, other people, categories of people, such as friends or teachers, institutions, such as school or government, ideals, such as independence and productivity, and activities of others, such as requests or direct commands. Blumer (1969) distinguishes this first principle from psychological and sociological explanations of behavior. He explains that psychologists attempt to interpret behavior as a consequence of various factors such as stimuli, motives, and cognition. Blumer says that many sociologists use such factors as social position and pressures, cultural norms and values, and group affiliation to explain what people do. Neither explanation considers the meaning individuals attach to the things around them. Meanings are overlooked in favor of identifying factors to account for behavior. Symbolic interactionism insists that the meaning things have for people is central to understanding behavior (Blumer, 1969).

The second principle of symbolic interaction identified by Blumer is that meanings are the product of social interaction. Symbolic interactionism does not hold that meanings come from the intrinsic makeup of a thing, nor does it see meaning arising from psychological elements within the individual. Meaning emanates in the process of interaction among people (Blumer, 1969).

The third principle identified by Blumer, is that
people attach meanings to situations, others, things, and themselves through a process of interpretation. Interpretation is a "formative process in which meanings are used and revised as instruments for the guidance and formation of action (Blumer, p. 5)." According to Bogdan and Biklen (1982), this process is "essential and constitutive", not "accidental or secondary" to the experience. Interpretation is a matter of handling meanings in which the individual "selects, checks, suspends, regroups, and transforms the meanings in the light of the situation in which he is placed and the direction of his action (Blumer, 1969, p.5)."

In order to understand the action taken by an individual "one has to get inside of the defining process of the actor (Blumer, 1969, p.16)." Getting inside of the defining process of an individual includes gaining insight into what the individual believes and what he or she values. Becker and his colleagues assert that values and beliefs are operationalized through the adoption of "perspectives." The term perspective refers to a:

coordinated set of ideas and actions a person uses in dealing with some problematic situation, a person's ordinary way of thinking and feeling about and acting in such a situation. These thoughts and actions are coordinated in the sense that the actions flow reasonably from the actor's point of view, from the ideas contained
in the perspective... The actions flow from the beliefs and the beliefs justify the action (1961, p.34).

Components of perspectives include defining the situation, specifying the kinds of activities involved, and determining criteria of judgement or standards of value against which people may be judged. In Making the Grade, a sociological study on the academic side of student life by Becker, Geer, and Hughes (1968), emphasis on grades is explored from the student's point of view. Students in the study were found to develop a perspective on their academic work, referred to as the grade point average perspective, which reflects the environmental emphasis on grades. Students defined the situation in terms of the necessity to get good grades to remain in school and to graduate and in terms of the formal institutional rewards one wins with respect to good grades. Activities involved in the grade point average perspective are doing whatever is necessary to get good grades. The criteria of judgment includes seeing grades as a basis of judging the personal worth of a student and the notion that failure to attain good grades could be viewed as a sign of immaturity. The perspective is a description of what individuals do and think and it constitutes a coherent explanation of action (Becker, Geer, and Hughes, 1968).

In applying symbolic interactionism to graduate student
recruitment, I consider the three key principles of the theory. First, the meanings students attach to individuals in their lives, institutions, and ideals will strongly influence decisions made regarding graduate school attendance. For example, students who have parents who have attended college and graduate school may more readily understand what graduate school can mean to them. If previous school experiences has meant success, prospective students are likely to attach positive connotations to graduate school. On the other hand, for students who see educational institutions as a place to work long hours only to receive average or below average grades, graduate school takes on a less desirable connotation. Additionally, the meaning certain ideals such as independence and productivity have for students may directly impact how they experience the recruitment process and subsequent actions taken. Almost half of the students in Malaney's (1987) study indicated graduate school meant a promotion on the job or improved employment opportunity. An individual who attaches meaning to independence on the job and a certain level of productivity may pursue graduate school as an option to achieve related goals. Conversely, if graduate school doesn't mean independence to an individual, or if independence on the job is not valued, he/she would not be as motivated to attend.
The interaction that prospective graduate students have with people in their lives exemplifies the second principle of symbolic interaction. Relationships with teachers hold significant meaning to prospective graduate students. Teachers can be role models and directly encourage students to attend graduate school. In studies about graduate students, personal contact with faculty members has been important to the graduate school attendance decision (Olson and King, 1985; Malaney, 1987). Interactions individuals have with friends and family members also directly influences the meaning given to graduate school attendance. Prospective graduate students who have several friends attending graduate programs may be more likely to see graduate school as an attractive and reasonable option (Malaney, 1987).

The third principle of symbolic interaction, applied to graduate student recruitment, is the interpretation individuals have of their personal and professional situation and of the choices that are available to them. An individual is more easily recruited into graduate school if his/her personal goals can be reached only through achievement of an advanced degree. On the other hand, if an individual has highly competitive offers in the corporate sector with promise of early advancement within the company, graduate school is perceived as less desirable. This same
individual however, can interpret the early advancement in the company as short-sighted and opt to attend graduate school with personal long term goals taking priority. So it is that the student's perspective, including how they define the situation, what activities are required in the situation, and what personal goals he or she sets, determines what attending graduate school means, and more importantly for my purposes, how a particular program is selected. How the recruitment process is experienced by prospective students will be influenced by this perspective.

To uncover the nature of the recruitment process, it is necessary to bring the data from the departmental and student perspectives together in a meaningful way, looking through time at all the developments and events involved. The sociological calendar as described by Light (1975) is a device for condensing and analyzing data about social processes. The sociological calendar offers a way to discover natural units of time in an event or series of actions defined in terms of the subjective meanings and perspectives of those who are going through the process. The calendar becomes a mechanism to analyze interrelated phenomena so that subtle interaction among phases of the social process can be seen more clearly. The most powerful effect of the sociological calendar, according to Light (1975), is its ability to illuminate interrelationships
among dimensions not apparent by studying disconnected events. The comparison of several calendars or the superimposing of one calendar on another provides deeper insights into events. For example, Light (1975) explains how the changing perspectives on idealism for medical students in *Boys in White* (Becker, et al. 1961), can be organized using a sociological calendar. By superimposing calendars of several students, a pattern becomes evident suggesting that medical students enter with idealistic concerns for caring for people, change to a focus to just do what they have to do to get through school, then work to gain maximum experience, and finally return to an idealistic attitude for their work (Light, 1975).

Using the sociological calendar in the study of the graduate student recruitment process, events or actions involved in the process will be divided into social units of time. These social units of time, distinct from the days, weeks, and months of Julian time, involve various steps of the decision and search process and will likely be different for particular students in different fields of study. For example, the decision to pursue graduate study involves a series of steps, some of which are personal and internal, and others which are active and interactive. Using the approach used by Light (1975) to analyze dimensions of medical socialization, I will organize the changing
perspectives of graduate students during the recruitment process into phases. I will gather information from graduate students regarding concerns and values, goals and perceived abilities, available resources, and opportunities. The sociological calendar will be utilized to order these perspectives and series of actions taking place during the recruitment process. The series of actions, or phases, are defined in terms of the subjective meanings and perspectives of students going through the recruitment process.

The sociological calendar allows analysis of interconnected phases of a social process. For the recruitment process, this means including various dimensions of the process experienced by students. Students experience recruitment activities at various times completing a series of actions before actually enrolling in a graduate program. The comparison of calendars among students will add depth to the analysis of the overall process.

Method

Much of the available research regarding college student choice and recruitment has been quantitative in nature. Tierney observes that quantitative studies lack any sense of the faces and voices behind the statistics. Studies are needed that move beyond statistical surveys and
charts to enhance understanding the thoughts and feelings of students and the ways that they experience the educational process (Tierney, W.G., 1991). "Processual nature of the system does not lend itself to meaningful study through the use of quantitative snapshots of objectified social structures (Burrell and Morgan, 1978, p. 180)." A case study at a large Research I university using field methods was used for this investigation. I was primarily interested in the process of recruitment and the meanings attached to that process by the individuals involved. Interviews with graduate students, faculty, recruiters, and administrators were conducted within selected graduate programs. Graduate college staff and administrators involved in graduate student recruitment were interviewed. Information about graduate scholarships and fellowships were obtained from the institution's research and foundation offices. In addition, document analysis of recruitment materials, application forms, advertisements, and letters sent to students from the graduate college and from particular departments was done.

A final method of data collection was a mailed survey which was sent to students who had been admitted, but did not enroll and to new graduate students who had enrolled. This was important to gaining information about the reasons that students decided not to attend. I wanted to know if their recruitment experience had been more positive.
elsewhere, or if certain aspects of attending graduate school here were less desirable than they found at another institution. In addition, by surveying students who had enrolled here, information about what attracted these students to enroll here, as opposed to other graduate programs, could be learned.

In the analysis, task environments for each department (customers, sources, competition, and regulatory groups) and existing normative processes were explored as each relates to the graduate student recruitment process. Strategies and materials used by the university, the colleges and departments were examined to develop a sense of not just how, but why recruitment is conducted in a particular fashion.

Four departments selected for inclusion in the study represent disparate disciplines as categorized by Biglan (1973). Biglan developed a logical method of grouping academic disciplines for comparative purposes. Biglan refers to disciplines characterized as being primarily concerned with theory as "pure," while those areas dealing primarily with application are called "applied." He referred to areas involving living organisms as "life" areas, and those dealing primarily with inanimate objects are called "nonlife." The four departments selected for
this study represent Pure/Life, Pure/Nonlife, Applied/Life, and Applied/Nonlife categories.

Graduate students actively involved in graduate study in particular departments were interviewed. Those interviewed included Hispanic, African American, Native American, and white graduate students, both men and women, as well as international students. Typed transcripts of taped interviews were analyzed for elements from the theoretical framework. A detailed explanation of the method is in Chapter 3.

Limitations of the Study

The major limitation of this study is the inability to generalize findings from this institution to another, and from one department to another. However, I can speculate similar finds would emerge at similar institutions. In addition, similar departments at other institutions share professional environmental contingencies, making situations surrounding student enrollment comparable.

As environmental contingencies change through shifts in technology and the economy, the market for particular graduate programs also changes. The application of findings of this study is limited to current economic conditions.

Potential sampling bias is also a limitation. The potential for differences in other departments and with
other students remains unexplored. While the departments exist within the same institutional structure, variations among departments is clearly recognized and verified through exploration of environmental contingencies.

Organization

In the following chapter, the literature on graduate students as it relates to recruitment is reviewed. Chapter 3 provides a detailed explanation of the study's methodology. Chapters 4 and 5 present the findings and interpretations of data. Chapter 6 contains a general summary of the findings, conclusions, and policy recommendations. Contributions of the study to the higher education literature relevant to graduate students is discussed along with recommendations based on the findings.
CHAPTER 2

Review of Literature

The literature germane to my research questions regarding the graduate student recruitment process is arranged in two separate but related categories. The first is background information describing the demographic trends of graduate enrollment, evidence of the need to increase doctorate recipients, and the need for more information on graduate student recruitment in general. Second is a discussion of literature related to the recruitment of students in higher education, both undergraduate and graduate.

Demographic Trends in Graduate Student Enrollment

Overall graduate student enrollment and degrees awarded in this country have remained relatively level since the mid-1970s (Hauptman, 1986; Powers, 1991). The proportion of top students (as measured by class rank and awards) pursing doctorates has been decreasing however, for more than two decades (Association of American Universities, 1990; Hauptman, 1986). Recruitment of qualified students remains a concern because there is considerable variation among disciplines and schools. For example, disciplines such as history saw significant declines while business
graduate programs increased substantially due to job prospects. Current projections of enrollment trends suggest that the overall prospects for graduate education in the 1990s are good (National Center for Educational Statistics, 1989; Powers, 1991), but will remain variable by discipline.


"Historically, most doctoral students have been drawn from the 18-22 year-old undergraduate pool (Brazziel, 1991)." With a 25 percent decrease in births in this country between 1958 and 1978, there are simply fewer individuals in this age group. The decline of younger students in the undergraduate population in this country may account, in part, for the drop in doctorate production in recent years and some scholars expect a more precipitous drop in the years to come. Colleges have generally made up for the decline in college-age individuals by recruiting and accommodating older undergraduates. Older students who comprise 45 percent of the undergraduate student body now are expected to make up 52 percent by the year 1999.
Brazziel reports that the National Research Council is studying whether these older students will progress on to graduate school in sufficient numbers to compensate for the 25 percent decrease in younger undergraduate students (1991). He urges stepping up serious efforts to preclude shortages in doctoral production.

The proportion of advanced degrees awarded in this country to foreign students is large and has increased over the past decade (Hauptman, 1986; Brazziel, 1991). According to the report, "Selected Data on Science and Engineering Doctorate Awards," foreign students earned 30.1 percent of the Ph.D.'s awarded in 1991, compared to 17.2 percent in 1981 (National Science Foundation, 1992). Foreign student enrollment has in part explained the slight increase in applications to masters' and doctoral programs at institutions across the country. While this trend maintains enrollments in graduate schools, it does not adequately answer concerns about the declining supply of citizens in this country qualified with advanced degrees.

Students from ethnic minority groups in this country have made limited progress since the mid-1970's in increasing their rate of participation in graduate education. Although undergraduate enrollments of black and hispanic students have increased during the 1980's, the college-going rates of these students have remained stable.
at 28 and 29 percent respectively (U.S. Department of Education, 1991). The college-going rate of white youths during the same ten-year period increased from 33 to 40 percent (U.S. Department of Education, 1991).

Degree completion by minority students vary by ethnic group and by degree level. According to the American Council on Education (1991), between 1976 and 1987, the number of degrees earned by minorities increased by 30.9 percent at the bachelor's level, and held relatively steady at the master's level, and was steady to declining at the doctoral level. Members of each minority group made gains from 1990 to 1991, yet this added up to only ten percent of American doctorates (National Science Foundation, 1992). African American men who had experienced a startling drop of 46.7 per cent from 1976 to 1989 (American Council on Education, 1991), made up only 3.8 per cent of the 1991 doctoral recipients, while a decade earlier, they made up 4.2 per cent of recipients (National Science Foundation, 1991). Hispanics made up 2.9 per cent of the Ph.D.'s earned by Americans last year, a slight decline from the previous year. Asian Americans accounted for 3.1 per cent of American doctorates awarded in 1991, which was a 19 percent increase from 1990. American Indians, experiencing a one-year gain of over 33 per cent, made up only .52 per cent (National Science Foundation, 1991). White students, over
the same year earned slightly fewer doctoral degrees, but still represent 89.6 per cent of the total American doctorates earned (National Science Foundation, 1991).

Advanced degrees awarded to women over the last twenty years have increased dramatically. Between 1980 and 1990, women enrolled in college increased 20%, while the increase for men was 6.3% (United States Department of Education, 1991). Women now receive over one-third of all doctorates and professional degrees, and half of the masters degrees awarded in this country (National Research Council, 1991). Though a general upward trend in female enrollment is apparent, representation varies greatly by discipline. Data from the National Research Council (1991) indicates that women earned only 8.7% of the Engineering doctorates, 18.4% in the Physical sciences, and 25% in Business and Management. In contrast, women earned 49.4% and 46.5% of the doctorates in the Social Sciences and Arts and Humanities respectively.

The supply and demand for doctoral education are moving in different directions. Beginning in the mid-1990's, projected increases in student enrollments will be coupled with anticipated faculty retirements and with a growing demand for Ph.D.s in nonacademic markets (Bjork and Thompson, 1989; Association of American Universities, 1990). Researchers do not agree on how much of a shortage of PhDs
this country will experience in the years to come.

According to a recent project completed by Denny, Bolding, and VanPatten (1992), 46% of doctoral graduates are employed in college teaching jobs. A 1990 policy statement of the Association of American Universities states:

Under current trends, the nation will suffer an annual shortage of 7,500 natural science and engineering Ph.D.s just a few years into the next century. Shortages of Ph.D.s in the humanities and social sciences will occur even sooner. Faculty shortages have already appeared in engineering, business, and other high-demand fields. The impact of such shortages will affect industry, government, and colleges and universities, all of which depend on doctoral education (AAU, p.III).

Bjork and Thompson (1989) report projections that the entire professorate in American universities will be replaced by the year 2009. They say that the change will be gradual and will vary according to discipline, institutional type, and the circumstances of individual colleges and universities.

It is abundantly clear that unless serious corrective action to increase minority faculty is jointly undertaken by the education system, states, and the federal government, by the year 2009 the faculty in our nation's colleges and universities will be composed predominantly of White males (Bjork and Thompson, 1989, p.348).

Along with the concern to attract and prepare
sufficient numbers of talented individuals to become the next generation of faculty, there is attention focused on the need to have this new faculty reflect the growing ethnic diversity of our population (American Council on Education, 1988; Bjork and Thompson, 1989). By the year 2000, one third of all school age children will be from ethnic minority groups (American Council on Education and Education Commission of the States, 1988). In 1988, the Commission on Minority Participation in Education and American Life was established because of deep concern over the faltering pace of minority advancement. In its report, *One-third of a Nation*, the commission warns:

...that America is moving backward, not forward, in its efforts to achieve the full participation of minority citizens in the life and prosperity of the nation (American Council on Education and the Education Commission of the States, 1988, p.3).

The role of higher education in improving the participation of minority citizens in this country's prosperity is clearly stated. Institutions are strongly encouraged to recruit minority students more aggressively at every level with special emphasis on inspiring and recruiting faculty and administrators (Brown, 1987; El-Khawas, 1989; Francisco, 1983; Sullivan and Nowlin, 1990; Winkler, 1988; Smith, 1989; Washington and Harvey, 1989).
The need to get more minority students in the pipeline is a consistent theme:

We will not see our Hispanic, Black, and American Indian citizens in classrooms, laboratories, administrative offices, and board rooms in sufficient numbers until we first see them in our graduate schools (Fischer, 1988, p.1).

Further insight into the nature of the problem of attracting minorities to fill faculty vacancies in particular disciplines is accomplished by an examination of the type of doctoral degrees earned by minorities. Very few African American, Hispanic, and American Indians are earning doctoral degrees in the science and engineering fields. According to the National Center for Educational Statistics (1988), forty-five percent of the doctoral degrees awarded to African American students in 1985, were in education, 20 percent were in social sciences, and only 3 percent in engineering. Hispanics earned 24 percent of their doctoral degrees in education, 19 percent in social sciences, and 13 percent in engineering. Of doctorates earned by American Indians, which was only .3 percent of the total, 43 percent were in education. Asian American students, earning 3 percent of the total number of doctorates in 1985, had 31 percent of their doctoral degrees concentrated in the physical and biological sciences, and 24 percent in engineering. It is important to also recognize that only a
small percentage of students who earn doctoral degrees choose faculty careers, thus compounding the urgency to recruit increasing numbers into graduate school (Bjork and Thompson, 1989; Association of American Universities, 1990).

Undergraduate Recruitment

Most of the literature related to student recruitment has dealt with undergraduate students (Malaney, 1987). Numerous books and articles have been devoted to the topic of recruitment of undergraduate students (Kotler and Fox, 1985; Ihlanfeldt, 1980; Litten, Sullivan and Brodigan, 1983; Cook and Zallocco, 1983). Recruitment for undergraduate students is described as very complex and is usually centralized within the institution's admission operation. During the 1970s, when many administrators began to plan for projected reduced enrollments, students were becoming better consumers with a growing interest in vocational, occupational, or professional courses. Institutions became more sophisticated in designing recruitment activities. As explained by Paulsen (1990),

Institutions also became more responsive to market interests, more aware of the increasingly competitive nature of the student recruitment process, and began to engage in market-oriented activities intended to attract desired students to their campuses. Each institution had to seek ways to make itself more attractive
than its competitors in the eyes of desired students.

Marketing models have been used to identify likely target populations and particular strategies useful in attracting appropriate students (Zemsky and Oedel, 1983; Paulsen, 1990). Enrollment management and professional recruiters for undergraduate students have become common in many universities.

Paulsen’s 1990 ASHE/ERIC Higher Education Report, *College Choice*, is a thorough review of major literature addressing the factors and processes undergraduate students use in choosing a college. This report includes results of 25 years of studies in the areas of enrollment planning, student marketing, and recruitment. Hossler, Braxton, and Coopersmith (1989) report an extensive review of studies related to student college choice. Factors related to college choice, described within econometric and sociological models, are explained as important considerations used by institutions in designing mechanisms to attract undergraduate students. Neither Paulsen (1990) or Hossler, Braxton, and Coopersmith (1989) discuss graduate student recruitment except to indicate the need to develop dependable models of how graduate students choose graduate
schools. "We are just beginning to study the patterns of graduate student-graduate school choice (Paulsen, p.79)."

Strategies described to recruit undergraduate students include the development of brochures and advertisements, arranging opportunities for campus visits, personal contacts, hosting career days, allowing part-time study, offering evening courses, and collaborating with local secondary schools (Paulsen, 1990; Hossler, Braxton, Coopersmith, 1989). Kotler and Fox (1985) describe the application of market orientation in the recruitment of undergraduate students, emphasizing the importance of understanding needs and desires of the "customer" in order to design specific targeted strategies.

Recruiting undergraduate minority students is the topic of a recent ASHE-ERIC Higher Education Report, Pursuing Diversity: Recruiting College Minority Students by Astone and Nunez-Wormack (1990). In this report, the need to pursue diversity through recruitment is explained. The report suggests that recruitment efforts be coordinated with many different areas of the institution and involve the participation of people from different departments.

Ideally an institution-wide effort conceived as a process rather than a program, recruitment of minority students would optimally engage all constituencies of the college--faculty, administrators, staff, and students--in a well-developed and deliberate plan.
designed to achieve specific, reasonable goals. The plan should be based on a comprehensive institutional audit reflecting the profile and present educational situation of minorities at the institution (Astone and Nunez-Wormack, p.vi).

The necessity for broad and dynamic institutional efforts in support of increasing minority participation is further supported by "Achieving Access with Quality," a five-year study conducted by the former National Center for Postsecondary Governance and Finance under the direction of Richard Richardson. This was a collaborative study of the practices used to improve the participation and graduation rates for ethnic minority students in public four-year colleges and universities in thirteen states. Surveys from 142 institutions indicated activities ranging from outreach programs in collaboration with public schools to programs for parents or peers who can model or support college-going behavior (Richardson, 1989). Recruitment activities are deemed merely reactionary providing primarily mechanisms that reduce barriers to getting into the university. The conclusions of the study warn of the necessity for institution-wide efforts to adapt to student diversity by also putting into place mechanisms to help undergraduate students achieve and to improve learning environments (Richardson, 1989).
Graduate Student Recruitment

While underlying themes of marketing educational programs found in undergraduate research can be applicable to graduate programs, clearly there are important differences. Applying similar models of student choice to understand the process of graduate student college choice or to derive recruitment strategies appropriate for graduate students may be seriously flawed. Turcotte (1983) noted:

Graduate education as an entity is perceived to be far behind the undergraduate in establishing a body of knowledge regarding admission characteristics and activities of students; methods of recruitment; utilization of available technology; centralization of effort and funding; enrollment management and modeling (p.28).

Some differences between undergraduate and graduate education are clearly apparent. In general, social and political forces have pushed for increasing the numbers of persons earning baccalaureate degrees first as a symbol of equalizing educational opportunity and second as a device for upward mobility (Olson, 1985; Olson and King, 1985; Richardson, 1989; Education Commission of the States, 1989). Graduate education ideology is different from undergraduate education in that it has been basically elitist. "The objective of graduate education has always been to 'skim the cream from the top' (Olson, 1985,p.22)." Graduate education
is not designed for the masses, but has been reserved for students who show the most promise as scholars and researchers. While this selective and exclusive ideology remains, evidence of the need to diversify college and university faculties and graduate student populations is conspicuous. The National Invitational Forum on the Status of Minority Participation in Graduate Education held in 1986, was convened to gain insight into factors that continue to impede the recruitment and graduation of minority students in graduate education (Adams, 1986). Pruitt and Isaac (1985) analyzed declining enrollment of minority students in graduate schools using concepts from the theory of discrimination in internal labor markets. Howard Bowen (1984) discussed the need to keep graduate programs responsive to societies' needs and the social responsibility of graduate departments to produce graduates of "broad learning and culture."

Many studies to examine the decision process of undergraduate students (Hossler and Gallagher, 1987; Hossler, Braxton, and Coopersmith, 1989; Paulsen, 1990), and the need for a marketing orientation to drive the recruitment of prospective students (Kotler and Fox, 1985; Malaney, 1987a) have been undertaken. Kotler and Fox (1985) emphasize that the first premise for a marketing orientation for educational institutions is to understand prospective
students by determining their needs, wants, and interests. Very little research has been done however, at the graduate level to determine these important characteristics (Malaney, 1988).

Little is known about the decision process of today's prospective graduate students (Olson and King, 1985; Malaney, 1988; and Paulsen, 1990). No specific stages of the choice process for graduate students have been described in the literature. A large survey conducted in 1971 and 1972 by Baird and his colleagues explored the reasons graduating college seniors gave for attending graduate school. They summarized the findings:

Most students choose to attend graduate school for a mixture of reasons. Many attend primarily because they need a degree to be able to do what they want to do or to be able to attain the positions and earnings they would like to have. These pragmatic reasons are usually combined with a commitment to the academic way of life and a strong interest in a particular field (Baird, p. 26).

More recent work suggests that these reasons for attending graduate school may still be in place. Greene and Minton (1989) suggest that there are only three realizable goals in any graduate program: 1) to gain essential qualifications for a particular professional occupation; 2) to advance a career; and/or 3) for personal satisfaction. Malaney's work (1987a), has verified, at least generally,
that these three goals are important to graduate students. One of the purposes of Malaney's survey of entering graduate students at a large public research university in the midwest was to begin to expand research on the graduate student's decision to a particular graduate program. His findings indicate that the desire to learn and personal satisfaction were important reasons for deciding to attend graduate school. These were more important than getting a job, particularly for students at the high end of the grade point average scale. Students also reported that advanced degrees were needed for professional reasons and some indicated that they had nothing better to do and that they were attending because a friend was going to attend (Malaney, 1987).

Olson and King (1985) suggest that graduate students differ greatly from undergraduate students in part because of a number of constraints within which graduate students operate. Limitations experienced by graduate students include:

the applicant's undergraduate grade point average and score on required standardized admissions tests; the foregone income during the pursuit of an advanced degree; educational and living expenses; positive and/or negative input from family and peers; and employment opportunities for the applicant and/or spouse (Olson and King, p.305).
While these may be similar to constraints experienced by some undergraduate students, it is believed that these considerations have greater magnitude for graduate students than for undergraduate students (Olson and King, 1985). Responsibilities and obligations to employers and to families may also be significant limitations faced to a greater extent by graduate students compared with undergraduate students.

Intervening variables influencing decisions to attend graduate school and where to attend are difficult to measure quantitatively and appear to vary among academic colleges within the institution (Olson and King, 1985). Olson and King found that geographic location and personal contact with faculty at the institution, along with reputation of the academic department were key factors influencing initial consideration of the institution. Positive interaction with faculty and having been an undergraduate at the institution were found to influence the ultimate decision to enroll (Olson and King, 1985). Greene and Minton reiterate this notion for both science and nonscience graduate students. Professors, in addition to teaching, identify and encourage the potential future scientists, "even to the point of calling a student's attention to his or her aptitude for science and stimulating an interest in a scientific career (Greene and Minton, p.90)." As with admission to science
and engineering programs, admission to nonscience graduate programs depends heavily on faculty recommendations (Greene and Minton, 1989).

In contrast to the centralized organization of undergraduate recruitment, efforts to recruit graduate students are usually undertaken through individual departments or colleges. Graduate student recruitment is described as sporadic and inconsistent, with little or no strategic planning, lagging far behind the approaches in place for undergraduate education (Olson, 1985; Turcotte, 1983; Malaney, 1988; Olson and King, 1985). Those who do graduate student recruitment often rely on procedures and strategies which have not been systematically analyzed or evaluated (Olson and King, 1985). "Few institutions designate a central administrative unit as the coordinator of graduate recruiting (Olson, p.23)."

There are two contrasting views concerning centralization of graduate student recruitment found in the literature. According to Malaney's work, recruitment efforts at the graduate level can be centralized only superficially because of the very discipline-specific nature of graduate education (Malaney, 1987; Malaney, 1988). "The primary impetus must come from the individual academic departments...(Malaney, 1988, p. 403)." Olson (1985) points out that institutionalized graduate student recruiting is
inhibited by the very structure of the comprehensive university. She explains that departments represent interest groups with diverse goals and values made up of faculty with more allegiance to the academic discipline than to the institution. Turcotte (1983) offers an opposing opinion concerning centralization of graduate student recruitment. He found in his survey of graduate schools across the country suggestions from graduate school administrators that the Graduate College become more involved in general publication and recruitment (Turcotte, 1983). Popular responses from graduate schools in his survey included, "The days are over when only departments publicize their own programs (Turcotte, p.26)." His study did not examine the views of department faculty and administrators and is difficult to interpret because only 35 percent of graduate schools responded and only a public versus private demographic breakdown was provided (Malaney, 1988). However, a poll of graduate deans reported by Olson (1985) indicated that "most deans are dissatisfied with present recruiting endeavors and need and want help in developing recruitment plans that are effective and professional in nature (p.25)." Olson (1985) predicts that centralized marketing models much like those existing in undergraduate recruiting will become more common in the recruitment of students to graduate programs.
Given the wide variety of academic departments and the decentralized nature of graduate school organization, it is not surprising that great differences exist between departments in regards to activities related to students. Malaney found in his study of 109 departments at one university, great variation among departments regarding the use of recruiting practices (1987b). He found in general, graduate programs dislike the notion of marketing and recruitment and lack the money, time, and/or knowledge to conduct a systematic planned recruitment effort. Where recruitment efforts were underway, meeting with prospective students at professional conferences, faculty making personal contacts with other schools or colleagues, and mass mailing of flyers/posters were frequently done. Generally, departments carried out strategies that were least expensive and required limited time commitment. Master’s programs indicated fewer recruiting practices than did doctoral programs. Professional biological sciences and engineering sciences recorded the highest number of recruitment activities for all areas of study. Education reported the lowest number of recruitment activities. Math and Physical Science and Humanities departments used a low number of recruiting practices, while Agricultural Sciences and Arts used a high number (Malaney, 1987b).
Graduate students are often interested in a particular graduate program because of the reputation of the program or the research being done there. Typically, professors seek out talented students to assist with their research projects as a means of attracting students to graduate school. Informal networks between colleagues develop at professional meetings which assist in locating potential students (Olson, 1985; Malaney, 1987). Gumport (1991) describes how "star" faculty are recruited in order to develop research, which in turn, attracts "star" graduate students.

Malaney's review of research on graduate education since 1976 indicates that much of the literature on recruitment of prospective graduate students has been primarily concerned with recruitment of "special students" or of "non-special" students in particular departments (Malaney, 1988). Atelsek and Gomberg (1976) report a survey funded by the National Science Foundation, the United States Office of Education, and the National Institutes of Health to assess the extent of special assistance to women and minorities for graduate study. While the results from this study are outdated, it is interesting to note that at that time nearly half of institutions in this country had special recruitment or admission efforts in place for women and 93 per cent had special programs for minorities. Public institutions were more active than private institutions, and
universities were more active than four-year colleges. Law and Medicine were the most active fields of graduate study for both women and minorities.

Malaney (1987b) studied the variation among departments regarding the use of recruiting practices by surveying 109 graduate academic units at one large midwestern university. In this study, the departmental recruiting practices used prior to expressed interest from students and those used after students expressed interest were tallied. Departments were found to vary greatly by size, field of study, and by whether the doctorate or master's degree was the highest degree offered by the unit. More important than the list of recruitment strategies derived from this study are the elements found to be missing. The results of the recruiting efforts, namely the relationship between the quality or quantity of the students and the number of recruiting practices was not apparent from the data collected from departments (Malaney, 1987b). Malaney suggests that questions about the number of recruiting efforts and the types of practices that yield higher quality students or more students need further research.

Summary

Demographic indicators and enrollment trends suggest a need to be concerned about productivity of graduate degrees
in this country. Most of what is known about recruitment of students is focused on the undergraduate students. Little work has been done on recruitment at the graduate level, with the exception of studies on special students. The decentralized departmental nature of organization of graduate programs further complicates the examination of the process of recruitment. What is missing from available literature are explanations regarding how the recruitment process for graduate students is conducted in relation to social processes and demographic changes. In addition, little is known about how graduate students experience the process and how this experience may differ among students in diverse departments and among students who differ by gender and ethnicity.
CHAPTER 3

Study Design and Methodology

The purpose of this research was to examine the graduate student recruitment process. The research questions are: 1) What influences how departments recruit graduate students? 2) How do departments recruit graduate students? 3) How do graduate students experience the recruitment process? 4) How and why do graduate students decide to attend a particular graduate program? and 5) To what extent and how does the recruitment process and experience for graduate students vary by field of study, and by gender and ethnicity of the applicant? To answer the research questions, the process was examined organizationally from the perspective of the institution and its departments, as well as from the students' perspective. The research design best suited to meet the goals of this project was a case study design. The case study design allows an intense and complete examination of an issue or the circumstances of a geographic setting over time (Lincoln and Guba, 1985). This research was constructed to explore the very complex process of recruitment of graduate students as it occurs in a large and complex research university. It was also designed to explore the meaning that students
attached to their experiences related to considering graduate school.

Three methods of data collection were used to meet the research goals of the study: interviews, document analysis, and a survey. To answer the research questions focused on the institutional and organizational aspects of the recruitment process, semi-structured interviews were conducted with various administrators and graduate advisors within selected departments, in the graduate college, and in a variety of university offices. Second, recruitment materials utilized by the university and the graduate college, as well as the departments were analyzed. These items included brochures and pamphlets, posters, letters, and video tapes. Surveys were sent to students who had been admitted to graduate school, including those who did and did not enroll.

All interviews used in this study were semi-structured. I used interview schedules and focused on specific areas in order to answer the research questions. Open-ended questions were used to allow free expression of experiences and perceptions. The difference between the structured and the unstructured interview is explained by Guba and Lincoln.

In the structured interview, the problem is defined by the researcher before the interview. The questions have been formulated ahead of time,
and the respondent is expected to answer in terms of the interviewer's framework and definition of the problem...In an unstructured interview, the format is non-standardized, and the interviewer does not seek normative responses. Rather, the problem of interest is expected to arise from the respondent's reaction to the broad issue raised by the inquirer (Guba and Lincoln, 1981, 155-156).

Considering the goals of this research effort, an unstructured interview was the most appropriate style to utilize. The interviewer was constantly trying to elicit the administrators' and advisors' conception of the process and the students' own meanings and reactions to the recruitment experience. Interviews began with a "grand tour" question (Spradley, 1979), such as, for administrators, "Tell me about the process of recruiting graduate students in your department." For students, the first question was, "Tell me about how you decided to come to graduate school and what experiences you had in the process." The remainder of the interview for both students and administrators took on the characteristics of a conversation about various aspects of recruitment. While the conversations were somewhat free flowing, I guided the conversation with questions and probes regarding issues and concepts embedded in my conceptual framework. For example, I asked students to "tell me about how and why they decided to come to graduate school." If they did not explain who they interacted with during the process, I asked, "who did
you talk to, and who was the most influential in your decision to attend?" A list of questions used in these interviews is in the appendix.

A free-flowing conversation style was employed with student interviews in sessions with individual students and also with small groups of students. Combining individual interviews with focus group interviews is a way of dealing with the strengths and limitations of both methods. According to Morgan (1988), if only individual interviews are used, there is no way to know what individuals may say if others were present. If group interviews are used, there is no way to know what the participants would say in private. In some situations, groups may inhibit discussion; in others, the group may facilitate conversation. "What we need to do is to begin cross-validating by applying the two modes of interviewing to the same topics (Morgan, p.21)."

The focus group interviews capitalize on the interaction within the group based on the topic supplied by the researcher, who typically takes on the role of a moderator (Morgan, 1988). The information gained from the interaction among participants in the focus group was used to guide and refine subsequent individual and group interviews. Groups of from two to four students were arranged by department so that students participating had at least the field of study in common. I wanted to determine if students in the same
department had similar experiences and went through comparable processes to decide on graduate programs.

According to Morgan (1988), individual interviews allows for relatively controlled management of what data are actually collected. In one-on-one interviews, it is easier to pursue new leads or skip unwanted material. On some topics, individuals may be more honest with an interviewer, and on other topics, they may discuss more openly with their peers.

However, there are distinct advantages to adding focus group interviews as a source of data in this study.

The hallmark of focus groups is the explicit use of the group interaction to produce data and insights that would be less accessible without the interaction found in a group (Morgan, p.12).

Morgan (1988) explains three primary ways in which focus group interviews can enhance projects largely based on individual interviews. First, a small number of exploratory focus groups can be conducted to guide later construction of individual interview questions. Getting individual informants to respond to segments of transcripts from group interviews is one suggested strategy. Secondly, focus group interviews can be useful when comparing different groups of participants is a component of the research project. Thirdly, groups can be conducted as a follow-up to individual interviews. This allows exploration and
clarification of issues brought up during individual interviews. To answer the first two research questions regarding how departments recruit graduate students and what influences how recruitment is done, data was gathered from various individuals having responsibility for recruitment activities. At the institutional level, graduate college administrators and staff were interviewed. Materials distributed by the Graduate College and information about university recruitment events were analyzed. Administrators in the Sponsored Research and Foundations offices were asked about fellowships and scholarships available for graduate students. Within selected departments, administrators and staff involved with graduate student recruitment and admissions were interviewed. Materials used for recruitment from these departments and their colleges was also gathered. To answer the third and fourth research questions regarding how graduate students experience the recruitment process and why they decide to attend particular graduate programs, students were interviewed.

The fifth research question, examining how the recruitment process differs by field of study, by gender, and by ethnicity was addressed by drawing comparisons, similarities and contrasts among the students interviewed. Both male and female students selected for interviews were drawn from various ethnic groups where possible. Findings
from the departmental data was analyzed as well to discover differences in the recruitment process by field of study, and types of students being recruited.

**Issues of Sampling and Selection**

Decisions about sampling and selection of individuals to involve in the research were critical to the design and the trustworthiness of the findings. Using concepts and theories from my conceptual framework, the initial sample of interviews was obtained through purposely selecting individuals responsible for activities effecting graduate students. An attempt was made to include all individuals and offices on campus that contribute to graduate student recruitment. Contacts were made with administrators in the Graduate College who verified an initial listing of important and involved individuals. In addition to the Graduate College, data was collected from individuals in the scholarship office at the University Foundation, Sponsored Research, the American Indian Graduate Center, and the cultural centers for African American, Hispanic, and American Indian students. In addition, suggestions for additional contacts were obtained from individuals who were interviewed. In this way, a "snowball sampling" technique was employed by asking the question, "Who else do you think I should talk to about graduate student recruitment?"
A total of 36 administrators and faculty across campus were interviewed. In general, I found administrators, faculty, and graduate advisors very open and helpful in explaining their particular role in the process of recruiting graduate students. Some were candid in suggesting ways they thought a better job could be accomplished, sharing frustrations experienced, or describing plans which had not yet been implemented. Some boasted about accomplishments and mechanisms in place that had proven effective. On several occasions, I was told that my questions stimulated new thinking and ideas related to graduate student recruitment. They freely offered a variety of recruitment materials to contribute to my data collection.

The literature explains that the organizational structure of most large universities leads to a decentralized departmental arrangement to conduct graduate student recruitment. Confirmed through discussion about graduate student recruitment with various campus administrators, the importance and essential nature of departmental activities were clear. Four departments were selected for this research. I selected departments with adequate size and diversity within the graduate student population, as well as recognition of relatively active recruitment efforts. In addition, it was decided that
selected departments would offer the Masters and PhD degrees, as opposed to professional degrees such as Law and Medicine.

The four selected departments were categorized by Biglan (1973) dimensions. Biglan classified academic areas in order to systematically analyze relationships between subject matter characteristics and departmental organization (Malaney, 1986). The three Biglan dimensions are: 1) the hard/soft science dimension, linked conceptually to high and low paradigm development (Bresser, 1983); 2) the pure/applied dimension, dealing with whether departments emphasize pure research or practical application of subject matter; and 3) the life/non-life dimension, categorizing departments on the basis of their concern with living or inanimate objects of study (Biglan, 1973; Malaney, 1986). The Biglan dimensions for the four departments included in this study are Applied/Life, Low Paradigm; Applied/Nonlife, High Paradigm; Pure/Life, Low Paradigm; and Pure/Nonlife, High Paradigm.

Using the Statistical Report on Graduate Students (1991) published by the Graduate College, the following descriptions of student populations in the four selected departments were developed. The Applied/Life department is actually organized as a college with clinical specialty divisions, rather than a formal arrangement of departments.
Besides the one baccalaureate program, the college offers a masters and a doctoral degree (PhD). During the academic year 1991-1992, the graduate enrollment at the college included 120 masters and 46 doctoral students. Of those masters students 64 were part-time, and 26 were full-time. There were 26 full-time doctoral students during this year, and 20 were part-time students. Among the graduate students, two were American Indian, nine were Hispanic two were African American, and 102 were white. In addition, there were nineteen students classified as international. There were eight men among the graduate students.

The Applied/Non-life department is one of the ten departments offering graduate degrees in this particular college. This department enrolled 203 masters students and 91 doctoral students. Of these students, 179 were full-time and 118 were part-time. Among the graduate students, there were five African Americans, eight Hispanics, two Native Americans, and 140 were white. Only twenty-four students were female. There were 119 students classified as international students.

The Pure/Nonlife department is one of the twenty science departments and enrolls a total of 135 graduate students. Of these students, 121 are doctoral students, and 14 are seeking masters degrees, 40 are women and 95 are men. There are 130 full-time students and only 5 part-time
students. There are 38 students classified as international. Only four students come from ethnic minority groups, one is Hispanic and three are Asian.

The Pure/Life department is one of fourteen departments in social and behavioral departments. There are 100 graduate students, 72 of whom are full-time and 28 are part-time. Female students number 62, while there are 38 male students. There are 12 students from ethnic minority groups: seven Hispanic, one African American, three Native American, and one Asian. There are 75 students classified as white, and the remaining 13 students are international.

Within each department, the graduate advisor was interviewed in addition to three or four administrators and faculty members who were involved in graduate student recruitment. The graduate advisor is an individual identified within each department that is responsible for working with graduate students, assisting them with administrative requirements of the departments and the graduate college relative to admission and graduation. In most cases, the graduate advisor is a faculty member, although I found examples of administrators and staff members who are identified as graduate advisors.

A total of 52 students actively involved in graduate study were interviewed. In each department at least one focus group interview was conducted in addition to several
individual interviews. Interviews were conducted primarily in the student's college or department, in quiet offices or lab work areas. On three occasions, my office was used and several times interviews were conducted in the Student Union cafeteria. The ages of the students ranged from 45 to 23, with an average age of 28.2 years. There were 32 white students, 10 ethnic minority students, and 6 international students. There were 27 female and 25 male students interviewed.

Of those students interviewed, 39 were PhD students, and 13 were seeking masters degrees. It should be noted that in all departments, recruitment priorities are definitely focused on getting PhD students. Particularly in the Pure/Life and Pure/Nonlife departments, most students are seeking the PhD. In fact, if students exit with the masters degree in these two departments, it usually is not because they planned to do it that way. I was told that students who have difficulty with initial graduate level course work are counseled to exit with the masters, and students who fail the preliminary examinations are given a masters as a "consolation prize." In the Applied/Life and Applied/Nonlife departments, some students seek terminal masters degrees primarily to upgrade and strengthen knowledge and technical skills.
Access to students was accomplished in a variety of ways. I purposely sought students representing diverse viewpoints within the departments selected. I wanted to interview masters and doctoral students, men and women, and individuals from a variety of ethnic backgrounds. I personally visited some classes with permission from the professor, explained my research project, and asked for volunteers. A number of individual students were contacted by faculty and graduate advisors. In one department, the graduate advisor gave me a list of names and phone numbers of students who had agreed to be interviewed. On a number of occasions, students introduced me to other students who entered into the group or set separate appointments. All students selected were currently actively engaged in part-time or full-time graduate study. Comfortable and quiet settings located within the departments were used for all interviews.

Students openly shared their perspectives regarding decisions made and interactions they had experienced during the time just before enrolling in graduate school. The students identified with me as a fellow graduate student, and were seemingly comfortable discussing their thoughts and perceptions of the process. The struggle through graduate school renders a common bond among students, particularly within a field of study. I felt a sincere attempt to "help"
me get the data I needed from students in all four departments involved in the study. They wanted to tell me the story of their experiences. Trust and understanding among students was apparent in the focus groups which were limited to between two and four students. Most topics of discussion were not terribly private or sensitive, allowing free participation and willingness to explain their own experiences. Some related very positive experiences and others told of problems and disappointments. I did not encounter resistance to my request for interviews, though scheduling ample time that did not interfere with class or valuable study time was difficult. On only one occasion did a student fail to keep an appointment.

Techniques of Data Management

Triangulation, as defined by Denzin (1978, p.291), is "the combination of methodologies in the study of the same phenomenon." It is a way of protecting against bias by allowing cross validation of the results when two or more distinct methods, or multiple informants, are found to yield comparable data (Jick, 1979). "Organizational researchers can improve the accuracy of their judgments by collecting different kinds of data bearing on the same phenomenon (Jick, 1979, p.602)." In this study, methods of data collection included: formal individual interviews and focus
group interviews with students; formal individual interviews with administrators and faculty; informal discussions with students, administrators and faculty; analysis of various written recruitment materials and videos; and a mailed survey. In the analysis of data obtained through these different methods, themes discovered using one method are verified through data discovered using an alternate method. For example, strategies that faculty told me was important to their recruitment process was checked by asking students what they experienced or how they interpreted that particular strategy.

Member checking, another method of cross validating data was used throughout the data collection process. Lincoln and Guba (1985) explain that the member check process tests initial interpretations and conclusions drawn from the data with individuals from stakeholder groups. This method provides an opportunity to correct errors and omissions as well as refine interpretations of the researcher. Member checking was done by confirming and reiterating tentative interpretation of data obtained in early interviews with subsequent formal interviews and brief conversations.

The technique of memoing was used to begin documenting initial impressions of the data. According to Strauss (1987), memos represent a dialogue between the researcher
and the data, "a running record of insights, hunches, hypothesis, discussions about the implications of codes, additional thoughts, whatnot (p.83)." I wrote memos of my initial thoughts and insights into the data in the margins of the transcripts of interviews. I also attached notes to the list of interview questions to remind me to clarify points and gain additional information about issues originating from earlier conversations and document analysis. These notes served to confirm coded segments and provided a way of keeping track of beginning analysis.

The Ethnograph (Seidel, Kjolseth, and Seymour, 1988), a computer program for assisting the analysis of text based data, was used to organize and sort data into coding categories. Transcribed interviews were reformatted for the ethnograph, entered, and each line was numbered. Coding categories derived from the conceptual framework were used to label pieces of data. These codes were entered into the computer, enabling me to extract pieces of data by coding category. These were carefully reviewed and refined through a second round of coding. Throughout this process, I wrote additional memos in the margins which eventually clarified reoccurring themes and concepts, and identified those ideas that did not seem to fit within the existing framework. The final set of codes is listed in the Appendix.
The next step in analysis was to combine and contrast views expressed by the students through interviews and from survey data with those explained by the administrators and advisors in like departments and in other administrative positions across campus including the graduate college. Impressions of the recruitment materials were added to this phase of analysis along with results of the survey. Notes were written reflecting my conclusions and interpretations of the data. I utilized the principles of triangulation to identify multiple sources of data to support conclusions drawn to answer each research question. The results of the analysis are explained in the following chapters.
CHAPTER 4

Findings: Organizational Aspects of Graduate Student Recruitment

In general the recruiting practices in this institution are basically poor. The reason we are attracting students at all is that some departments are well known. We do not recruit actively enough.

...A University Administrator

Introduction

The university where this research was conducted is a public, land grant institution serving over 35,000 students, 8000 of whom are graduate and professional students. Graduate programs are offered in more than 100 departments. Recruitment of graduate students at a large university such as this is tremendously complex taking place in a variety of ways, through numerous individuals, in offices dispersed all over campus. Participants involved in the process of graduate student recruitment offer different viewpoints on the goals of recruitment and on the role of the institution in the process. There were 36 administrators, faculty, and graduate advisors interviewed. Documents and materials used to plan and implement recruitment efforts, developed at the institutional level and by individual colleges and departments, were analyzed. These materials, listed in the Appendix, included four videos, several brochures and pamphlets, campus reports, posters, and application forms.
An attempt was made to explore all efforts contributing to the process of recruiting graduate students.

The findings of this research are presented by organizing information according to my research questions. In this chapter, I describe data related to the research questions: 1) What influences how departments recruit graduate students?, and 2) How do departments recruit graduate students? I begin with broad and general comments about the findings and then explain specifics related to particular departments. The findings are organized not by departments, but around analytical categories derived from the study's theoretical framework.

What Influences How Departments Recruit Graduate Students?

To examine what influences departmental recruiting activities, concepts from contingency theory and from institutional theory are used. Contingency theory describes how organizations work within an established domain by relating to their task environments, including customers, suppliers, competitors, and regulators (Scott, 1981; Thompson, 1967). The classic study of organizations by Lawrence and Lorsch (1986) examined "how organizations must vary if they are to cope effectively with different environmental circumstances." The environment of a public research university is highly differentiated, due in part to
the specialized and diverse nature of its academic departments, each responding to somewhat separate and unique contingencies. The departments of research universities are relatively autonomous and "loosely coupled" (Weick, 1976), contributing to a decentralized graduate student recruitment process. Individual departments relate to their own set of prospective students (customers), suppliers (departments at other institutions), competitors (other graduate programs), and regulators (professional associations). Given this theoretical perspective, I expected to find separate and distinct dimensions of graduate student recruitment at the departmental level, with various influences on recruitment efforts being individualized by department. However, I also looked for common experiences among departments. By virtue of being on the same campus under the direction of the same Graduate College and central administration, I expected to find examples of shared environmental contingencies and connections between departments and central administration, that represented common dimensions of graduate student recruitment.

I begin the discussion of what influences how departments recruit graduate students by presenting data relative to the different environmental circumstances of the four departments included in the study. This is followed by
a description of connections departments have with departments of the same discipline at other institutions and with offices across campus. Finally, the last part of this chapter explains more precisely what departments actually do to recruit graduate students.

Circumstances Defining What Departments Must Do

Departments share a simple circumstance that influences their recruitment processes: Departments need customers (i.e. students). Some departments need to expend some effort to attract students to their programs. Other departments enjoy a rich supply of applicants without actually engaging in any specific recruitment activities. These two contrasting situations help define departmental activities in regards to recruiting graduate students. The two situations, being student needy and student rich, are shaped not just by customers, but also by the competitive environment.

Analysis of the data indicates that two departmental task environments, those of customers and competitors, most directly influence graduate student recruitment. The number of customers available to departments in general is affected by birthrates and demographics (Brazziel, 1991). In addition, economic trends and changes in business and industry affect the numbers of customers available. One
faculty member explained that a poor economic climate and high unemployment often drives the numbers of applicants to graduate school upwards. When numbers of available prospective students diminish, competition increases among departments in the same discipline for highly qualified students. In addition to the importance of numbers of students available, faculty and administrators from all four departments expressed an emphasis on attracting the best, most highly qualified students. One faculty member said, "we always want better students." Another said "it was not just a numbers thing for us, we were interested in increasing the quality of our students." Of course, that always means competing with other departments to get those students.

Of the four departments included in this study, one department is in the first "needy" situation, one department is clearly in the second "rich" situation, and the other two departments are somewhere in between the two extremes. Faculty in the Pure/Non-life department described a situation in which they need to work at recruiting graduate students. Filling teaching assistant positions with graduate students in this department is essential because of its large teaching load. Graduate students are an essential part of the teaching workforce in this department that serves around 10,000 students across campus each year. One
faculty member explained, "In this department recruiting graduate students is a very important activity and we put a lot of money into it. Recruitment in this department is serious business." Faculty also described a very competitive situation with about forty other departments in the country. One professor explained, "It is actually somewhat of an international competition. We have to make a year around effort to recruit people." Another faculty member said,

This department would love to have a bigger graduate program. In fact, it was bigger when I started in 1981 than it is now. That I think reflects the decrease in the number of 22 year-olds in the population post-baby-boom, which has led to the increase in competition. The enrollment in our undergraduate courses, across the board, has been going up, year by year. But the ability to recruit graduate students has been going down a little.

What the Pure/Non-Life department does is somewhat driven by whatever "everybody else" (competing departments at other institutions) is doing. According to DiMaggio and Powell (1983), "uncertainty is a powerful force that encourages imitation."

Uncertain about how many students will apply and how many of those offered positions will accept, departments in this field of study must model their recruitment activities after what competing departments in other institutions are doing.
DiMaggio and Powell (1983) explain that "the professions are subject to the same coercive and mimetic pressures as are organizations (p.152)." One professor told me that "You have to have a poster; everyone has a poster with reply cards." He went on to explain, that they never know how many inquiries they will receive from the 3000 posters they send out to departments all over the country. Once applications are received, and offers for admission are made, there is no way to know how many students will accept. Last year from the 450 inquiry cards received from the 3000 posters, 19 completed applications were received, nine offers were made, and 5 students accepted. "Yield is not high but you have to do it, everybody does."

"Organizations tend to model themselves after similar organizations in their field that they perceive to be more legitimate or successful (DiMaggio and Powell, p.152)." The Pure/Non-life department holds weekend recruiting sessions during the spring, prior to the April 15th national deadline for signing graduate students in this field. One professor explained,

Historically, this department was the first nation-wide to do such a recruiting event. Early on, it was very effective...we would get 50-75% of the people we brought in. However, colleges across the country caught on and now everybody has recruiting weekends. That has been much less effective than it was 10 years ago.
The development of weekend recruiting sessions is an example of mimetic pressure within a professional group. This could be considered normative pressure because it involves activities by professional peers to become similar. However, the process the faculty described which led to the development of the weekend recruitment events was primarily done independently by individual departments without building professional networks. Information about what other departments are doing is obtained very informally and primarily through the applicants. When I asked faculty and graduate advisors about connections they had with their counterparts in other departments, they explained that there were no such collaborative relationships. The competition for students continues, and the need to actively participate in recruitment has never been more important.

At the other extreme is the situation of the Pure/Life department. Faculty in this department said that they don’t do any special recruiting. We get more quality applicants than we can use. So far we pretty much depend on the quality of the programs to attract good students.

Because of this department’s "enormous popularity", no real recruiting goes on. One faculty member explained, "We have no goal to increase the numbers of students, we have all we want. They are all good students." This department is
divided into six programs, each with its own particular application pool and selection process. The largest of these programs receives over 400 applications each year for only six to eight available positions. The graduate advisor explained, "We don’t have any really formal department wide method of recruiting partly because the department itself is diversified." According to faculty I interviewed in the Pure/Life department, this situation is typical across the country in this discipline.

When I asked faculty in the Pure/Life department what influences their recruiting strategies the most, they agreed on two primary considerations. The first is financial, the second is space available. Each program within the department is responsible for selecting its own students, however the department determines how many students each program might be able to handle, according to the amount of funding available. Professors told me, "we don’t admit any student that we can’t support. All our students get something." In this department, funds allocated for teaching assistantships and research assistantships are divided equally among graduate students. The graduate advisor explained

What we try to do within the department is to equal the stipends. Not to have competition. Many of our RAs could pay more, but we don’t want the RA to be competing with the other students. We
don’t want to get jealousy between students. That (low financial support) is our big problem. Not recruiting, but getting them to come.

Even though the department gets more than enough applicants, faculty described a problem of getting students to actually enroll because teaching assistant stipends have not remained competitive with similar departments across the country. One professor explained,

Our problem has been not so much in getting applicants, but in getting people to come. There’s our big problem, and it is financial. Our financial aid to students is terrible. The best students that apply, that we admit, don’t come.

Faculty calls to students who were accepted but did not enroll has confirmed that teaching assistant and research assistant stipends are in some cases $3000-$5000 more at other institutions with comparable programs. The graduate advisor said,

The best students that apply we accept, don’t come. That’s not always true, but it happens too much. The reason is...we call them up and they tell us that they get more money somewhere else. I’d like to go there, but somewhere else offered me $10,000 or $12,000, and we are offering maybe around $7000.

The second influence on recruitment is space. The department head determines the availability of space and, with consultation of faculty, decides how many students can
be admitted in the various programs within the department. A faculty member explained,

We are an experimental science. The stuff that we do requires lab space. So if you admit a student, you are pretty much committing yourself to some kind of lab space, and faculty to support particular areas of interest.

Faculty explained that all of these considerations take long-range planning. These are, in most cases, at least four-year commitments. Support for students throughout their program is a top priority. Frequently, a combination of support sources such as teaching assistantships and research assistantships are put together over the course of study.

The other two departments included in the study fall somewhere in between needing more graduate students, and having a surplus of applicants. The Applied/Non-life department generally has enough applicants but has not always been satisfied with the quality of the applicants. The situation in this department was described as "a very competitive business." Faculty said,

In the good old days we didn't really have to recruit much, people just came. But that all changed, partially because of the demographics, some continuing problems with math and science education particularly in the primary and secondary school system, and particularly because few young people were into engineering and science. Even
at this point in time, we had enough applications, we just wanted to improve qualifications of the applicants we could choose. It wasn't just numbers for us.

This general philosophy has tended to direct recruiting efforts toward cultivating higher qualified applicants. The graduate advisor estimated that only about 20% of their undergraduates are qualified to go on to graduate school. Faculty members told me, "we recruit our own undergraduate students continually." The graduate advisor obtains lists of graduating seniors who have grade point averages of 3.5 and above, and sends these names to faculty who have them in class. Faculty are asked to "make personal contact with those students and try to recruit them." The graduate advisor explained that they have a fairly young faculty. She said, "they want tenure and they are looking for students for their research." She went on to explain that the faculty see the advantage to recruiting their own students is that they "know the students already" from working with them on undergraduate projects. In this context, faculty are responsible to help recruit students from their own undergraduate population into their own research programs and graduate study. In addition, many faculty expressed the notion that recruitment of graduate students extends beyond their own local department. An
administrator in this department reinforced this explanation when he said,

our undergraduate programs need to take students who are capable of going on to graduate school and give them the motivational support that would encourage them to come to graduate school, no matter where.

Task environments of competitors and suppliers exert additional strong influences. The needs of the Applied/Non-life department are very much affected by industry and related national economic conditions. One faculty member explained that several years ago, industry was definitely a competitor for graduate programs. He said, "salaries were high and industry lured them away (from graduate school)." He went on to explain that this situation has changed recently. "People with bachelors can't find really good jobs anymore." He said that when industry requires more individuals with advanced degrees to keep pace with technological advances, these job-market shifts tend to increase the number of applicants to graduate school. In addition, industry becomes an active supplier, actually assisting its workers in achieving advanced degrees by granting release time and paying tuition, and by awarding research grants to departments to carry on research, which in turn supports research assistantships for graduate students. Some of the research grants are very specialized,
requiring graduate research assistants with special skills.

A professor explained,

Industry gives us a grant and we bring in the students to help with the research. It's just a good situation for everybody. Industry is very pleased with us because we're producing what they need and they are investing in a graduate student who usually ends up working for them.

For the Applied/Life department, recruitment activities have been influenced by a recent trend of decreasing enrollments and a change in the type of customer. An administrator of the department explained

Enrollment is a different issue than it was five years ago. So we may have to go out and do some more active recruiting, particularly at the masters level. In the future we may need to recruit more students in general.

Faculty distinguished between recruitment for the masters program and the doctoral program. For the masters program, faculty explained, the attraction is more of a convenience issue because many students come from the in and around the local area. "Students are looking for our kind of masters program and they want the convenience of staying here to do it." At the doctoral level, "we are trying to match students with the faculty we have on board to develop a clinical research program, so it narrows recruiting a bit more." In addition, faculty commented on the need recruit
more full-time students. At the masters level, 75-80% of the graduate students are part-time students. One of the administrators said

Up until this point, we have had the good fortune to have a pool of people who were coming to us and now we have a pool of people who are interested in part-time study. We may have to go out and do some more active recruiting, especially for full-time students.

Connectedness and Structural Equivalence

Examining the connections between departments and administrative units across campus, as well as connections among departments within a specific field of study, was also considered an important part of the study. From institutional theory, the crucial nature of connectedness and structural equivalence of organizations is described. According to Aldrich (1979), the institutional view of isomorphism maintains that organizations must take into account other organizations. Competition and professional collaboration become powerful forces that lead to homogenization (DiMaggio and Powell, 1983). I expected to find at least two ways departments develop competitive and professional connections. One relates to the way that the departments establish connections with other units on campus. Several offices on campus are implementing a variety of programs and support mechanisms for graduate
students. For example, students from all departments can access programs sponsored by the graduate college, career and placement services, sponsored research, and the cultural centers. The second relates to the ways that departments connect with contingencies outside the institution, yet within their field of study. Departments in a particular discipline from other institutions have formal and informal links through professional associations, and research projects. By studying these two connections, I expected to find examples of mechanisms of institutional isomorphic change: coercive, mimetic, and normative. I wanted to study these connections to gain insight into environmental influences which impact the process of graduate student recruitment.

Connections with Units on Campus: Influences of the Graduate College

On campus, one of the most active and powerful influences on departmental activities with graduate students is the Graduate College. Because the Graduate College must maintain a relationship with departments to facilitate graduate education, I expected to find evidence of institutional isomorphism, those constraining processes that force one unit in a population to resemble other units that face the same set of environmental conditions (DiMaggio and
Coercive isomorphism stems from "both formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society within which organizations function (DiMaggio and Powell, 1983)." The departments are dependent upon the Graduate College to translate regulations about standards for admission and degree requirements. In this way, the Graduate College shapes departments to look alike.

According to an administrator at the university level,

The role of the graduate college is to set goals and discuss the mechanics of doing recruiting in terms of marketing. The main function is coordination and sort of minimal standard setting.

According to Graduate College administrators, the role of the Graduate College is one of being a liaison, and providing assistance to departments. One administrator explained his view of the role his office plays in recruiting graduate students in this way:

I usually do not call the activity that we do, recruitment activities. Mainly because the department is responsible for the recruitment. I don't have that type of authority (to admit students). So the only thing that I can do is in the form of outreach. One of my main goals is to eliminate the obstacles.
Another administrator said that the Graduate College only "makes suggestions, the Graduate College does not dictate." There was a clear message that the Graduate College defers responsibility for admission decisions and recruitment to the departments. Administrators of the Graduate College expressed an appreciation for wide differences in departments and accepted the challenge of offering assistance accordingly. They seemed to recognize normative pressures which confine departments to certain professional standards within disciplines and allow departments to function separately.

While recognizing the departments' individual circumstances, the graduate college does exercise strong leadership through constant communication and collaboration with departments. One of the ways communication is facilitated between departments and the Graduate College is through the Graduate Council. The Graduate Council is a policy-making group composed of Graduate College administrators, appointed graduate faculty from several departments, and a graduate student representative. The Graduate Council makes recommendations to the Provost about new graduate degree programs, changes in degree programs, policies about graduate student requirements, and how they are implemented. A member of the Graduate Council serves on every academic program review. While close connections with
departments are maintained to manage a variety of issues, the Graduate Council has only an indirect affect on recruitment, specifically through control of Graduate College fellowships. According to a Graduate College administrator, policies regarding the graduate college fellowships are managed by the Graduate Council. They are responsible for overseeing requirements for the proposals, reviewing the proposals submitted by departments and making decisions about awarding the fellowships. The Graduate Council determined that half of the fellowships would be awarded to minority students. This policy has a direct affect on how departments can distribute fellowship money. Beyond the responsibility with the fellowships, the Graduate Council is not directly involved in recruitment of graduate students. Faculty I spoke with thought this was appropriate primarily because of the unique situations of departments.

One of the faculty who happens to serve on the Graduate Council told me

The Graduate Council as a mechanism for improving graduate student recruitment is not a good one. Anything affecting graduate student recruitment has to be done at the departmental level. Every academic area is sociologically different. Departments recruit at varying levels depending on their needs.

While the Graduate College is not directly controlling recruitment, I found four primary examples of coordination
and communication that takes place between the Graduate College and the departments that directly influences the recruitment of graduate students at this institution. There are many activities which connect the Graduate College to departments, but these four examples most directly affect recruitment specifically. The first example is the responsibility the Graduate College has for generally setting up the admissions process and rules about entering graduate school. Second, the Graduate College awards graduate student fellowships to departments on a competitive basis. Thirdly, the Graduate College influences departmental activities related to support systems for students such as conducting an orientation for graduate advisors and writing a position paper on mentoring. The fourth example relates to specific efforts of the Graduate College to facilitate enrollment of minority students in graduate school.

Admissions Process and Rules

The Graduate College is involved with a variety of activities to maintain and increase visibility by advertising available graduate programs at this institution. Most activities implemented by the Graduate College are fairly general, serving all departments in some way. Thompson (1967) explains through contingency theory how
organizations use competitive and cooperative strategies to relate to task environments. DiMaggio and Powell (1983) describe how "organizations compete not just for resources and customers, but for political power and institutional legitimacy, for social as well as economic fitness (p. 150)." Competitive strategies utilized by the Graduate College to recruit graduate students indirectly influence department by increasing the visibility of the University and its graduate programs. Participation in Career Days at a variety of community colleges and high schools is an example of how the Graduate College works to increase the institution’s visibility. This is a cooperative strategy that sometimes becomes competitive. Career Day is an event where universities and industries come from all over the United States to attract students. According to one Graduate College administrator, "Career Day has not always worked to our advantage." Other universities that come here "seem to have more money and display more elaborate advertising, and better brochures. We can’t compete with that and this has worked against us."

Another activity bringing visibility to this campus is the involvement of Graduate College administrators in planning for a state-wide forum to recruit graduate minority students. This forum is considered a form of outreach by program directors in the Graduate College. Besides merely
enhancing institutional visibility, the forum "will provide an opportunity for outstanding ethnic minority and women in science students to have a closer look at graduate education (Advertisement Brochure for the Arizona Graduate Minority Education Forum, 1992)." This forum will take place in the spring, bring representatives from over 50 graduate degree programs from across the nation to "give invaluable information about how to prepare for graduate school, the admission process and the great career opportunities of various graduate degrees (Advertisement Brochure for the Arizona Graduate Minority Education Forum, 1992)."

Advertising in selected magazines and attending conferences is also done by the Graduate College. An administrator at the Graduate College described how attending a conference helps the institution: "We'll put up a booth, and give out information. There were about three or four thousand students, including about 200 graduate students. But the idea is to get visibility."

How these general activities implemented by the Graduate College translate to departmental benefits is variable and is differentially interpreted by faculty and administrators. Administrators at the Graduate College consider the relationship with departments as supportive and helpful. One administrator said, "I am not really charged with recruitment. But the things that I do will benefit all
departments." One of the primary ways that the Graduate College administrators see that they help departments is through communication. For example, the Graduate College informs departmental graduate advisors of various policies related to degree requirements. There is also communication about specific programs and services of the Graduate College. For instance, the Graduate College purchases tapes listing prospective students who registered for the Graduate Records Exam. A Graduate College administrator explained, "we already have the tapes, so what we have to do is to let the departments know about it. If the departments want the names then we will provide it to them."

While the Graduate College administrators explained the supportive nature of their relationship with departments, they also expressed frustration and disappointment in the way some departments function. One administrator said,

I don’t think that some departments really looked at a plan. Some departments are very pompous...they say we have a nationally recognized program, we don’t have to recruit. Other departments say ‘we would like to recruit but we are a small department and we don’t have the funds.’ But I think the key to it is that anyone must have a plan for it, and a lot of departments don’t have a plan.

Another Graduate College administrator explained that she thought departments were not doing enough to support students through graduate school. She suggested that more
could be done if the departments would work with the Graduate College. She said,

We should involve ourselves with departments to get more National Science Foundation grants. We certainly should have the sophistication to find other sources. Our role should be to work directly with departments, helping write grants to tap funds available.

While the Graduate College respects the need for departments to function autonomously with support from the Graduate College, some administrators perceive the need to be more involved.

Among departmental administrators and faculty, there was a wide disparity in perceptions about the relationship of the Graduate College to the departments. Some considered departmental connections with the Graduate College to be close and collaborative, and others perceived only distant and weak association. I asked the advisors and faculty in departments about their thoughts on the role of the Graduate College. I was told by one graduate advisor that "almost everything we do is in cooperation with the Graduate College. The Graduate College has been very supportive of our arrangements over here." A college administrator complimented the Graduate College on facilitating the admissions process. He said, "The Graduate College has been very good to cut down the process, trim it down, to make it as easy as possible, and it has gotten better." One of the
graduate faculty expressed his opinion by saying,

"To the extent that it doesn’t do much, I am very happy. They actively allow diversity (among departments) and allow department to do what they need to do. They are effective, because they are allowing departments to do their thing."

Others however, thought that the graduate college is too distant from departments to be of much assistance. A college Dean suggested that the connections could be stronger, even though "we are very good friends with the Graduate College. The ideal would be that the Graduate College would provide the leadership and the departments would follow the lead to clarify these rules." Another administrator explained his view this way,

We pretty much do our own thing. I don’t think they have the staff. They are aware we are here. If they get inquiries they send them over here. There is very little that they can do because it is so specialized. Departments have different problems in relation to recruitment.

A program director told me he is concerned that connections between the Graduate College and his department are "too loose." He hears from students who inquired at the Graduate College about graduate programs in his department that they had trouble getting connected to the right person for information. He said, "I find that the Graduate College is too dispersed and overworked, spread too thin to be able
to understand the nuances of a particular college or department." A graduate advisor in a different department said about the Graduate College,

"Their role is to make it just as confusing and difficult as possible. To lose records. To not have the information you need. And to their defense, they are short handed. I think the problem there is that they don't have the facilities to do what they want to do and somehow they won't or can't relinquish. There are real problems..

Rules are set up by the graduate college in regards to admission standards and program requirements. These standards are a form of regulation and serve as an example of what DiMaggio and Powell (1983) refer to as coercive isomorphism. "Coercive isomorphism results from both formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society within which organizations function (DiMaggio and Powell, p.159). The Graduate College is part of the organization but often translates national patterns in standards as well as external and internal regulations. Most departmental faculty I interviewed did not consider the academic requirements set by the Graduate College constraining. One faculty member said that in the past, there has been "the notion that the graduate college
is an unreasonable gatekeeper." However, he said that he didn’t see it that way.

Clearly there are things that are inconvenient. But it is not arbitrary. They have done things to streamline and rationalize the process. It is not an irrational set of rules. This is a joint enterprise.

In most cases, the departments set higher standards than the minimal 3.0 admitting grade point average. The "minimal standard setting" role of the Graduate College was acceptable to faculty I spoke with and many commented that they would likely not wish to consider many students who had not met that minimum grade average. The Graduate College does allow exceptions for up to 15% of the students that apply who fail to meet entrance requirements. A Graduate College administrator explained that the policy is "not a token thing," but is for "non-traditional students with unique potential." Exercising this exception is another example of control which the Graduate College maintains.

One of the graduate faculty explained how the requirements regarding the number of course credit units needed to obtain advanced degrees are dictated by the Graduate College. In his opinion, with the emphasis on research in the advanced degree programs, students should be allowed to concentrate more on developing research skills rather than sitting in the classroom. He said,
"The Graduate College I think is about 15 years behind the times in terms of their course work requirements for graduate students. That is something that we have heard from students who have gone elsewhere. They have to take too many courses here."

He sees this type of control as a constraint on the recruitment process making his department less competitive with departments in comparable institutions. "That (course work requirement) has been limiting and has been a big detriment for our recruiting efforts in this department the whole time that I have been here." He argues that departmental faculty are best qualified to determine what students need.

Graduate College Fellowships

Last year the Graduate College awarded 90 graduate student fellowships (48 unrestricted and 48 minority) to departments through a competitive process. Sponsored by the office of the Vice President for Research, these one-year non-renewable $10,000 fellowships are highly sought after by approximately 100 departments and interdisciplinary programs. Once departments submit their proposals, they are reviewed by three reviewers from the Graduate Council. According to a memo to Deans, Directors, and Departments Heads from the Vice Dean and Associate Deans for the
Graduate College, objectives considered in evaluating the proposals include the departmental plan to: 1) reduce attrition rates for graduate students; 2) reduce the time-to-degree; 3) mitigate the current and expected shortages nationwide of people with advanced degrees; 4) improve our access to an increasingly diverse graduate student pool; and 5) assure accountability in the resource allocation. The application for the Graduate College Fellowship requires departments to explain their need for the fellowship in relationship to the departmental plans and priorities, planning in place for retention and mentoring, as well as approaches to recruitment of graduate students.

Graduate advisors in the departments described these fellowships as important for recruiting. Putting together "funding packages as offers" for recruiting students into programs was termed "very big business, and very competitive business". A graduate advisor explained, "Being able to offer a fellowship enhances the chances of getting that student to come."

The Graduate College, by virtue of the control over fellowship funds in this competitive process, maintains a strong influence over departmental recruiting strategies involving financial incentives. The application process itself requires departments to conform to expectations of the Graduate College involving mentoring activities, as
well as retention and recruitment activities. This is an example of coercive isomorphism, "pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society within which organizations function (DiMaggio and Powell, p.150).

Graduate Advisor Orientation and Mentoring

The Graduate College sponsors a half-day orientation for Graduate Advisors. Departments send their graduate advisors to the orientation to learn about their responsibilities and about the Graduate College regulations. According to a Graduate College administrator, the orientation stresses communications between the graduate advisor and the students. "One session is always on minority students, nurturing minorities, funds available for minorities, and how to treat the minorities in terms of admissions." The Graduate College uses these sessions to explain to the graduate advisors how they need to relate to the Graduate College and conform to their policies.

Administrators in the Graduate College and in some departments offered another example of how the Graduate College influences departmental activities. A position paper entitled, "Mentoring: The Faculty-Graduate Student Relationship," was prepared and distributed by the Graduate Council to all departments. Mentoring is generally
considered a mechanism for improving the retention of students. However, faculty and administrators told me that the reputation the department has for "taking care of students" can be very important to recruitment. One faculty member said, "if students know about it (the mentoring plan), it could act as a recruitment mechanism."

Activities considered important components of mentoring are listed in the position paper along with the suggestion that mentoring be considered in faculty merit evaluations and tenure/promotion decisions. Departmental incentives to comply are outlined:

The depth and breadth of the mentoring program in any given department or program certainly will have an impact on its ability to compete for resources within the Graduate College and the University.

This statement is another example of a coercive mechanism of isomorphic change as explained by DiMaggio and Powell (1983). Some departments have taken this challenge very seriously and developed individualized plans for mentoring. One department has been recognized by the Graduate College as having an "award-winning" mentoring plan. In this plan, details about how the mentoring plan is to be implemented within the department is described. According to the definitions in the plan, academic advising is one of the faculty roles in which a mentoring relationship can develop.
The MS students are informed that they must choose an academic advisor within their first semester of residence. All Ph.D. students are assigned an academic advisor when admitted to the program.

The graduate advisor for this department clarified the process for Ph.D. students explaining that Ph.D. students must have a faculty recommendation to be admitted to the program. In other words, the Ph.D. students must have a faculty member who agrees to mentor them doing their research, as a condition of admission. This serves as another reason that mentoring should be considered a part of the recruitment process.

Efforts for Minority Students

The fourth example of connectedness between the Graduate College and the departments involves specific efforts to support minority students in pursuing advanced degrees. Graduate College administrators described a commitment to improving recruitment of minority graduate students across campus. Most activities specifically targeting minority graduate students are handled by the Graduate College Office of Minority Student Affairs. Administrators in the Graduate College described a collaborative relationship with departments for efforts dealing with minority graduate students. These efforts have been influenced significantly by outside contingencies which
regulate goals and resource allocation. The state legislature and the Board of Regents represent "both constraints and opportunities that influence the internal structure and processes" (Lawrence and Lorsch, p. 186) of departments. For example, the state legislature allocated money to each state university through House Bill 2108 which was targeted toward efforts to increase the minority presence in higher education in this state. With a portion of these funds, the three cultural centers, the American Indian Graduate Center, and the Minority Affairs office in the Graduate College were established at this institution. These funds, along with the objectives set forth by the Board of Regents and University Presidents to increase the minority enrollment 10 percent per year, have driven efforts to recruit and retain minority students at the institutional level. "Our Common Commitment," a report written by the Board of Regents Ad Hoc Committee on University Access and Retention, outlined 41 measurable objectives in the areas of early outreach, undergraduate student recruitment, retention, and graduate student recruitment (Board of Regents, 1989). Pressures exerted on institutions by these directives are examples of coercive isomorphism. DiMaggio and Powell (1983) explain how the "existence of a common legal environment affects many aspects of an organization's behavior and structure (p. 150)." Two features of
politically constructed environments are that the decisionmakers often do not directly experience the consequences of their actions and that the decisions are applied across the board to entire classes of organizations, making decisions less adaptive and less flexible (DiMaggio and Powell, 1983). I looked very carefully for ways that departments had realized some effect of these decisions. I also studied how these decisions had differentially effected departments.

One funding decision made possible by these legislative decisions was the creation of the Office of the Associate Dean for Minority Affairs in the Graduate College. A number of influences and strategies designed to recruit minority graduate students have been implemented through this office. Many of these strategies are in cooperation with the departments and are specifically designed to recruit targeted groups of students. According to contingency theory (Lawrence and Lorsch, 1967), customers are a part of the environment to which organizations must adapt. Because this institution wants to recruit minority students, as indicated in earlier paragraphs, strategies designed to enhance these efforts have been developed primarily by the Graduate College with the cooperation of departments. The following are examples of how the work of the Graduate
College to increase graduate opportunities for minority students has influenced the departments.

Project ACCESS is a program developed from a grant written by an administrator in the Graduate College. Project ACCESS places undergraduate minority students who might be interested in graduate education in five departments on campus for eight weeks in the summer. Five students are selected for each of five departments to work on a research project with a faculty member. The five departments involved in Project ACCESS are Anthropology, Mathematics, Optical Sciences, Physiological Sciences and Nursing. Students compete for these positions through a detailed application procedure. The description of the program in the brochure clearly states that "students will gain exposure to research and skill building workshops designed to assist in preparation for graduate study." One Associate Dean explained that the goal is to recruit these students into graduate education and research. In addition to finding a faculty member to work with in research, departments are responsible for assigning a graduate student mentor to the students to facilitate their socialization and teach them about graduate school.

Another cooperative mechanism managed through the Graduate College that facilitates the application process for minority students is Project 1000, a nation-wide system set
up with the objective to get 1000 Hispanic students into graduate school. This is a system that enables a student to use one application form and apply to ten universities free of charge. Presently the project is centralized at Arizona State University in the Hispanic Research Center. Students send their documentation to Arizona State and it is packaged and sent to the ten universities selected by the students. Last year the University of Arizona received 200 applications from students in this project. There are plans to expand this project to Native American students this year and to African American students next year. The Graduate College sees this as an important way to "eliminate obstacles" toward admission for minority students.

Departmental faculty on the other hand, explained that only a small number of students who use this mechanism have so far actually been admitted. Their experience has been that some of the students getting application information through Project 1000, do not qualify for admission in their departments.

Another cooperative mechanism to increase the minority student enrollment in graduate school is subscription to name exchanges. Administrators in the Graduate College described the use of name exchanges to locate prospective minority graduate as an important strategy involving other universities and departments. The university subscribes to
name exchanges such as the Western Name Exchange, the Fordam Name Exchange, the Notre Dame Exchange, and the Graduate Records Exam Listing. A Graduate College administrator explained how data about junior and senior minority students from subscribing universities is compiled by each name exchange in a central location. Lists of students who are interested in particular programs at the University of Arizona are returned to the Associate Dean. He then sends those names to the department, requesting that the department make contact with that student and notify him of contacts made. Between 30 and 50 names have been returned to the university each year.

Once the departments receive names of interested students, it is their responsibility to contact students and supply departmental information. In addition, when students inquire about graduate programs through the Graduate College Office of Minority Affairs, a minority graduate student packet of information is sent out and the student's name is sent over to the department so that specific departmental program information can be sent. According to an administrator in the Graduate College, "I am not specifically charged with recruitment. But the things that I do will benefit all departments." The name exchanges represent an innovation which demonstrates that institutions are at least trying to improve conditions to encourage
increasing numbers of ethnic minority students to go on to graduate school. An administrator at the Graduate College refers to this as a way to "remove obstacles" to gaining entrance into graduate school. In this example, the Graduate College is the connection between the students and the departments, and this connection is meant to facilitate the process of applying to graduate school.

When I asked faculty and graduate advisors about the name exchanges in their departments, they explained that they participate by sending information to the names received from the Graduate College. In all four departments, faculty said that few students contacted through the name exchanges actually apply. One departmental dean said, "So far we haven't had anybody as a result of that (referring to the minority locator service subscribed to by the Graduate College). We do it because it is important to show that at least we are making the effort." As one graduate faculty explained, "Our success with those (students who inquire through minority student name exchanges) is slim to none. It hasn't been effective. It is not unusual for the student not to be academically qualified." Graduate advisors that I interviewed speculated that many of the students who expressed interest do not have the required GPA or cannot complete the course requirements according to recommended program of study. One graduate
advisor explained, "Our program is very rigorous and requires highly qualified students. This may be too much for some students who have been in undergraduate programs having less stringent requirements." Another graduate advisor thought maybe these students couldn't find adequate funding. They explained that there is no way for departments to know what happened, because "we never hear from these students."

In another department, a graduate faculty member shared this reflection on the influence of using name exchanges:

Without criticizing the program, and not everyone agrees with me, but, what I look for in a graduate student is what I believe determines success in graduate school: you have to be obsessive, compulsive, workaholic, that is what you have to be. You have to dedicated, diligent, and you have to really know what you want to do and how you want to do it. You have to be driven. Given that these are true predictors, of what use is it to make things easier through the application process, if they are lazy. If they can't even take the trouble to fill out the application, who needs them? If you want quality graduate students, you don't want lazy people.

While the name exchange effort demonstrates commitment of the Graduate College to achieve goals related to minority graduate enrollment, its impact at the departmental level is minimal at best. Tracking efforts are lacking so there is little precision in estimating actual influence of the name
exchange mailings. Participation of departments serves as a symbolic gesture supporting institutional goals to increase graduate school opportunities for minority students. One college dean expressed the situation this way,

"Goals to increase minority students (in departments) are to mirror those for the campus. I am hard pressed to say that it does. I think the emphasis for graduate minority students is at the administrative and graduate college levels. I am not sure that by the time you get to the department and faculty levels that that still exists...excepting very specific individuals."

Another mechanism through which the Graduate College indirectly influences departments is activities designed to address specific needs and concerns of incoming minority students. Individualizing approaches for distinct groups of ethnic minority students is an objective shared by several units on campus. An administrator in the Graduate College made a point of explaining to me that each ethnic group should be recruited in a different manner. Speaking of minority students as "customers" in a general way blurs their very unique characteristics. He said that many of the Hispanic graduate students are non-traditional. These students live here and many went to the University of Arizona five or ten years ago. Now they have families and jobs, but want to come back to school. Single parents
trying to return to school face hardships of child-care and scheduling classes around working hours. More classes may have to be made available evening and weekend hours. In the case of Native American students, especially if they work on the reservation, it is very difficult to get them to come here, even though they may want to. Traditionally, they want to bring the entire family. The African American students frequently express concerns about the limited number of students and faculty from their ethnic group.

One of the strategies the Graduate College has implemented to address the individual concerns of the three different ethnic minority students is to develop three different recruitment videos: for African Americans, Native Americans, and Hispanics. Individuals from the respective ethnic groups are the speakers in the videos, discussing various pertinent aspects of graduate education. For example, in the tape for recruiting Native American graduate students, a Native American graduate student speaks about the programs available at the University of Arizona for Native American students, including the Native American Graduate Center. In the tape for Hispanics, several Hispanic faculty speak about their programs and support for graduate study. All three tapes depict the campus environment as a comfortable and supportive place for people of various cultural backgrounds. In each tape, viewers get
the idea that there is a particular focus on and concern for their ethnic group on campus.

It was difficult to determine just how extensively these video tapes are used. A Graduate College administrator told me that the Graduate College sends the video tapes out to students who inquire at the Graduate College about support systems for particular ethnic groups at this institution. In addition, the tapes are sent to be used in Career Development programs at institutions where there is a concentration of minority undergraduate students. Departments on campus do have copies of the tapes. However, I did not find any advisors who make use of them or any students who had seen them. Three of the four graduate advisors I interviewed did not know about the video tapes. Campus administrators outside the Graduate College that I spoke with questioned the message being sent by these tapes. They expressed concern that "the institution is claiming a lot of things that may not be reality." One of the minority faculty members who appeared in one of the tapes explained

I did participate in the Graduate Video. I had no problem participating, if it helps, I am willing to do it. I'll do it again. But, the whole notion that somebody is going to be swayed by that is kind of, I don't know, I am incredulous, that anybody who is worth anything is going to be swayed by something like that. Some people feel that in order to think that you can do it, you have to have someone of your
race doing it. Well if you really believe in equality, than that's irrelevant, isn't it.

This faculty member went on to explain that at the graduate level the most important quality he looked for in a mentor was experience and expertise in his field of study, not ethnicity. He suggested that strong academic advising and professional role modeling takes precedence over ethnic identity at the graduate level. He said that in order for students to be successful at the graduate level, independence and confidence along with dedication and direction are essential qualities that should override insecurities or feelings of isolation that may have been felt during the undergraduate experience.

**Connections with units on campus other than the Graduate College**

Besides the Graduate College, several offices on campus have an impact on departmental recruiting, graduate students, and their decisions to attend graduate school. The Office of Sponsored Research has indirect but important influence on departmental activities related to graduate students. The link of Sponsored Research to departments is primarily through faculty doing research, but funded grants translate to research assistantship positions for graduate
students. Research assistantships are very important to the financial support and thesis/dissertation projects of many graduate students. The Foundation has just this past year begun to seek out ways in which private funds can more directly fund graduate students. Only 22 of over 2000 scholarship accounts are currently funding graduate students. The connections between Sponsored Research and the Foundation are primarily through departmental faculty. Though activities in these two offices are not directly involved with graduate student recruitment, they are potentially very important to acquiring resources to fund graduate students and to support their research.

The three cultural centers established on campus are separate units that up until this time have a varied and distant influence on departments and their recruitment activities. Serving as another example of how the institution adapts to targeted customers, the three cultural centers have been established on campus in the last three years primarily to serve undergraduate minority students. The Cultural Centers for Native American, Hispanic, and African American students each have unique characteristics while sharing a common mission. Each was established from funds allocated to the University by the Legislature primarily for the purpose of increasing the retention of minority undergraduate students. Each has a separate
location and is administered by an Assistant Dean. The centers provide a place on campus where students can interact socially and obtain counseling and academic support services. In addition to these informal activities, formal events such as awards ceremonies are scheduled to recognize individual minority students for achievements. Assistant Deans agreed that these are important events to enhance visibility of ethnic minority students on campus.

All three Assistant Deans expressed strong commitment to assisting undergraduate students to succeed through social and academic support systems. Establishing a place for students to congregate and establish relationships with individuals from similar cultural backgrounds is one of their primary responsibilities. Tutoring services and advising are also considered very important. As one Dean explains,

These newly created centers for diversity were for the undergraduate population primarily. Our job in this office is to advocate the interests and articulate the needs of minority undergraduate students on this campus.

This Dean said that graduate students are simply referred to the Office for Minority Student Affairs in the Graduate College.

While the focus of responsibilities in the Cultural Centers is clearly to help undergraduate students, two of the Assistant Deans discussed concerns about recruiting
their students into graduate programs. They recognize that the numbers of minority students going on to graduate school are very limited. Just getting students to finish high school has been on the top of most priority lists in recent years. However, discussion has begun on the topic graduate recruitment. The Assistant Deans offered interesting reflections and promising suggestions. For example, one of the Assistant Deans said,

We deal with our graduate students the same way we do our undergraduate students. We counsel them, refer, we do advocacy for them, I do a lot of orientation for them, so that they will know what graduate education is like.

The Assistant Deans of the cultural centers voiced concern that undergraduate students fail to understand clearly what graduate school is all about. They agree that there is really no strong effort to recruit our students to the University of Arizona graduate programs. One of the assistant deans said,

I don’t see it happening. There is no exposure to the overall picture. What a BA is, the masters, and the PhD. They don’t really have a concept of it, what it could mean and why. It is just not there.

The deans said that students need to gain a realistic picture of what graduate school is like. One Dean explained,
When they come see me, most people are intimidated by graduate school. They have heard that it is too hard, it is difficult to get in. They need to know that it is not impossible. Somewhere, someone has to make graduate school more attractive.

In addition, they suggest that information about graduate school should be getting to the students earlier. Talking to high school students was one suggestion, but all three Deans agreed that exposure of our own undergraduate students to graduate school is very important.

There is really no strong effort to recruit our own students. If our students would be exposed during their freshman and sophomore years, it may be better. But, it is just not happening. Our focus is on minority student retention and exposure to graduate opportunities can only strengthen our efforts.

When I asked graduate advisors about efforts to recruit their own undergraduate students into their graduate programs, responses reflected two distinct opinions. First of all, faculty in Pure/Life and Pure/Non-life voiced concern about the potential for "intellectual inbreeding" that occurs when students take all of their degrees from the same department. They said that they encourage their students to seek graduate school elsewhere, and do try to help them by calling colleagues at other institutions when they can. Secondly, in the Applied/Life and Applied/Non-
Life departments, faculty described attempts to encourage their top students to seek graduate study and had mixed views on the benefits of going to another institution to complete graduate work. Some thought it was advantageous for students to go elsewhere for graduate work, and others cited advantages of staying in the same place, such as established working relationships with faculty. None of the four departments had more than two or three students from this institution in last years' incoming graduate class.

Another separate office having indirect influence is The American Indian Graduate Center. This is a program of the Minority Affairs Office of the Graduate College. The role of the Center according to the director, is advocacy for Native American graduate students. He said,

*The Center provides a setting, a location and nurturing relationships so that Native American students from the University can have an immediate sense of belonging as a Native American with other Native Americans. I think that that’s most critical for Native Americans coming from reservations, especially those that are from reservations in very isolated locations.*

If Native American students know that such a place exists on such a large campus, this could be considered a recruitment effort, according to the Director. He explained the symbolic importance of having such a Center by saying

*Just the fact that this Center exists, it provides an opportunity for that community and the support that it gives.*
I think, more importantly, it gives the message to the Native American that they're wanted just by the fact this is here.

Efforts to build programs in this area are relatively new and still in developing stages. However, the potential for collaboration of the Native American Cultural Center with the American Indian Graduate Center to build in graduate recruitment efforts has been discussed. One of the deans commented,

We see a need to merge our programs so that our students have more exposure to graduate students. Graduate students serve as positive role models and also will help with tutoring writing papers.

An administrator admitted that "there needs to be something more formal established." One idea that he had in this regard was for him to simply be present at the Cultural Center working with the Assistant Dean on a more regular basis. He suggested that there be an announcement made that discussion about graduate education was to take place on a somewhat regular basis and that there would be time for questions and answers. These activities potentially can influence a variety of departments.

There is little official connection of the cultural centers with the Graduate College or with departments. For the most part, each cultural center seems to operate separately. Each is responsible for working with students
and providing an environment of support. An administrator in the Graduate College expressed an opinion that there should be strong links between the Graduate College and the cultural centers. He said, "It is not a partnership. They are there and we are here. How much more it could be if people would work together."

The lack of connections between the cultural centers and departments is also a topic of concern among the administrators of the cultural centers. These individuals discussed the importance of informing undergraduate students about graduate school. They talked about the importance of students establishing mentoring relationships with role models in the centers and in the departments. All administrators recognize that close association with faculty was a most influential strategy allowing students to develop interests in advanced degrees while gaining an accurate perspective about graduate school expectations and experiences. The importance of faculty mentoring, according to these Deans, cannot be underestimated. At least one of the Assistant Deans sees this as a part of his job description, and he takes it very seriously. Besides becoming a mentor to many students himself, he personally seeks out mentors for students in various departments. Unfortunately, as he explains, "Professors who are too tied to students, tend to be penalized." He says, professors who
are inclined to give a lot to students, can't give to the
departments in the same way. He gave as an example,
departmental meetings may be missed in favor of meeting with
students. Research productivity takes precedence, he says,
"There are no incentives for faculty to work with students."

One of the Assistant Deans commented that because of
the decentralized nature of graduate education and the
crucial role solid relationships with faculty play, more
support services at the departmental level could be very
helpful. In addition, he suggests an expanded service base
on campus for graduate students to augment departmental
efforts. He said,

Expand the cultural centers to include
support for graduate students. I would
like to hire a graduate advisor for the
center. Expanded services, especially
the first year of graduate study are
really needed.

Connections Departments have with other Departments

In addition to their connections with various units on
campus, departments also relate to other departments.
Departments in like fields of study at comparable
institutions are sometimes competitors for the top graduate
student applicants, and sometimes suppliers of graduate
students. In this way, departments outside the institution
are examples of outside contingencies that can represent, as
Lawrence and Lorsch explain in their work, "both constraining forces and opportunities that influence the internal structure and processes (1967, p. 186)," of an organization.

Based on institutional theory and the importance of connectedness and structural equivalence to the conceptualization of an organizational field, I expected to find departmental ties to other departments in the same discipline. DiMaggio and Powell's (1983) description of the process of defining the structure of an organizational field includes "an increase in extent of interaction among organizations in the field," and "the development of a mutual awareness among participants (p.148)."

I asked graduate advisors, administrators, and faculty within the departments if they were influenced by what other departments in their field were doing. Of the three departments who knew what departments at other institutions were doing, the Pure/Life and Pure/Non-life departments felt constrained by having to do what competing departments do. The Applied/Non-life used connections with other departments as an opportunity to gain graduate students. Faculty and administrators described informal faculty relationships as an important source of "knowing what to do, and knowing how we're doing" in relation to recruitment. Faculty in the fourth department, Applied-Life, said that they had few
connections with other departments relative to recruitment of graduate students, and really did not know what their competitors were doing. They considered their relationship with other departments as neither constraining or opportunistic.

I expected to find strong normative relationships between departments in particular disciplines. According to DiMaggio and Powell (1983), normative relationships are based on professionalization which involve either contributing to the cognitive base of a discipline and/or strengthening professional networks. Examples of normative isomorphism were found in the Applied/Non-life and Applied-Life departments. In both of these disciplines national associations have formed to support the education and professional progress of particular minority groups. Individuals from these associations establish connections with faculty and administrators in departments. One of the purposes of establishing these connections is to exchange ideas about ways to increase graduate student enrollment. Faculty in different departments establish professional networks through these associations.

Mimetic isomorphic change, as explained by DiMaggio and Powell (1983), is exemplified in departments which model recruitment strategies on what other departments are doing. The examples described to me did not necessarily involve
professional networks. Rather, departments simply copied ideas from what they learned about other departments, and not necessarily departments in their particular discipline. Faculty in the Pure/Non-life department told me they do everything they can to compete with other departments in their discipline. Faculty know that they must keep up with what other departments do to "step up to the plate," as one graduate advisor explained. He explained that they keep track of what other departments do, sometimes through the students who visit several departments. The graduate advisor said, for example, "If you don't invite them for a visit, you are not even in the game. If they don't visit, they are not going to come here." Other departments in this field of study "wine and dine" prospective graduate students, and pay for travel and lodging, and "we must do the same."

Another example of mimetic isomorphism was found in the Pure/Life Department. This department is revising its brochure which is sent out to students and other departments because, according to the head of the department, "it isn't as slick as the other departments." This department does not consider the other department as rivals necessarily, rather, as a faculty member told me,

it is not so much that we are particularly enamored with that as that it seems everyone else is doing that,
and one becomes conspicuous in absence by not...so in a sense we feel we are being pressed into doing that. We know everybody else is doing it because we get their mailings. We oblige and post them. So our information is on the bulletin board at some other institution. There is a reasonable understanding between departments at other universities, we are obliged to help each other out, but it is also a service to our own undergraduates.

This underscores that departments are compelled to design recruitment strategies based on what competitors are doing.

An example of a cooperative mechanism that connects departments in a discipline was found in the Pure/Life department in the form of a national organization for department heads in this discipline. The connections established through this organization are utilized as opportunities to facilitate graduate student recruitment. As explained by the head of the department, this "is an organization that is specifically dedicated to national level planning of graduate level education (in this discipline) and it deals with recruitment issues, and provides a number of vehicles to identify students."

Another example of cooperative and opportunistic connection between departments is in the Applied/Non-life department. Linking departments in this field of study is an elaborate national consortium of employers and member institutions which, according to their fellowship brochure,
was organized "to provide opportunities for underrepresented ethnic minority students to obtain a master's degree through a program of paid summer internship and financial assistance." Through this consortium, employers contribute money and, in some cases, become the suppliers of potential graduate students. The consortium in this way strengthens the relationship between the department and this element (the supplier of graduate students) in their environment. This relationship further establishes what Thompson (1967) refers to as the "domain" which organizations must establish for themselves in terms of the range of products offered; the population served, and the services rendered.

In contrast, faculty in the Applied/Life department described a situation in which they did not really know specifically what other departments in the discipline were doing in relation to graduate student recruitment. While professional associations are actively pursuing normative goals related to developing the discipline through support of research and accreditation standards, according to a department administrator, "there is no national agenda" to work together to facilitate graduate student recruitment. Departments in this discipline do not have a professional network that specifically addresses recruitment of graduate students. Recruitment is not a part of formal meetings or
conventions, according to the graduate advisor. She went on to explain,

Networks between colleagues is not as well developed as another discipline. Probably at the doctoral level there is a little. If there is a student that somebody else identifies who is interested in one of our programs, I may get a call from their faculty advisor to see if I would be interested in working with a student. This happens occasionally, but not regularly.

This graduate advisor said that the way they go about graduate student recruitment, which has been basically letting the students come to them, may have to change in the future. Enrollment has tended to decrease slightly in the last year or two and "there may be a need to establish more active strategies, including some which may come through ideas from other programs." In this discipline, the faculty and administrators gave me examples of potential vehicles to establish closer connections with other departments, particularly through established national organizations, but indicated that these avenues are not actively used.

How Do Departments Recruit Graduate Students?

An exhaustive investigation of the graduate student recruitment process was conducted in four departments. While common elements of the recruitment process were found, there were wide differences in what departments do to
attract and enroll graduate students. As explained by Lawrence and Lorsch (1967), organizations function in different environmental conditions and must adapt to and fit with environmental contingencies. Recognizing that each department functions in a different environment relative to its discipline, I expected to find that the people involved and the actual process would differ from one department to another. In each department, I looked for environmental contingencies in the form of customers, suppliers, competitors, and regulators. I also examined individual departments' approaches to recruitment, realizing that organizations use competitive and cooperative strategies to relate to task environments (Thompson, 1967).

Some of the things that departments had in common were the general approach to the recruitment process, people involved in the recruitment process, and the overall goals of recruitment as expressed by faculty and graduate advisors. Before explaining the specific strategies that departments employ to recruit graduate students, I describe the general characteristics of the recruitment process that were found in the four departments included in this study.

The overall process of recruiting graduate students in each of the four departments is primarily initiated by the student. Typically, the recruitment process begins when a student inquires about the department's graduate program.
The inquiry is almost always made directly to the college or department rather than to the institution or the Graduate College. When students inquire at the Graduate College about graduate school, according to graduate college administrators, students are referred to the department. Departments are also notified of the students' inquiry. Faculty in three departments voiced concern about the time lost when this happens. They favored dealing with the student directly. In addition, an advisor told me that sometimes the communication between the Graduate College and the departments gets lost. He said that some departments do not have a single contact person to make sure that the student does not get lost in the process.

With the exception of undergraduate research mentoring experiences found in two departments, which will be explained in later pages, departmental outreach activities to attract graduate student applicants are virtually absent. Faculty told me "that's (referring to the student-initiated process) the way it should be." When faculty described the ideal graduate student, they listed self-motivation and initiative as important characteristics. They said that the nature of graduate study requires a student to have an extraordinary work ethic and personal commitment to completing program requirements. A faculty member in one department said, "Because of
enormous popularity, no real recruiting goes on. This is a
totally student-initiated process and it is more of a
selection process than anything else." In another
department, an administrator explained,

> We wait for them to come to us, and up
> until now that has not been a problem.
> Now our enrollments are dropping in the
> graduate program. Enrollment is a
different issue than it was five years
> ago. So we may have to go out and do
> some more active recruiting,
> particularly at the masters level.

In all four departments, faculty and administrators,
some staff members and, to varying degrees, graduate
students, were involved in the recruitment process. Each
department offering a graduate degree has a designated
graduate advisor. Faculty members usually serve as graduate
advisors, though examples of administrators and staff
filling the position were found. They described their
responsibilities as including keeping records of graduate
student inquiries, setting up a mechanism to respond to
requests for information from prospective students,
supplying information about students and degree plans to the
graduate college, facilitating the paper-flow for admission
and progress toward degree, and assisting students to meet
the expectations of the department and the Graduate College.
Graduate advisors typically serve on admissions or
recruitment committees. Many of the activities of the
graduate advisor in all departments are a part of the graduate student recruitment process. One graduate advisor described his role as one of primarily academic advising, keeping track of inquiries, and making decisions about which students to offer campus visits and ultimately teaching assistantships. Another graduate advisor described her role as one of being the student's advocate and a source of information before they enroll and after they get here. One graduate advisor sees herself as a recruiter and said, "I'm selling Arizona. Sometimes I am the only one they talk to." Another advisor said she sees herself as "a Mom to these kids when they first get here."

Each department has a committee of faculty responsible for some aspect of recruitment, but the structure of these committees differed by department. The Pure/Non-life department has a single admissions committee. This committee takes responsibility for setting up the process for recruiting prospective students, as well as for making admission decisions. In the Applied/Life department, there are two separate committees, one is an admission committee and the other a recruitment committee. These two committees function separately. The graduate advisor serves in an ex officio capacity on the admissions committee, but is not directly involved with the recruitment committee which is composed of faculty under the direction of a recruitment
coordinator. The Pure/Life and Applied Non-life departments divide recruitment responsibilities among separate programs within the department. In both cases, a general college brochure is distributed and responses to inquiries are handled in a central office. Once applications come in, they are divided according to area of interest or program. Subcommittees of faculty members in each program take responsibility for recruiting and selecting applicants and making offers to potential graduate students.

According to Thompson (1967) in his explanation of environmental contingencies, task environments are "relevant or potentially relevant to goal setting and goal attainment (p. 27)." Given the wide range of task environments among the four departments, I expected to find differences in their recruitment goals, while anticipating some commonalities. Because of the demographic indices showing a decrease in numbers of students from the 18-22 year-old undergraduate pool from which traditionally most doctoral students come (Brazziel, 1991), and because of predicted needs in academia and industry for individuals prepared with higher degrees (Carter and Wilson, in press; Education Commission of the States, 1990; Association of American Universities, 1990), I expected to find efforts designed to increase numbers of students, and goals to expand graduate programs. When I asked departmental administrators, faculty
and graduate advisors about recruitment goals, there was one common response. The goal in all departments is to attract the best students in the discipline. Quality is definitely the priority and faculty expressed concern about time-to-degree issues and attrition. A Dean in the Applied/Non-life department said,

I don't see any agenda to increase the numbers. To increase the quality yes, but not the numbers. The goals is to increase the number who get out. The goal then is to provide more degrees.

In the Pure/Life department, an administrator explained his view about expanding programs. He said, "we probably have the numbers that we can well serve," and that he expects "to be in a holding mode" at least partially because we (higher education) expect "to continue to lose support from the State." He suggested that part of it is because we have not provided enough information to the general public about the things that we do. Consequently, there is a real misperception about what goes on here. We have done miserably in educating the general public about what it is that we do.

He went on to explain that increasing numbers of graduate students "as a goal for its own sake is very questionable." He emphasized the need to balance enrollment in programs according to the job market available to support the graduates. While there is a clear rationale for increasing
the numbers in some programs, other programs should be decreased because of dwindling job opportunities. He also pointed out that the faculty do not want to increase the size of graduate classes, and will continue to be committed to guarantee support for all graduate students for a full four years. All of these factors indicate a reason for maintaining and balancing existing graduate programs.

An administrator from the Applied/Non-life department explained that the departmental goals have been focused on "shoring up the requirements so that students can get through the program. This trims down the number of students that are qualified," he said, yet helps us to "reach our goal of graduating more of our students." According to a long-time faculty in this department, they sensed a diminishing recruiting base in the late 1980's and were concerned with the problem of finding highly qualified students. In his words,

Recruiting good graduate students is very competitive business. We feel like we can't really be successful in our teaching and research unless we can attract really top notch graduate students.

In the Pure/Life department, an administrator echoed this notion when he explained that one of their goals was to prevent students from "going adrift" while they are in the program. He described mechanisms faculty were working on to
keep graduate students from getting lost. He said, "one of the ways is that students somehow lose contact with the faculty advisor. We need a more organized way to red flag that and to contact the student." Though they already have an annual review process to identify these students, he indicated that faculty are committed to finding new ways to identify these students sooner. In addition, he described ways that the department has made an effort to make graduate students "feel at home" and "feel good about where they are." All of these things, he explained, are to facilitate students' progress toward degree and, in a sense, "spread the word that we take very good care of our graduate students," which potentially works as a subtle, but important recruitment mechanism.

Planning and Budgeting

Departments included in this study varied by size of student population, numbers of faculty, and numbers of teaching assistant positions. The Pure/Nonlife department is the largest of the four, teaching over 5500 students in 100 and 200 level classes (Student Affairs Research, 1992), and employing 61 half-time graduate assistants, 40 full-time faculty and 21 part-time faculty and lab assistants (Institutional Research, 1992). The Applied/Life department has over 2200 students in lower division classes, and
employs 11 graduate assistants, 39 full-time faculty, and 7 part-time faculty. In the Applied/Nonlife department, there are nearly 800 students in lower division classes, 25 graduate assistants, 41 full-time faculty and 7 part-time faculty. The smallest of the four is the Applied-Life department teaching 143 students in lower division courses, and employing 40 full-time faculty and 4 part-time faculty, with 3 graduate assistants.

Faculty involved with recruitment in all departments told me that more planning is desperately needed. A faculty member in the Applied/Life department who had been in charge of recruitment activities expressed, "We need a plan and we don't really have that. And then we need to be able to evaluate what we do. We need to be more organized and coordinated." An administrator in this department explained that the recruitment efforts have previously been concentrated on the undergraduate student. She thinks the "non-planned piece, or quasi-plan" (in her department) has to do with graduate students and that this is probably the piece that the recruitment committee and the recruitment coordinator has been least involved with. According to this administrator, "Enrollment is a different issue than it was five years ago. So we may have to go out and do some more active recruiting, particularly at the masters level."

Only one of the four departments had specifically
sought advice about marketing and planning recruitment strategies. This finding coincides with observations cited in the literature (Olson, 1985; Malaney, 1987d).

"Recruitment at the graduate level is sporadic with little or no central coordinating and planning...there is little strategic planning involved in the recruitment process (Olson, p.24)." In the Applied/Non-life department, concern about a diminishing pool of highly qualified prospective graduate students a few years ago prompted the department to send a faculty member to a workshop on recruiting graduate students. This workshop, conducted by Graduate and Professional School Enrollment Manager Consultants (Jackson, 1986), was designed for departments in general, not specifically departments from this one discipline. Several strategies have been employed in this department using suggestions from the workshop.

Budgetary allocations specifically for the purpose of graduate student recruitment were found in two of the four departments. Until last semester in the Applied/Life department, there was no budget designated for recruitment. This year $3000 was allocated for recruitment. The recruitment coordinator told me that this is a crucial element in planning and carrying out effective recruitment activities. She explained that it costs money to make contacts and set up booths at national meetings, entertain
prospective students, print brochures, produce videos, and copy and mail informational materials. A budget, even a very limited one of a few thousand dollars, she considered very important to planning and setting priorities.

The Pure/Non-life department budgets approximately $40,000 yearly for the recruitment of graduate students. Faculty I spoke with justified this amount because of the fierce national competition for graduate students in this discipline. The graduate advisor explained to me that "everybody invites prospective students for visits," and they must continue to do this because they know that "if students do not visit, they will not come." He said that these activities, plus all of the mailings and posters cost a lot of money, and "we gotta do it."

In the Applied/Non-life and Pure/Life departments no specific budget is designated for graduate recruitment. Money needed for mailings and brochures comes out of general departmental funding. Graduate advisors in both departments explained that money comes from "primarily discretionary funds." One of the college deans said, "I am willing to bet that no one budgets. When they find things that they want to do, then they find money to do it. I am not aware of any real budget for recruitment (in this department)."

Apart from money allocated to pay for recruitment activities, an important part of recruitment relates to
resources available for funding students. Securing teaching assistant and research assistant positions, tuition waivers, and fellowships is crucial to recruitment strategies developed by individual departments. Research assistantships and teaching assistantships are key components of the offers awarded to incoming students in all departments. Research grants awarded to faculty from government agencies such as the National Institutes of Health and the National Science Foundation, or from private industry include funds for graduate students to work on the research project. Not only does this allow the student opportunity to gain research experience while getting paid, it often contributes to thesis or dissertation requirements.

Teaching assistant positions involve classroom and/or laboratory teaching responsibility in collaboration with faculty assigned to teach the class. The number of teaching assistants funded in each department is determined by the Provost office based on the teaching load of the department. Those departments that serve several thousand undergraduate students each semester have need for more teaching assistants than the departments who teach fewer students. In the Pure/Nonlife department, all incoming graduate students are required to serve as teaching assistants for at least one year. Frequently, students work as teaching assistants for two years. According to faculty
and administrators in this department, this is common practice in most departments in their discipline across the country. Faculty in the Pure/Non-life and Applied/Non-life departments told me that they have worked hard with central administration in recent years to increase the stipends for their teaching assistantships to remain competitive with departments in their disciplines across the country. According to faculty I spoke with, currently the stipends in these two departments are between $12,000 and $14,000 per year.

Faculty and administrators in the Pure/Life department echoed their attention to the level of funding for their teaching assistants. Their policy has been, however, to equalize the pay for the department’s teaching assistants and research assistants which faculty told me is about $8,000 per year. A faculty member explained to me that they do this "not to have competition. Many of our RAs could pay more, but we don’t want the RA to be competing with the other students. We don’t want to get jealousy between students." Faculty in this department consider their "financial aid" (meaning level of stipend for their teaching and research assistants) as "terrible." The graduate advisor said that it happens too much that "the best students that apply and we accept, don’t come because they get more money somewhere else." A Graduate College
administrator concurred that the level funding for graduate teaching assistants and research assistants is a major concern. Administrators told me that the stipends are not competitive with peer institutions and increases in state funding will be necessary to maintain the quality of our graduate programs.

Specific Departmental Recruitment Activities

As explained by Lawrence and Lorsch (1967), organizations function in different environmental conditions. Customers, suppliers, competitors, and regulators are the task environments (Thompson, 1967) or parts of the environment to which organizations must adapt. Specific recruitment activities implemented by departments are described here, organized by task environments.

CUSTOMERS

Departments described at least nine different types of students as customers, each requiring slightly different approaches and strategies. These include their own undergraduate students, undergraduate students from other departments or other institutions, doctoral students, masters students, full-time and part-time students, international students, minority students, and students who are returning to school after experience on the workforce.
Departments set different priorities for these various student groups and design recruitment strategies accordingly.

**Recruiting their own Undergraduates**

Similar to most higher education institutions across the country in recent years, this institution has demonstrated increasing commitment to undergraduate education. Stemming from several national education reports on undergraduate quality (Boyer, 1987; Education Commission of the States, 1986; Association of American Colleges, 1985; National Institute of Education, 1984), initiatives to revitalize higher learning and hold institutions accountable became common. At this institution a Task Force was formulated and subsequently presented the "Plan for Assessing Undergraduate Education at the University of Arizona (1987)." One of the recommendations of the "Plan" was to create The Center for Research on Undergraduate Education. As further evidence of the focus on undergraduate education, the president of the university declared 1991 as "The Year of the Undergraduate." Despite clear symbols of attention to undergraduates, efforts to recruit undergraduate students into graduate programs appear
to be very limited and many faculty voiced concern that not enough is going on at the departmental level.

When I asked faculty and graduate advisors "what do you do to recruit your own undergraduate students?" most of them said, "Not much," or "Nothing really." According to the graduate advisor, the Applied/Non-life department had four or five of their own undergraduate students enter graduate school this year. She explained that this number is up from previous years when there were only two students from their department. She speculates that the slight upward trend is because of the poor economy which tends to increase graduate applicants. In the other three departments, graduate advisors said that each year they usually have one or two entering students from their undergraduate program.

In all departments, faculty described a sort of "caution against intellectual inbreeding," that prompts them to encourage students to go elsewhere to study at the graduate level. One faculty member said, "In general we don’t think it is a good idea to get all degrees from one university. I advise all my students to go elsewhere." A faculty member in the Pure/Non-life department said that "not many of our own undergraduates come to grad school here. Most advisors tell their students to go elsewhere for grad school. That is the American tradition in (this
discipline)." In addition to the educational advantages for students to study elsewhere, faculty told me about the advantages for departments to have students coming in from a wide variety of undergraduate programs and experiences. A department head explained,

We want to continue to increase the diversity within our graduate program. Not only ethnic and gender diversity, but also diversity in terms of intellectual background. We can advance the field by having people from diverse backgrounds. Much of graduate education doesn't take place in the classroom.

Another faculty member agreed and explained the thinking common in his department this way:

We are not so much trying to recruit our own undergraduate students for our graduate programs, but we see our job as recruiting them to graduate study. We want to provide them with information about what is the nature of graduate study, what does it take to get in, what is the competition like, what are the opportunities if you do go, what are the possibilities of kinds of work.

While most faculty expressed hesitation encourage undergraduates to pursue higher degrees at the same institution, one faculty member offered a differing opinion. He said,

It depends on what they have done as undergraduate students. The experience of being a graduate student is qualitatively different than being an undergraduate, even if you are doing it
Most information undergraduate students receive about graduate study happens very casually in the departments. Faculty were able to describe a variety of activities for undergraduate students in their departments. In the Pure/Life department, they have Career Days for the undergraduates and also a Graduate School Seminar where various faculty talk about the process of getting into graduate school, different areas within the discipline to get into. Beyond these activities, the support for undergraduate students was described as very "informal and dependent upon individual faculty members" being interested and committed to helping students find graduate programs suited to the students' area of interest. In the Pure/Life department, the graduate advisor said, "We try to help our good students to find programs elsewhere. But this is all very informal, nothing structured."

Faculty and administrators in all four departments expressed concern that not enough was being done. One administrator said that he thought undergraduate programs are presented in such a way that they students want "to get out and get it over...they don't perceive why they would want to get out and come back for more of this activity."
He said that he thought more efforts should be made to inform undergraduates, and went on to explain:

I think misconceptions stops them, we ought to think of it, not as a recruitment, but as a strategy at the undergraduate level. The strategy ought to be such that it is a positive view that they have. The vision of graduate school should be a positive thing, not a negative thing.

One way departments have tried to inform undergraduate students about graduate education is through curriculum. In the Applied/Life and Applied/Non-life departments, faculty told me about courses that include content about research, career choices and opportunities resulting from graduate preparation. According to one faculty member, the "informal and unplanned" recruitment mechanisms are probably "more important than some of the more structured formal strategies." The graduate advisor explained, in a required course taken early in the program, the topic of research in the discipline is introduced. In subsequent courses how research is done and useful in the field of study is reinforced. Finally, a senior issues course includes discussion on the importance of graduate education and the opportunities in research and advanced practice. One administrator has observed in the last five years that more of their own undergraduates are seeking masters degrees directly following graduation. She sees this as a recent
trend, one that may reflect a more positive undergraduate experience in an overall sense. She explained that more emphasis has been placed on presenting graduate education as a normal progression from the undergraduate degree. The visibility of funded research projects being conducted at the college and faculty teaching across graduate and undergraduate programs has been helpful to undergraduate students, according to one administrator. The recruitment coordinator in this department however, voiced concern about the lack of attention to undergraduate students. She told me that the faculty doing research are often not available to undergraduate students, and sometimes graduate students, because of the pressures and demands of grants. In addition, faculty told me they see a real separation between the undergraduate and graduate programs, with little sharing between faculty groups and few opportunities for undergraduates to connect with graduate students.

In the Pure/Non-life and Applied-Non-life departments, faculty described the exposure undergraduates have to graduate students working as teaching assistants and, in some cases, undergraduate research opportunities. Faculty thought that these experiences were important because they allow undergraduate students to see what graduate school would be like and what jobs may be available to individuals with graduate preparation.
Of the four departments included in this study, the most structured attempt to recruit undergraduate students was in the Applied/Non-life department where I was told, "We do it continually." This department recruits its own undergraduate students by having the graduate advisor compile a list of all the students with GPAs above 3.5. The list of names is sent to the faculty who have those students in classes along with a request that they personally contact the student directly. According to the graduate advisor and administrators in the department, many faculty do this, especially when it means recruiting a really top student to work on his/her research project. The chair of the recruiting committee in this department explained to me that only about 20 per cent of the undergraduate upperclassmen are actually qualified to continue on into graduate school, but those who are qualified "should get the encouragement to go on".

**Recruitment of Undergraduates from other Institutions**

In all four departments, the most visible recruitment efforts are directed towards undergraduates from other institutions. Advertising is done in several ways. All but the Applied/Life department, send out a poster with attached reply cards to institutions where the departments are considered "good" in their respective discipline. For the
Pure/Non-life department, whose faculty told me that they need to recruit nation-wide in order to attract enough students, this means sending around 3000 posters. The graduate advisor in Pure/Non-life said that they must do this in order to be competitive. From the 3000 posters, they usually get about 450 inquiries. In both the Pure/Life department and the Applied/Non-life department, about 200-300 posters are sent out. According to graduate advisors in those two departments, inquiries average well above the numbers of posters sent out, 600-700 in Pure/Life and over 300 in Applied/Non-life. The advisors told me that they think factors other than the posters, such as national rankings and faculty prestige, are influential in getting students from other institutions to inquire.

Advertisement in national journals and college guides such as Peterson’s Guide (need to get exact title here) is also used to some extent. According to the graduate advisor in the Applied/Non-life department, they have recently begun to advertise in a national professional journal and a student publication in order to expand their recruitment efforts. In the Pure/Life department, a national publication for this discipline is published to assist students to find particular programs which match their research interests. An administrator in the department stressed the importance of "getting a good fit" between the
program and students. In contrast, in the Applied/Life department, an administrator explained that they have not found it very cost-effective to advertise in national journals. She said, "We never got anybody that way." She went on to explain that they have found it more helpful to target their advertisement in this geographic region. Historically, she explained, students from the other side of the country don’t come here. This department tends to send out notice of graduate programs available through professional regional conferences and newsletters.

Faculty in the Pure/Non-life department told me of an additional recruitment activity, a "sort-of subtle advertisement", that they have found helpful in their department. Faculty often accept guest speaking engagements at departments in small schools around the country. Because these smaller schools frequently do not have graduate programs, their students must look elsewhere to go on to graduate school. When faculty from a big research university come to speak, students graduating from these smaller institutions often take this opportunity to ask questions about the facilities and graduate programs. Faculty told me that they see this as an excellent opportunity to interest those students in coming here. One faculty member said, "We really should do more of this (referring to guest lectures at small institutions)."
Unfortunately, travel funds to do this are scarce and we haven't gone out as much as we used to."

I asked faculty if going to national conventions and conferences was a way to market their programs and recruit students from other institutions. They cited two reasons that this was not generally an effective way to recruit graduate students. First, many professional conferences are geared more for faculty and administrators in the disciplines than for students. If students attend, usually they are graduate students who are presenting papers with their faculty, or are attending to meet professionals in the discipline in hopes of opening job opportunities. They told me that rarely do undergraduate students attend their professional meetings. The second reason that conferences do not play a significant part in recruiting is the costs involved in sending faculty and the related expenses of purchasing a booth and distributing materials. One faculty member said, "It is just too expensive. Many times they are asking one or two hundred dollars to set up a booth. And when we didn't have a budget, even the $50 booth was too expensive. We did not have the money to send faculty to man the booth."

The final example of recruitment of students from other institutions is an informal, yet powerful mechanism. Faculty in all departments explained that "word gets
around", and "people hear it from their friends and colleagues." Faculty said that their own graduates often are their best recruiters. Graduates work at other institutions or in industry and serve as examples of the quality of education in their respective programs. In addition, these individuals are able to provide information about research opportunities and about experiences they had during graduate school. More formal is the graduate students participation on recruitment committees in the Pure/Non-life and Applied/Non-life departments. In all four departments, students are involved in the recruitment activities that are held for prospective students.

**Recruitment of Doctoral and Masters Students**

In these four departments, recruitment of masters students is not a high priority. In the Pure/Life and Pure/Non-life departments, masters students are not recruited at all. These departments focus on doctoral students and generally only admit students who are pursuing the PhD. Faculty from both departments said, "We don't recruit anybody to come and get a masters degree." This is not to say that no students get masters degrees in these two departments. Usually, in these two departments, the masters degree is considered a "consolation prize," or a "door prize", for those who "can't complete the requirements for
the doctorate." Students who fail the preliminary exams are told that they will be unable to continue in the program and they exit with the masters degree. Few students come in planning to get just the masters degree in either discipline. This type of program is similar to what Conrad, Hayworth, and Millar (1992) refer to as an "ancillary program," where the master's programs are subordinate to the PhD program in their department. The master's program serves as a "steppingstone" and a "screening device."

In the other two departments, Applied/Life and Applied/Non-life, students pursuing the masters degree are admitted, though little recruitment is done. An administrator in the Applied/Life department pointed out that masters recruiting is very different from doctoral recruiting. She explained that those seeking masters degrees in this discipline are typically looking for clinical specialization and advanced knowledge and skills in a particular area. The masters students are looking "for our particular type of program," she said. In recruiting doctoral students she explained, "we are trying to match with the faculty we have on board, and look at developing clinical research programs."

In the Applied/Non-life department, the graduate advisor explained to me that the masters degree in this department is a terminal degree for many students. "You can
make almost as much money as with a PhD over your career, so unless you want to go into academia or a research lab, a lot of students come just for the masters." Masters students are encouraged to find someone with whom to do research. They are often considered for teaching assistant positions, but research assistantships are usually reserved for more experienced graduate students who are pursuing doctorates. Doctoral students must have a faculty advisor who agrees to work with them on research. In other words, doctoral students have mentors already in place when they are admitted. During the recruitment process, the faculty must interact with the prospective doctoral students in setting up arrangements to do research. Faculty told me that this is very important to students' decisions to enter the program, and they consider is very important to the quality of their research.

The Applied/Non-life and Applied/Life departments are examples of the "career advancement" program type as categorized by Conrad and Hayworth (1992). These programs typically supply students with a body of essential knowledge and skills that, when mastered, will certify them as "experts" in their field. This characterization fits with what the administrators in both departments explained as they discussed they type of students they recruit into their masters programs. An administrator in the Applied/Life
department expressed concern that the enrollment at the masters level had not been consistent and that efforts to recruit more students will be needed in the near future. One of the ways to accomplish this, according to her, is to work with employers who need these "experts" to allow leave-of-absences from work and supply stipends to assist students to come back for the masters degree. According to the graduate advisor, this arrangement with employers happens to some degree in the Applied/Non-life department, but not as frequently as is did five to ten years ago.

Recruitment of Part-time and Full-time Students
In the Pure/Life, Pure/Non-life, and Applied-Non-life virtually all of their graduate students are recruited to be full-time students. Every department has part-time students, though full-time study is preferred. Funding is a high priority in each department to allow students to pursue their degrees on a full time basis. In the Pure/Life department, for example, faculty told me that they do not accept any students that they cannot support financially. They expect students to devote full-time to their study. In the Pure/Non-life and Pure/Life departments, the students accepting teaching assistantships must sign a contract which states they agree not to work jobs outside of their responsibilities in the department.
In the Applied/Life department, where there are few teaching assistant positions, according to one of the administrators, "Right now 75-80% of the masters students are part-time. That is imbalanced. We need more full-time students." She explained that planning course load and faculty assignments are problematic with so many part-time students. It becomes very expensive to have fewer students in the classrooms. In addition, faculty voiced concern that the quality of research may be "in a sense diluted and fragmented" as a result of part-time commitment of too many students. Funding that is available in this department is awarded to full-time students. Unfortunately, in this department where the average age of graduate students is 34, many students must work and support families while going back to school and cannot afford to give up benefits (insurance and retirement, for example) and salaries for the low wages of a research assistant.

**Recruitment of International Students**

In each of the four departments, faculty indicated that their priority was to recruit domestic students (United States citizens) rather than international (foreign) students. A faculty member in the Pure/Non-life department explained, "On top of that (120 domestic applications), we have a large number of foreign applications. We try to take
the best of the foreign applications but we also try to limit the number of foreign students in a given class." He went on to explain that they first see how many domestic applications are coming in, and then make decisions about international students.

Applications from international students has been on the rise in all departments. In the Pure/Non-life department, a faculty member indicated that,

since the collapse of the Communist empire, we have been having a significant number of applicants from Eastern Europe. It turns out that even though they have been accepted, they may not have the resources to get here. We have not up to now provided resources for them to get here.

According to an administrator in the Applied/Life department, their applications from international students has also been growing, especially at the masters level, and more recently at the doctoral level. She said, "we have enough US applicants so far, so we can keep a balance (on international admits). The graduate admissions committee puts limits on what percentage of the class be made up of international students."

None of the departments have specific activities designed to recruit international students. According to faculty and administrators I spoke with, word-of-mouth and exposure apparently works as a mechanism to recruit
international students. They explained that the reputation of the department is communicated through students who have been here. One of the administrators in the Applied/Non-life department put it this way, "The word gets around. We are our own recruiter in a silent kind of way." A faculty member from the Applied/Life department echoed his comment and went on to explain,

We are not recruiting international students...they just come. Our graduates are our best recruiters. We have had enough students in Taiwan and Pakistan, for example, that word gets around. We have a reputation.

The graduate advisor in Applied-Non-life added comments about the way that they handle international student applications. She said,

we do not, we just do not have the funds to recruit international students. International students can write to faculty directly to try to arrange research assistantships. But we tell them right off, before they apply, that there is no financial aid.

In the Pure/Life department, the graduate advisor said that certain programs within their department seems to attract more international students than others. "They (international students) are all recruited by personal contact, knowing people in the field and making contact with faculty at meetings." He went on to say that many of their international applicants seem to go somewhere else because
they can get more money elsewhere. "All of these students (the international students admitted in the last two years) are getting support from their countries, and most do undergraduate work in other countries." An administrator in the Applied/Non-life department said

What troubles me is that often our (domestic) students have access to funds that foreign students don’t and the RA position may be the only position that the foreign student can have. They can’t work in the same type of positions that domestic students can. If they need desperately to work, they apply just like everyone else. But they may be the first one in line. Masters level international students are often funded by their families. At the doctoral level that’s not true.

An administrator from the Applied/Non-life department offered another mechanism that is instrumental in bringing in international students. He said,

I know of a faculty member who is internationally involved in conferences, presenting papers and so on. A number of students and faculty letters always comes back after his trips. So it is word of mouth. I don’t know of any other real planned effort (to recruit international students).

International students in all four departments are increasing their presence without expanded recruitment efforts. Faculty making admission decisions work to balance the diversity of student populations in their departments by
limiting the numbers of international students admitted. However, as one faculty member pointed out, "With stable to declining domestic student populations, growing international students maintains our graduate student enrollment." This trend is congruent with Brazziel's concerns (1991) that nationally from 1973-1989, doctorates awarded to American citizens are down 11 percent.

Recruitment of Minority Students

Because of national attention directed at increasing minority representation in higher education and specifically in graduate education (Council of Graduate Schools, 1992; Educations Commission of the States, 1987; American Council on Education and American Association of State Colleges and Universities, 1988; Association of American Universities, 1990), and the focus of state and local initiatives directed towards minority education (Fischer, 1988; Arizona Board of Regents, 1989; Task Force on Excellence, Efficiency and Competitiveness, 1990), I expected to find a variety of targeted efforts designed to increase enrollment of ethnic minority students in graduate programs and efforts to increase numbers of female students in departments where they are underrepresented. When I asked faculty and administrators about departmental goals regarding graduate student recruitment, only one out of the eighteen
interviewed mentioned diversity in their student population as a goal. The one departmental faculty who indicated that his department had a goal specifically related to increasing minority students explained

  We want to continue to increase the diversity within our graduate program. Not only ethnic and gender diversity, but also diversity in terms of intellectual background. We can advance the field by having people from diverse backgrounds. Much of graduate education doesn't take place in the classroom, it occurs in the field and in the laboratory.

When I asked specifically about efforts to recruit minority students, comments ranged from "We do nothing special really," to "There aren't any out there to recruit," to "We have enough already." An administrator in one department said,

  I think the emphasis for graduate minority students is at the administrative and collegiate levels. I am not sure that by the time you get to the department and faculty levels that that still exists, except in very specific individuals.

In another department, the graduate advisor said that they keep trying to think of ways of getting minority students into graduate school, but "we are not very successful. Of course, we look at our applicants and try to see which are minorities, and try to do something about them. We really
don’t have a decent system."

Departments relied on help from programs and services external to their own departments and the institution to attract underrepresented students into their programs.

In addition to the efforts by the Graduate College to "remove obstacles" to graduate education for minority students, such as the name exchange subscriptions and Graduate College Fellowships explained earlier in this chapter, I was told of at least one activity specifically designed to recruit minority students in each department. In the Pure/Life department, there is a minority listing made available through the national professional organization which is categorized by area of interest. This allows the department to send program information directly to minority students who have indicated interest in specific areas of graduate study which match available programs in this department. Faculty I spoke with talked about the importance of "a close fit" between the student's interests and the program available and see these mailings as "cost-effective" for the department as well as "helpful to students."

In the Applied/Life department, faculty explained activities designed to enhance minority representation. At the national level in this discipline, the Dean said that
there is only lip-service. In some quarters, there is a lot of activity, especially in the areas where there are minority populations. But I don't see it on the agendas of the national councils. However, the national organization (in this discipline) does sponsor minority fellowships for students in graduate school.

An additional activity in the Applied/Life department designed to for minority students in graduate education is the Minority High School Student Research Apprentice Program. This is a summer program, similar to project ACCESS sponsored by the Graduate College, which brings high school minority students to campus for six weeks to work with faculty actively involved in research projects. This program, funded by a grant from the National Institutes of Health, is designed to stimulate high school students' interest in careers in science, and increase their understanding of research and the technical skills needed. The students selected this year come from local high schools and from two small communities in the state. These are students who have indicated that they want to major in this discipline as an undergraduate student. According to the principal investigator on the grant, "this is a way of getting students to think about graduate school early, an early outreach approach." She went on to say however, that "one difficulty with the program is finding enough faculty
mentors who can work with these students during the summer. "It is an extra load for faculty." She indicated that in the future it may be more problematic to find faculty who have the time, in view of the increasing teaching load of the faculty due to budget constraints.

In the Pure/Non-life department, there is a nationwide program funded by the National Science Foundation called Research Experiences for Undergraduates, or REU sites. The faculty sponsor for the program in this department explained that this is one of 65 programs across the country in this particular field of study and this is the fourth year of funding. She explained,

One of the reasons this program was started was to try to recruit more students into graduate science programs. There is a lot of anecdotal evidence to suggest that students that have very positive undergraduate research experiences are more likely to go to graduate school.

She went on to describe the two focuses of the program. One is an attempt to get more graduate students in this particular field of study. The second focus is on getting more women to enter this field. In the past, women were underrepresented in this field, but this is changing slowly. She said, "75% of our participants have gone on to graduate programs. The program is beginning to show some impact on the number of students going to graduate school, but there
is still a finite number." She also explained that some of the REU sites have a focus on minority students instead of women. Sponsors in the various departments decide on the target group. When I asked this faculty member why she thought so few minority students were pursuing graduate education in her discipline, she said

Interest in sciences needs to start much earlier, maybe in junior high or senior high school. A lot of it may be cultural as sciences may conflict with their religion. And historically, in some cultures, there has not been a big emphasis put on education. I think it starts way before college.

In another department a faculty member echoed these sentiments by saying,

I don’t know how much we (higher education) can do. I think the reasons we don’t have many minority applicants to graduate school starts way back in elementary education.

He went on to explain that minority students drop off throughout the entire process for all kinds of factors.

"So by the time that you get here, it is not a matter of them sitting around saying, ‘well should I go to graduate school, or shouldn’t I, and will I have a mentor who is also (minority)’. This is not how it works."

One of the faculty I interviewed was himself from an ethnic minority group. He told me that one of the most important things that helped him in going on to graduate school was
his faculty mentor. He said that at the graduate level, it was crucial that this mentor be an expert in his field of study, more important in fact, than having that person be from a minority group. He explained, "I wanted to be a scientist. That is what I wanted to do. I didn't want to be a professional (minority). Being a minority person is not my job."

In the Applied/Non-life department, there is a minority counselor. He explained to me that only about 20% of his job is with graduate students, while the other 80% is with undergraduate students. The time he does spend with graduate students is predominately focused on retention issues. He also works with the Graduate Education for Minorities (GEM) program, sponsored through a national consortium of member universities and industries specific to this discipline. He is responsible for working with students applying to this program and assisting them to find funding once the GEM fellowship funding is over. According to this minority counselor, finding funding to support the student when the fellowship runs out continues to be a major problem year after year. He said, "while this becomes more of a retention issue than recruiting, knowing ahead of time about the funding available throughout the period of graduate study contributes to students' decision to attend."
Faculty in all departments told me that there were concerns about admitting minority students, or any students for that matter, who were not academically prepared for graduate school. According to faculty in the Applied/Non-life department, even though tutoring and mentoring opportunities are in place for all students, it has been their experience, that students who were poorly qualified, did not succeed. Their comments revealed an assumption that minority students were not as academically prepared as other students. An administrator explained that faculty members have mixed opinions about how minorities should be treated relative to admission standards. He said, "most believe that admission standards should not be relaxed." He stressed the importance of encouraging students much earlier in their secondary school years to work harder in school and take more math and science classes.

Overall, departmental efforts to recruit minority students in their own discipline is very limited. Except for cooperation with Graduate College initiatives, such as name exchange services and career days, departments do very little to increase the enrollment of minority students in their graduate programs. Faculty and graduate advisors in all four departments expressed frustration with "not knowing what else to do."
Students Returning from the Workforce

Prospective graduate students who completed their undergraduate degrees and went to work before applying to graduate school constitute a separate group of customers requiring in some instances different considerations in regards to recruitment. In the Applied/Life department the pattern of students working for several years before coming back for graduate degrees was particularly strong, more so than any of the other three departments. In order to recruit this group of prospective students, the Applied/Life department used two primary approaches. The first was directly meeting with prospective students through a series of forums, and the second was to increase visibility and public relations. There were three forums held last year to inform prospective students about program changes and opportunities for graduate education in this department, and to promote a positive image. Flyers were sent to over 8000 individuals in the state currently working in the field, inviting them to come to the forums. Between one and two hundred attended the three forums, held in different locations around that state. There was a planned agenda which included a presentation explaining the benefits of graduate education and the programs available. Research opportunities and career and job opportunities were discussed by faculty representing various specialty areas.
Students in the masters and doctoral programs described their experiences and there was time allowed for questions. College administrators describe these forums as enormously successful having prompted several to apply to graduate school, and several more to begin prerequisite courses. Faculty explained to me that they thought this formal proactive approach was very effective, but fear that a point of saturation in the pool of prospective students in the surrounding area will eventuate in the near future.

Faculty told me that they realize that reputation, visibility and positive image in the community and state is very important. In addition to the three forums, this past year a public relations expert was hired to promote accomplishments of the College through newspaper articles in campus and local publications. Administrators in this department consider her work as a form of recruitment because it is directly related to the reputation and image of the College in the community. It is those individuals who are working in the community, holding baccalaureate degrees in this discipline that the department is trying to attract.

In the Applied/Non-life department, some students come back to graduate school after having worked in the field. Attracting these students back to graduate school primarily involves providing the academic program and research
experience which will prepare the student for continued professional development. To do this, faculty described an ongoing relationship with industry and business leaders to maintain research programs relevant to the working world and to secure continued funding for research.

SUPPLIERS

Each department must relate to the suppliers in their respective environments. As Thompson (1967) explains, suppliers are those organizations from which the potential consumers come. I expected to find a wide variety of suppliers for these four very different departments included in this study. Suppliers identified through analysis of the data revealed five separate categories of suppliers of prospective graduate students. The suppliers are: 1) the department's own undergraduate program; 2) other departments on campus; 3) undergraduate programs in their discipline at other institutions; 4) government, industry and business who want their employees prepared with advanced degrees; and 5) community colleges.

While most departments do not actively recruit their own undergraduates into their graduate programs, faculty recognized the importance of the undergraduate experience in establishing an interest in advanced degrees in their respective disciplines. As previously explained, faculty
attitudes about undergraduates staying in one department to pursue graduate degrees reflect a common belief that students would be better served if they do graduate work at a different institution. Even where efforts to recruit their own undergraduates into graduate programs were weakly developed, faculty and administrators expressed the importance of their contribution to a positive undergraduate experience. One administrator said that he was concerned that undergraduate programs are presented in such a way that the students want "to get out and get it over...they don't perceive why they would want to get out and come back for more of this kind of activity." In his view, whether students pursue your graduate program or go elsewhere, "the strategy (throughout the undergraduate program) ought to be such that the vision of graduate school should be a positive thing, not a negative thing." An administrator in the Applied/Life department echoed his comments and added,

I hope that the feelings that (undergraduate) students are leaving with are more positive. My sense is that there is less hostility and anger than there was five years ago. The fact that the curriculum is the way that it is, is making the undergraduate experience more positive. We hit them early with graduate education and tell them it is a natural progression, and it is not intimidating.

In a similar way, faculty in the Applied/Life and Applied/Non-life departments told me that they see the
masters program as a supplier of students for their doctoral programs. In the Applied/Life department this seemed especially prominent. Faculty in this department told me that many of their masters students come in thinking that the masters degree will be their terminal degree, "get turned on", and stay through the doctoral degree.

A second supplier of graduate students is sometimes another department on campus. Interdisciplinary study is commonplace in some departments more so than others. For example, students may achieve an undergraduate degree in one science, and pursue the masters degree in another related, but separate science. In the Pure/Non-life department, students holding undergraduate degrees in a different Pure/Non-life discipline, come in to pursue graduate degrees. The same is true in the Applied/Non-life department and in the Pure/Life department, where students blend interests to achieve knowledge and skills for particular career goals. Departments who do get graduate students from departments in diverse disciplines send posters and program requirements. Only the Applied/Life department requires the undergraduate degree to be in that specific major in order to be admitted into their graduate program.

In the Applied/Non-life department, a special masters program is available for the "non-degree students", 
students who hold degrees in another field and want to pursue a career in another field. The department advertises this program by sending the description to departments who have supplied most of their students in the past. According to the flyer they send out, this is "a program designed for superior students who have an aptitude for mathematics and a desire to participate in the challenging opportunities of a rapidly expanding profession."

Thirdly, departments in the same discipline at other institutions are suppliers for graduate programs. Given the strong professional networks in all four departments, I expected to find normative mechanisms which would contribute to recruitment of prospective graduate students. As explained by DiMaggio and Powell (1983), "such mechanisms create a pool of almost interchangeable individuals who occupy similar positions across a range of organizations (p. 152)." I expected the association between professionals to facilitate exchange of qualified students from one program to another. When I asked about the function of professional networks between colleagues as a recruitment mechanism, faculty and administrators in the four departments replied that it seldom happens. According to faculty I interviewed, rarely are graduate students located through connections one faculty member has with another. They told me that faculty looking for research assistants recruit their own star
pupils. One graduate advisor explained, "We have a young faculty. They want tenure and they're looking for students for their research. They are very aggressive (in recruiting their own students)."

In the Applied/Life department, an administrator told me that the network between colleagues is not as well developed as in other disciplines. She said, "occasionally, but not regularly, we get calls to see if we would want to work with a student who is interested in one of our graduate programs."

The graduate advisor in Pure/Life said, "we do more of that (networking) to get our students somewhere else, that going after a student to get them to come here. Occasionally we are on the receiving end." In this way this department becomes a supplier for a graduate program somewhere else. In both examples, faculty stressed that these things are all very informal and unstructured.

A fourth supplier of graduate students is an employer who needs workers with advanced skills and knowledge and is willing to send employees back to school in order to accomplish this more highly specialized workforce. Administrators and faculty in the Pure/Non-life, Applied/Non-life and Applied/life departments maintain informal and formal relationships with business agencies and
industry, keeping abreast of their needs for employees with advanced degrees. Business and industry sometimes establish cooperative arrangements with university departments to support employees to return to graduate school. Tuition reimbursement plans and scholarships are examples of these strategies. In return, employers expect individuals to come back into the workplace and utilize their advanced degrees to further company goals.

Pfeffer and Salancik (1978) describe organizational survival as a function of an organization's ability to adapt to and fit with environmental contingencies. The relationship that departments have with their customers and suppliers impacts recruitment strategies as well as program planning. According to faculty in the Applied/Non-life department, where arrangements with employers to assist students in coming back to school have been commonplace, these opportunities are probably going to diminish in the next five years. Faculty told me that the industries most dependent on this particular discipline will be changing dramatically, and it will take some time for them to adjust to their needs. He explained that when baccalaureate graduates cannot find jobs easily, they often go straight to graduate school on their own. During this time, business and industry are less likely to act as a supplier for graduate programs, and are more likely to be a customer.
A final example of a potential supplier of graduate students came from a professor in the Pure/Non-life department. She explained that there is a coalition of community college teachers in this field of study. Most of the work of this group centers on curriculum issues but she recognizes the possibility of them doing more on issues related to students. She said,

There is no real formal program that takes large numbers of these community college students and integrates them into the University science-scene and bring them up to get them thinking ahead. There are a lot of really bright students at the community colleges who just haven't been in the environment, or seen themselves as capable of doing this. If we can pluck them out of that environment and put them into the mainstream, you have a really good chance of getting them to go (to graduate school). Somebody needs to do it. I have thought about that a lot.

Thinking of the community college system as a supplier of graduate students is the focus of a long-range collaborative effort between Arizona State University and the Maricopa Community College District called "The Seamless Web" project (Foster and de los Santos, 1990). The focus of this project is on increasing the population of minority graduate students. According to Foster and de los Santos (1990), of the minority students enrolled in post-secondary schools in the Arizona, 76% are enrolled in community colleges.
Although we have learned better how to recruit students into college and have designed numerous effective programs to improve the transfer of knowledge, we understand much less about enhancing students' aspirations and how to enlist combined efforts of parents and the minority community in support of such aspirations (Foster and de los Santos, 1990, p.2).

The project builds on successful recruitment and support activities between the community college and the university. There is no such project at this institution at this time, yet, with continued faculty interest, the potential to use community colleges as a new supply source for graduate students is realistic.

**COMPETITORS**

Organizations must also relate to competitors in their environment. Lawrence and Lorsch (1967) explain how task environments are interrelated and how they impose "both constraints and opportunities that influence the internal structure and processes" of an organization. Faculty and administrators identified three different types of competitors. First are departments in their field of study at other institutions. Second are other degree programs in related but different fields. Third, are the job opportunities available without the advanced degree.

Similar departments at other universities are sometimes
trying to recruit the same highly qualified students. Even in the Pure/Life department, where applicants are more than plentiful in numbers, faculty described a real competition for the top students. Faculty in all four departments commented that they are not competitive with the top five rated departments in their discipline. One graduate advisor said,

We can't compete with the Stanford or MIT. Their reputation and levels of funding are tops. But we do very well in the next division, competing with other publics of our size with comparable faculty productivity levels in terms of publications and research.

Another faculty member explained the importance of holding high standards for recruiting graduate students. He said,

Student quality is very high due to our aggressive recruiting posture and stringent admission standards, but it is becoming more and more difficult to maintain this status in the face of nationwide competition for qualified students.

Another important recruitment mechanism described to me involved the prominence of research done by well-known faculty. Students, especially doctoral students, who wish to pursue work in a particular area seek out faculty who publish research in that area. The reputation of the faculty and their area of research becomes a powerful recruitment mechanism for doctoral students.
An administrator of the Applied/Life department explained that competition definitely influences recruiting plans for the doctoral program. The department is listed in the top five in the country. Therefore, competition with the other four for the best of the best students is very real. This doctoral program loses out to larger programs with more money available to students. Doctoral applicants reveal the other schools where they are interviewing so administrators know the competition. At the masters level in this department, the competition is more local in nature. Mostly in-state students apply for the masters program so recruitment issues are related to program offerings and available scheduling. Administrators see the issue at the masters' level more one of convenience rather than competition.

In the Pure/Nonlife department, faculty described a cooperative strategy with faculty located in competing departments across the country. Each year, this department sends approximately 2000 letters to faculty in similar departments across the country to see if they have any students to recommend for graduate work. They told me that a few students are gained in this manner and that they assist some undergraduates to find graduate programs at other institutions through this mechanism.
REGULATORS

Rules and regulations that can effect graduate student recruitment can come from inside or outside the university system. Inside the university system, rules set by the Graduate College involve admission criteria and credit hour requirements. Departmental administrators indicated that Graduate College rules about minimum grade point requirements have little effect on their programs. Most faculty consider the 3.0 requirement as a bottom limit, and most of their students have higher than that minimum. Many said, "We wouldn't want to consider anyone with lower grades anyway."

Credit hour requirements were a source of difficulty for the Pure/Nonlife department. Faculty there told me that the course work hours required for doctoral degrees was excessive and outdated in their discipline. The emphasis is on research at the doctoral level, and faculty wanted students to be able to spend more time doing research, and less time in the classroom. Faculty told me that similar departments at other institutions have lowered the credit hour requirements.

A potential source of regulation from outside the institution is that of professional accreditation. Faculty I spoke with told me there are no regulations from
accreditation requirements that effect graduate student recruitment or admissions standards.

Summary

Departmental graduate student recruitment is primarily influenced by: 1) the level of need departments have for maintaining adequate numbers of qualified students in their programs; 2) desire to attract the very best students; 3) the level of competition among similar departments at other institutions; 4) the amount of funding available to support graduate students; 5) limitations of space and faculty resources; 6) Graduate College policies and recruitment activities, particularly those specifically designed to recruit ethnic minority students; and 7) what similar departments at other institutions are doing.

Departments implement a variety of recruitment activities. The overall process of graduate students recruitment in every department is initiated by the students and primarily begins at the departmental level. Goals of the department are clearly to get the best graduate students that they can find and to retain them through graduation. Departmental administrators told that there were no goals to increase the numbers of graduate students.

Departments had very few strategies to specifically recruit minority students. Each department has submitted
applications for minority student fellowships sponsored by the Graduate College. Some professional associations and industries support graduate students as well. Beyond those funding sources, departments did not implement specific minority recruitment efforts.

Examples of what departments do to recruit graduate students include: 1) advertisement in professional journals and college guides; 2) sending posters with reply cards to similar departments at institutions all over the country; 3) inviting top applicants to campus for a weekend visit; 4) requesting faculty to personally call applicants; 5) offering teaching and research assistantships; 6) securing fellowships from industry sponsored research projects, from the Graduate College, and from professional associations; and 7) sending letters to faculty in similar departments across the country to see if they have recommendations regarding potential graduate students.

What departments do not do is: 1) recruit their own undergraduates; 2) inform their undergraduates adequately about graduate school; 3) design specific efforts to recruit minority students; 4) recruit masters students (emphasis is on recruiting doctoral students); 5) recruit international students (the priority is clearly on recruiting domestic students); 6) recruit community college students.
CHAPTER 5

FINDINGS: STUDENT PERSPECTIVES ON GRADUATE RECRUITMENT

I think recruitment starts with "Do you want to come here to go to school," but I think it continues through it all. I think it has to be a continuum, and I think it comes in the form of mentors, friends, just the will and desire, persistence, and stupidity. Sometimes I think it is stupid just to keep on going, but I am at the point I will finish, just because I have come this far.

--Doctoral student in the final year.

Introduction

An analysis of the process of graduate student recruitment would be incomplete without considering the perspectives of the students themselves. What the students had to say about their experiences with recruitment and their subsequent decisions regarding graduate school is important to understanding the total process. In this chapter, data regarding three research questions is presented: 1) How do graduate students experience the recruitment process? 2) How and why do graduate students decide to attend a particular program? and 3) To what extent and how does the graduate recruitment process differ by the student's field of study, gender, and ethnicity?
The analysis of data related to these research questions is driven by concepts drawn from symbolic interactionism. According to Blumer (1969), the first of the three principles of symbolic interactionism insists that the meaning things have for people is central to understanding behavior. I asked students to explain what attending graduate school and this particular program meant to them. The second principle of symbolic interactionism is that meanings are derived from social interactions (Blumer, 1979). I asked students who they talked to during the process and what interactions contributed the most to their graduate study decision. The third principle of symbolic interactionism is about interpretation, a "formative process in which meanings are used and revised as instruments for guidance and formation of action (Blumer, p.5)." Blumer (1979) explains that people attach meanings to situations, others, things, and themselves through a process of interpretation. Students were asked to describe from their own perspective, how they interpreted materials they received and interactions they experienced.

To condense and analyze the data pertaining to the research questions about how students experienced the recruitment process, and how they decide to attend a particular graduate program, I use the sociological calendar, an interactionist concept described by Light
The sociological calendar is a tool for analyzing interrelated phenomena and uncovering relationships among dimensions involved in a sociological process. In Light's case, he used it to analyze changing perspectives on idealism for medical students. Using the sociological calendar, I ordered the interconnected phases of the recruitment process for each student, and then compared calendars among students, and looked for interrelationships among the phases of the process.

To answer the final research question regarding differences in recruitment by a student's field of study, gender, and ethnicity, I draw conclusions from analyzing data from students in all four departments. Using the sociological calendar, contrasts and comparisons between experiences of men and women in different departments are made. In addition, a close examination of how experiences of ethnic minority students differed from international students and white students is described.

**How Graduate Students Experience the Recruitment Process**

To answer the research question, How do graduate students experience the recruitment process?, students were asked to explain the process they went through, from the time they first thought about graduate school, to the day they enrolled. I constructed a sociological calendar for
each of the fifty-two students interviewed. The calendars revealed a sequence of events as defined by the student that ultimately led to enrollment in their particular graduate program. Using the sociological calendars, I compared the experiences of students in each department, and analyzed contrasts among the four departments. Though there were subtle differences among the series of events students described, four phases, or units of sociological time, became evident. These phases are: 1) Initial thinking and meanings of graduate study; 2) Inquiring about graduate study and graduate programs and sorting information about graduate programs; 3) Applying to a graduate program or several graduate programs; 4) Making a decision to enroll.

These four phases I have identified are comparable to the three-stage college choice model for undergraduate students described by Hossler, Braxton, and Coopersmith (1989): 1) college aspiration formation, 2) college search and application, and 3) college selection and attendance (Paulsen, 1990; Hossler, Braxton, and Coopersmith, 1989). The college aspiration formation stage is comparable to the first phase I identified, initial thoughts about graduate school. The difference between the two is that prospective graduate students have more experience in higher education than undergraduates upon which they can build their goals and aspirations. Moreover, graduate students have identified
a particular field of study to pursue. Undergraduates may or may not have defined their aspirations so specifically. The college search and application stage in the work of Hossler, Braxton, and Coopersmith (1989), encompasses phases two and three of my findings, inquiring and sorting information, and applying respectively. I chose to separate these phases because graduate students have more specific departmental information as well as facets of the institution to consider. Graduate students gather specific information about the department and faculty doing research in a particular area of interest. In addition, opportunities for graduate assistantship positions are often important to a graduate student’s decision. The college selection and attendance stage is comparable to my final phase, making a decision to enroll.

**Initial Thinking and Meanings**

The thinking-about-graduate-school phase began at different points in time for individual students, but tended to be similar for students within a particular department. Of the 52 students interviewed, thirty-four (66%), thought about pursuing graduate study by the time they entered the upper division courses of their majors, during their junior and senior years in college. Among these thirty-four students were all of the Pure/Life students, all except one
of the students from Pure/Non-life, most (10 of 14) students from Applied/Non-life, but only one of the students from the Applied/Life department. Students from the Applied/Life department tended to work several years prior to thinking about returning to graduate school.

What students thought about graduate school initially was shaped by their conception of what graduate school was about. According to Blumer (1969), symbolic interactionism insists that the meaning things have for people is central to understanding behavior. In order to fully understand how students experienced recruitment, and how they made decisions to attend particular programs, I asked students to explain what attending graduate school meant to them. From the responses students offered, several themes became apparent. The first and most prominent theme was directly related to job satisfaction and career development. A student in the Pure/Non-life department explained that his strong interest in science through high school led him to explore what jobs would be possible in areas related to science. He said,

Knowing what I know about the kinds of jobs a bachelors degree will get you, things that I thought I was to do in life, I knew I would need the graduate degree. I think I knew all along I would need to go on.

Students in every department except for the
Applied/Life department talked about the summer jobs they could get as "boring and basic." One student expressed it this way,

You begin to get the idea that life with only a bachelors degree may not be all that interesting. You see that advanced degrees will allow you to do more diverse and challenging work.

Students told me that going to graduate school meant "an opportunity to increase technical skills," and "doing what I need to do to pursue an academic career," and "training to have the ability to do research." While I inferred that higher salary was a hidden meaning behind the comments "getting a better job," not one student said that the graduate degree meant more money. In fact, some students argued that there would not be a large difference in salary. Students in the Applied/Non-life department explained that the difference in salary between individuals with bachelors degrees and masters degrees was not significant in many jobs. They conceded that the PhD would gain more salary but insisted that the key reasons for considering graduate study centered upon the ability to do more interesting and challenging work.

Of the seventeen students (four from Applied/Non-life and thirteen from the Applied/Life department), who did not consider graduate study until after completing their
undergraduate degrees, virtually all experienced dissatisfaction with their jobs though all were working in a job associated with their undergraduate majors. The Applied/Non-life students described having good jobs acquired after finishing the bachelors degree, but there were limitations to their expertise and technical skills. Additional education was considered by these students as a way to move into more interesting work within their industries. In the Applied/Life department, where most students had worked several years before thinking about attending graduate school, students talked about "being bored with their work," "needing the masters degree in order to be qualified for more interesting work," and "this (a graduate degree) could open (professional) doors for me." Even those who had always thought they would someday return to graduate school were not motivated to pursue it until they became unsatisfied with their jobs. One student said, "I had no choice. I had no chance for advancement where I was, it was time to do something."

A second theme that emerged in comments about the meaning of graduate school relates to seeking status and power in the work place. Students from each department mentioned that the graduate degree was a "way to get to the top," a vehicle to "gain independence and control" within their career. A student from the Applied/Life department
explained her opinion this way:

I know from all the jobs that I have had, that you can't do anything from the bottom. You can't make any positive changes, you have to do it from the top, you have to be the boss. You have to have a little power. And so to do that you have to get your (graduate) education.

A student from the Pure/Non-life department said,

I thought if I would have the chance at graduate school, I would have the chance at learning from everything, from the theory and also from the practice. Then I will be prepared in order to become more independent later on.

A third theme related to the meaning of graduate school evident from students' comments in each department was that of self-satisfaction. Students revealed a feeling that they needed "to get more fulfilled as a person," and to "accomplish something." Several students said that is was really "a personal growth kind of thing." A student from the Pure/Non-life department explained her perspective this way:

It is not hard to get a good job with a BS in (this discipline). But that doesn't mean that we can do whatever we want to do. It doesn't mean that we are going to learn, we are going to improve, or we are going to be satisfied.
Based on Blumer's second principle of symbolic interaction which explains that meaning emanates in the process of interaction among people (1969), I expected students to describe social interactions that played a key role in their decision to attend graduate school. I anticipated that the most significant interactions would be with family members and with high school and college teachers. No studies directly related to the influence of family educational background on graduate student aspirations were found in the review of the literature. However, based on the available research on undergraduate college choice, I expected family influences to be strong for graduate students. Research on the undergraduate college choice process has emphasized the importance of characteristics of the student’s family and high school background, as well as the student’s academic ability (Paulsen, 1990). The process by which a student forms educational aspirations, as explained by sociologists who view undergraduate college choice from the perspective of status attainment process, is very much influenced by the family (Paulsen, 1990). According to what graduate students told me, the decision to attend graduate school is very much connected to personal and professional aspirations they developed during their high school and undergraduate years and was partially derived from interactions with family
members. Going to graduate school, in their words, "serves as an extension of those aspirations developed prior to seeking the undergraduate degree."

Many students related interactions with family members, particularly parents, who encouraged them to go on for an advanced degree. Of the 52 students interviewed, 21 (40%) came from families where at least one of the parents held a higher degree. Of those 31 students who whose parents did not have a masters or doctorate, 10 had parents who held college degrees. All of the students told me that their parents very much valued education. Parents were described as "role models," "academic advisors," "strong sources of emotional support," as well sources of financial support. One student even described her decision to obtain an advanced degree as "sort of a family decision." In her case, the idea of going on to get a PhD was discussed among all members of the family. She derived support for her decision from her parents and her siblings.

Interactions with faculty members during their undergraduate experience and with graduate faculty during the recruitment process were also described as very important and, according to many students, "crucial" to the decision to attend graduate school. Students who describe positive interactions with faculty indicated that these experiences were the most important influences which
persuaded them to seriously consider going on to graduate school. One student explained, "One instructor really encouraged me to consider going into the graduate program. He told me I could do it." Another student who came from an out-of-state undergraduate program explained her experience this way:

They said in every (undergraduate) class, you always have to be a scholar. You always have to go on. You can't stop. It's always a learning process. And I could see where they were coming from. They pushed it. They are the ones. I think it (my decision) had to do with the education I had in that (undergraduate) program.

Other students talked about the direct influence of faculty member's keen interest in a particular field of study. A student in the Applied/Life department said, "It was her personality and the things she was interested in. That's what pulled me into this program."

Several students had direct conversations with faculty who "planted the idea." One student explained,

"I had an interview with the Chair of my department and he asked me what my plans were. Even though he did not recruit me specifically to his school, he did talk about masters degree opportunity."

Besides getting students to just think about graduate study, faculty interactions were also important to students' confidence in their ability to do graduate work.
student expressed her experience this way:

Basically I owe her a lot. She really encouraged me to go and do it if that was what I really wanted. My advisor is always pushing me...she has a lot of confidence in me.

In addition to interactions with family and professors, students told me that their contact with graduate students working in their classes as teaching assistants was very important to their initial conceptions of graduate school. In one of the group interviews students agreed,

We were able to see what graduate students did and had a chance to talk to them about what it was like to be in graduate school.

A student in the Pure/Non-life department explained that she had gone to a small liberal arts college. She said few professors were actively involved in research and there were no graduate students around. She had "no idea what graduate school was going to be like." She had to rely on interactions with her professor who told her about his experiences in graduate school twenty years ago. He realized her need to know more and told her about a summer research opportunity for undergraduates being held at this major research university. There she was able to interact with graduate students involved in research. She said,

I got to ask a lot of questions about how they decided where to go, how many schools they applied to, and find out
about their perceptions about graduate school. After that summer I decided that I would go for at least a masters.

Students who did have the opportunity to be involved in undergraduate research stressed the critical role this experience had in shaping their decisions to attend graduate school. They said that the research experiences helped them "attach meaning to what graduate school was all about."

A third principle of symbolic interactionism, according to Blumer (1969), is that people attach meanings to situations, others, things, and themselves through a process of interpretation. Interpretation is a "formative process in which meanings are used and revised as instruments for the guidance and formation of action (Blumer, p.5)."

Students I spoke with who had experience with faculty and graduate students working on research projects told me that they learned about graduate opportunities and began to see a place for themselves in that kind of environment. Their experiences translated into a desire for more of that kind of learning and therefore a desire to pursue graduate school. One of the students from the Pure/Non-life department said it best when he explained

Students who show promise or interest are encouraged to do undergraduate research at (his undergraduate institution). Getting involved with research early is very helpful and is quite influential in people's decision
to attend grad school, assuming that your advisor is conscientious. More than half of my undergraduate class in (this major) eventually did undergraduate research. Research is the whole idea of graduate school.

Students explained how the baccalaureate curriculum was instrumental in formulating their ideas which led to the motivation to attend graduate school. For example, some of the students in Applied/Non-life, Pure/Non-life, and Pure/Life departments related specific course expectations that required involvement with research projects. These students explained how their involvement with research stimulated their interest in pursuing graduate degrees and gave them valuable insights about the nature of research and graduate study.

In addition to learning about what graduate school is all about, students described course content during the senior year which included the benefits of higher degrees and the type of career opportunities available in their particular discipline. Some students had senior research projects that required they work with faculty who were doing research. Most students found these experiences helpful in understanding what they would learn in graduate school. One student said, "Curriculum things make a big difference. We had two research classes in the bachelors program and a fair amount of theory. That really got me thinking. These
While some students clearly benefited from undergraduate experiences to formulate initial understandings about graduate school, other students described frustration and confusion and being "turned off". Among students I interviewed, it was not common for them to have had encouragement or information about attending graduate school from their undergraduate courses. At least half of the students interviewed in each department told me that their undergraduate programs did nothing to prepare them for or inform them about graduate education in their particular discipline. Students complained about the lack of interaction with faculty concerning graduate school, the shortage of information available, and "being outside the good-ole-boy network," to gain critical connections preparing the way to enter graduate school. One student said, "Nothing was explained about what it would take to interface with (this discipline) as a profession rather than an interest. It was never adequately explained." Many students described a period of confusion and "not knowing what graduate school was all about." A student from the Pure/Life department explained his experience this way:

I, by chance, hooked up with somebody doing research and she was good enough to keep me involved at that level. But there was never a really explicit commitment saying that, you need to do
this and this, and you need to get your name on it, and this is what you need to do to make a career out of this work.

Students who had little encouragement for pursuing research or advanced knowledge during their undergraduate years, thought of graduate school as "just more of the same old thing." Their interactions with undergraduate faculty had not been positive and they had no desire to go to school again. One student, who had waited more than 15 years to come back to pursue a masters degree explained,

What I felt from the undergraduate teaching staff was very negative. It was that they were always looking down on us, that we didn’t know anything and were supposed to do only as we were told. I wasn’t about to go through that again by going to graduate school. There was no reason in the world."

Meanings and interpretations of the undergraduate experience were degrading and unrewarding. In addition, these students had little information about how graduate school is different from the undergraduate degree requirements so they "assumed life in graduate school would be the same." These students who had worked many years before considering coming back to graduate school talked to other professionals who had enrolled or had completed graduate school. Students I talked with explained that the kind of work these individuals were doing was interesting to them. Students
realized that going back to school was the only way to obtain a better job, and a more satisfying career in the future.

**Inquiring and Sorting Information Phase**

Once the idea of coming to graduate school became a serious and realistic consideration, several months of investigating a program or several programs was common. Considering all students comments together, at least five different topics were mentioned that students felt they needed to address in order to make an informed decision about attending graduate school. The five general topics are: 1) Type of degree program available, such as research degree versus a clinical degree; 2) Program and course requirements as well as requirements regarding graduate assistantships; 3) Funding possibilities; 4) Facilities and faculty available; and 5) What programs were looking for in candidates. Students explained that they had to seek out the information on their own. Graduate student recruitment in every department is a student-initiated process. Students who are interested in graduate school must use their own initiative to gain essential information and pursue an application. Graduate programs do not typically seek out students personally through outreach programs. It is the student who usually makes the first contact.
Students in the Pure/Non-life department described recruitment experiences quite different from those in the other three departments. These students had all initiated contacts with the department and pursued their own applications. Once they had established communication with the department, they began experiencing what they referred to as "recruitment tactics," and "ways to attract us to coming here." They had to sort through voluminous materials they received in the mail and information given them during visits to the campus. Students told me that they found out that departments across the country in this discipline host their "top candidates" for a visit to campus, "pay for everything", and "show us a good time," while "informing us about programs available." Because the teaching assistantship is a required part of the "recruitment deal," students told me they felt like their process was more like an "application for a job, than just looking for a place to go to school." Students in the other three departments did not describe similar "wine and dine" experiences. Many had come for a campus visit, but all had done so on their own expense and most had arranged it themselves individually.

One of the students interviewed had experienced directly being sought out as a prospective graduate student without making an initial inquiry. This student was in the honors program as an undergraduate in the Applied/Non-life
department and subsequently was doing a research project with a professor. She describes being offered a research assistant position as a graduate student that was really a continuation of her honors project.

One other student told me that he felt pursued once he had initiated contact with the Applied/Non-life department. According to this student, he had unique characteristics making him especially desirable for a particular research assistant position in the department. He had four years work experience and a double undergraduate major which made him perfectly suited for a new research project in the department. He interpreted his experience to me by saying,

My background was not traditional for this department, but was a better fit for this (industry sponsored) project. My background helped me get the position. It was the personal communication with (the professor who was the principal investigator on the project) that was the key deciding factor. I really felt recruited here and I knew that I had money. Actually, it was more the recruitment efforts than the money. But they offered me money too.

The majority of students I interviewed in Applied/Non-life, Applied/Life, and Pure/Life departments had not experienced "being recruited." One student said it this way, "No one recruited me. There was no recruiting at all that I have
ever seen." Students described having to be very persistent and self-directed. Some students felt that their inquiries were met with discouraging comments and misdirection. One student said that "there isn't a lot of encouragement, especially for doing it part-time. They were very unsupportive of my idea to do this part-time." In another department, a student said that he felt that the department wasn't interested in helping him pursue his masters degree. He said, "instead of being supportive of where you are and what you want to do, there is a push to do more and more. If you tell them that you want a masters degree, they say well, don't you want a PhD instead? That really pissed me off. I'll be out of here as soon as I finish the course work (for the masters)."

Students in each department tended to have similar patterns of inquiring about graduate programs. In the Pure/Non-life department, most students inquired at several schools and made visits to three or four schools before making a decision. Students in the Applied/Life department tended to seriously investigate only one program. Seven of the fourteen students interviewed lived here and could not or would not move to attend graduate school. In the Applied/Non-life department, students typically inquired at two or three schools, and made visits to campuses, before making decisions. In the Pure/Life department, half of the
students interviewed inquired about only the program here, and the other half made inquiries at several programs.

Interactions during this inquiry stage were clearly very important to the students and their subsequent decisions about attendance. As Blumer (1969) explains, meanings that people attach to things emanate from a process of interaction among people. I expected to find that the quality of the interactions students had during this phase and the people students interacted with would be important to the decisions students made. I also looked for indicators of how students interpreted their encounters.

All the students interviewed had inquired either by phone or letter directly to the department for information. None of the students had contacted the Graduate College to get information about graduate programs. Students who called, typically would speak with a departmental secretary, an administrative assistant, or the graduate advisor. Many students noted how important this initial call was to them. Several students remarked how nice people were on the phone and how helpful the graduate advisor or program coordinator was. One student said, "they made me feel welcome and I took that to mean that they were interested in getting me to come here for graduate school." Students who experienced positive interactions initially interpreted this to mean interest and sometimes commitment from the department.
Other students described their interpretation of negative interactions they experienced. One student explained how he was treated at another institution by being put on hold a number of times, not being able to secure an appointment, and having great difficulty getting enough information about the program and application procedures. He interpreted this to mean that they were not interested in getting students, and certainly not him, to come to their graduate program. Another student traveled several hundred miles to make an initial visit, only to find the professor he had made the appointment with was not there. He said, "that meant to me that they were not very interested in getting me to come there." He subsequently dropped that department from his list of possible programs to pursue.

Those students who were able to interact directly with faculty in the department found this to be extremely valuable. In the Pure/Non-life department, many students had been told by their peers and undergraduate professors that one of the most important considerations when choosing a graduate program was knowing the faculty with whom they would be doing research. One student explained,

My undergraduate advisor told me whenever you go, get a feel for at least two, I would suggest three, people you think you can work for. Sometimes the one person you wanted to work for isn't the person you thought that they were, you don't like how it is run, or it may
take too long to get a PhD in that group. It is the same advice that I give to undergraduates I work with now.

A student in the Applied/Life department explained the importance of the interactions she had with the professor who taught in her area of interest. The student related that this professor "pulled me in", but then she retired. The student went on to explain, "I was pretty sick. That's who I was going to work with. If I had known, I would have really rethought it." A student in the Applied/Non-life department had a similar reflection about the importance of direct contact from the professors in his department. He said that "the most influential thing that made the decision, was the phone conversation from (the professor). I felt his interest and support and what he had to say was important."

After inquiring about a program, some students had personal phone calls from professors encouraging them to consider graduate school in their departments and work on a particular research project as an assistant. Students described this gesture as very influential. One of the students explained his reaction this way:

One of the professors here called me and just wanted to talk. That made a big difference. Getting a call from a professor when you are an undergrad, is a pretty big thing. It is a big deal. That made an impression.
Students agreed on the importance of interaction with faculty in the recruitment process, but how they accomplished it varied greatly. Students seeking positions in the Pure/Non-life department enjoyed the most organized approach to recruitment and to securing opportunities to interact directly with faculty. In this department, weekend recruitment visits are held and invited students can sign up for appointments with professors doing research in their area of interest. All of these students were seeking doctoral degrees. One student related the meaning of his weekend visit this way:

The most important things I remember was that I had such a good time. I had fun. That was important because it left me with a feeling...I was happy. Another important part of that weekend was the one-on-one contact with faculty in our area of interest. We had time to sit and talk to each professor. That gave me a sense of research work to be done and that if I didn’t like working with one professor, I had plenty of other possibilities to keep me going and allow me to finish my degree. I didn’t think I could lose by coming here.

In the other three departments, faculty/student interactions are for the most part individually arranged by the student. Sometimes connections were made through the graduate advisor and at other times students literally went "knocking on doors." Students had to show initiative and
persistence in finding faculty to talk with about graduate study.

Doctoral students were definitely given priority over masters students. Doctoral students met with faculty for interviews in all departments. These interactions allowed prospective doctoral students to obtain additional information about programs and research projects. Masters students tended to have more limited interactions with faculty and relied more heavily on written materials to get the necessary information. One masters student told me that she "first talked to a secretary, and then to an administrative assistant. I didn’t talk with anybody else."

Masters students also told me that they had difficulty finding faculty to meet with them to discuss graduate school and possible research topics for their thesis. One student expressed, "I am resentful to a lot of professors because they judged me before hand, without giving me a chance."

Another student relates, "I was in contact with my advisor. But, during my first semester here, he really didn’t support me." In the opinion of these students, the recruitment process should not abruptly end once the admission papers are signed. They were disappointed with their experience. One student expressed it this way,
They only pay attention to you when they want to recruit you. When they want you in. Once you are in, you have to find your own way.

The importance of interacting directly with faculty is underscored through one student’s experience. While most interactions with faculty and department administrators were described as positive, sometimes they were limited and failed to meet the student’s needs. This student’s experience was so negative, that she thought seriously about not pursuing graduate school and came close to leaving after the first semester here. She had received encouragement from undergraduate professors to pursue a masters degree and was recruited through a fellowship program. Once the fellowship was awarded, the student came for a visit, at her own expense. She felt very positive about coming here based on the interactions with the fellowship program director. However, when the student tried to initiate interactions with department faculty, she found the department to be very cold.

The fellowship program was the driving force, rather than the department itself. When I started working with the department, I didn’t get a feeling that they really wanted me to come in.

Both masters and doctoral students learned of the importance of having a faculty advisor, or mentor, by
sorting information they gathered from talking with other students and from reading brochures describing graduate assistantship positions. One student explained her perception of this when she said

> People have told me you need a mentor. But I don't think you can go up to a person and ask them to be your mentor. I think it is a relationship that develops. And I think that if she is receptive to me than I will pursue it. But if I sense that the door is closing, I will turn and go a different direction...

Students in the Applied/Non-life and Applied/Life departments expressed the most difficulty in finding faculty mentors. These two departments have more masters degree students than do the Pure/Life and Pure/Non-life departments. One student in the Applied/Life department had intended to work with a faculty member who was well known for research in her area of interest. Unfortunately, the faculty member retired the year the student began graduate work, and she had to "find my own way." She said that "this (her retirement) was her worst nightmare. People who wanted to put me into a different niche made my life miserable. If I had known this before, I really would have rethought my decision."

A student in the Applied/Non-life department described difficulties encountered in finding a research project and advisor for the masters thesis. During the visit the
student made to campus prior to enrolling, she was sent by the graduate advisor to "knock on doors" and "see who is around." She pursued admission, while continuing to look for support for her masters thesis. Not being able to find a mentor, she says, "cost me at least an extra semester in school." She added that her funding for a teaching assistant position is now no longer available because they (the department) wants to support new students. When this student found out that her department was awarded special campus recognition for their "Mentoring Plan," she said, "I couldn't believe it was from my department. It was just words. Nothing I experienced was even close to this."

Following the initial inquiry, students usually received a letter and program information from those departments where they inquired. Some students received one large packet of materials including departmental information and applications along with Graduate College materials. Others received two or more mailings, some from the department and some from the Graduate College. Students complained that the admissions process was confusing when materials came from both the department and the Graduate College. Students worried that they would omit an essential step. One student explained,

I didn't get much information on the process, about who you have to talk to for this, or how you get this done, or
things like that. It was left to guess work, trial, and error.

I asked students what they thought about the materials they had received from departments where they had inquired. Most students suggested that the fancy pictures and glossy brochures all look the same. They indicated that they knew all brochures have "the most beautiful campus shots during the most ideal weather," and include "only the most beautiful coeds." Most agreed that visiting the campus personally was the only sure way of getting a sense of what the surroundings were really like. One student said, "the materials are not helpful, they all look too good. I mean, no one ever says well, it's not such a good department. They don't say, we don't offer insurance." Students in one group interview agreed that the materials do not specify everything that they need to know, and that some of the things, such as what are the "registration fees," they did not think to ask about until they had already committed to enroll. At this institution, registration fees are really the same as tuition. Students explained that other universities offered tuition waivers in addition to the stipend that was offered for the teaching assistantship. They had no idea that "registration fees" were the same as tuition and would amount to around $700 each semester.

Students generally agreed that the most helpful
information they received described research facilities and particular research interests of faculty in the department. In the Pure/Non-life department and the Applied/Non-life department there is a booklet sent to students who inquire about graduate work which profiles each professor and his/her research activity. All the students in this department agreed that materials about specific research projects by particular professors was most helpful in deciding if the department would be the best place for them to pursue their higher degrees.

**Applying to Graduate Programs**

Of the students interviewed, 20 applied to only one program, 21 applied to two, three or four programs, and 7 applied to five or more graduate programs. Those who applied to only one program usually had specific reasons for wanting to come to this institution. In many cases the reasons were personal and had little to do with characteristics of the program of study in their department. Eleven students had family obligations which made it impossible for them to consider moving elsewhere to go to school. They had to go to graduate school here, or they could not go. Several students had spouses who were also graduate students at this institution.
Ten students worked in research or related work at this institution in order to prepare to apply for a position in a particular graduate program. All except two of these students were in the Pure/Life department. These students had established personal contacts within the department in order to secure a job in research. Competition is very tough to get into the few available positions in the graduate programs of the Pure/Life department. Students have come to realize that working in the department prior to applying gives them an advantage. The other two students who secured jobs in research prior to applying for graduate school are in the Applied/Non-life and Pure/Non-life departments. While competition is also a factor in these departments, this was not the sole reason for seeking work in the department. These two students sought research jobs which would lead to graduate research opportunities for the purpose of thesis and doctoral studies and the accompanying funding which would support them throughout their graduate study.

Those thirty students who applied to several schools described the reasons for their decisions. Applicants to very competitive programs typically selected several programs offering study in particular areas of interest. They usually selected one or two "first choices," a few "acceptable" schools, and one "last choice." Students
expressed awareness of their own qualifications and were realistic about which schools might accept them.

In the very competitive Pure/Life department, students related a calculated approach to their application choices. One of the students I interviewed applied to eleven different programs. Eight of those rejected him, so he actively pursued the other three. He describes his motivation to gain entry into graduate school as "an obsession." He knew clearly what he wanted to do and he was determined to get in somewhere. What he didn’t know was that his file was being eliminated early in the process by most institutions because of poor initial undergraduate work of more than ten years ago. He explained,

I found out things about schools that I didn’t know early, before my applications. I realized late the importance of having a direct contact with someone at the school. I began to discover that decisions are made based on the people who had direct contact and who they knew, there was some kind of sparkle, something enough to get them noticed. The contacts certainly help. They (the applicants) are all good students.

He related the determination he felt while going through the process of applying to graduate school. He worried about "getting in somewhere," and finally getting a chance to work on the doctoral degree. Many students in this department shared his concern.
Students applying to the Pure/Non-life department talked more about the pressure of making the right choice, rather than getting into a program. Once these students had applied, they felt somewhat pursued by the departments who needed to fill vacant teaching assistant positions. They talked more confidently about being admitted at one of their first choices.

Making a Decision to Enroll

Several factors entered into the actual decision to enroll. Students described a process of resorting information they had gathered during the inquiry phase, considering their options and their priorities. These options and priorities will be discussed in the following section to answer the research question, How and why do graduate students decide on a particular program?

HOW AND WHY STUDENTS DECIDE ON A PARTICULAR PROGRAM

The preceding discussion about how students experience phases of the recruitment process explains that for most students, graduate school means the opportunity to increase career and job satisfaction. The motivations related to serious pursuit of increased knowledge and skills in a particular field of study are clearly tied to the primary
reasons they give for selecting particular graduate programs. The graduate students I talked with decided on their particular program by analyzing considerations which I group into three main categories. First is the graduate program itself, including the reputation for quality in particular areas of study, the facilities for research, and the opportunities for research. The second category involves the financial support available in an assortment of funding packages. The third category includes "the little things," that add up to make a difference between available and desirable programs. Examples of these "little things" are location and climate, the hospitality during the visit to campus, and a chance "to move out of the mid-west" and "to experience a different culture."

When I asked students to identify the most important reason that persuaded them to attend this particular graduate program, opportunity for research was the most frequent answer in every department. In the Pure/Non-life department where, according to students I talked to, "research is the whole idea of graduate school," students talked about the things they looked for in making their decision. One student explained that "one of the key draws to come to this department was the depth of faculty working in particular areas." He said that he wanted to insure that he would be able to complete the research project and the
degree by having several faculty to work with. "If someone left, or if research didn't work out with one faculty member," he said that there would be other individuals available. Another student explained that the "size of the department meant a lot because you will have more research activity, and more people around to work with, grad students and faculty."

The second category involving financial considerations was important also, though not as high a priority as program offerings. In all departments except for the Applied/Life department, students were informed in general about what to expect in regards to funding. One student said his advisor told him, "if you have to spend money from your own pocket for graduate school, you probably shouldn't go." Students who applied to programs where no funding was available, quickly dismissed these offers in favor of graduate programs offering fellowships or graduate assistantships. When comparing "one good program with another," students said that they found the money to be about the same. Students in the Applied/Non-life and Pure/Non-life departments said that only a few hundred dollars difference did not persuade them to go to a program that they perceived was lesser quality.

In contrast to students in the other three departments, students in the Applied/Life department did not expect funding to go to graduate school. They were unaware of
funds available for graduate study in their discipline.
Most of the students I talked with had saved money to pay
for their tuition and secured flexible jobs that could be
arranged around their schedule of classes. One student said
that she wasn’t sure how she was going to handle graduate
school financially, but had decided to do it somehow. It
was not until after enrolling, that she got a call from the
administrative assistant, asking if she would like to have a
$10,000 fellowship. She said, "I couldn’t believe it."
Another student explained that he "was shocked to get a
stipend so easily." Students told me that they were told,
"all you have to do is tell them (graduate advisors) that
you need it."

The third category of considerations persuading
students to attend particular programs are little things
that added up to be important influences. One student said
when referring to the weekend visit he had made to the
department, "the most important things I remember was that I
had such a good time. I had fun. That was important
because it left me with a feeling...I was happy." He said
that weekend experience made him think seriously about
coming here because he had the feeling that it would be a
nice place to live and study for the next four years.
Several students expressed a desire to get away from the
north or mid-west for a change. And, some students sought
an experience in a "different culture." Several students made suggestions of additional little things to improve recruitment. Several students remarked that the institution has "marvelous library facilities and services," that were never mentioned during their visits to their departments. They said, compared to other institutions where they had been as undergraduates, "the library is really quite something to brag about. These little things add up to a decision."

According to students in the Pure/Non-life department there are four issues they think works against recruiting graduate students at this institution: 1) stipends awarded graduate teaching or research assistants are not competitive; 2) the graduate college requires a large number of credit hours, compared to some other institutions; 3) registration fees, which amount to tuition, are waived at many other schools; and 4) the cost of health insurance is a large expense and was not anticipated. These students complained that many of these considerations were not clearly explained before students accepted offers to come into their programs. They admit, that they did not think to ask about some of these details, but that they think now the department should have given them more information up front.
Differences by Field of Study

According to contingency theory (Lawrence and Lorsch, 1967), organizations function in different environmental conditions and must adapt to and fit with environmental contingencies. Though departments share the same local environment of the campus, they truly function in unique environments constructed within their particular fields of study. Of the four task environments described by Thompson (1967), differences in customers and suppliers were most important in defining the recruitment strategies. Much of the detailed comparison of recruitment practices among the four departments is explained in Chapter 3 to answer the question, How do departments recruit graduate students? Here I will focus on findings which explain how the students' experiences differed by department, by gender, and by ethnicity.

The customers, or prospective students seeking positions in individual graduate programs differed in several important respects. Differences in numbers and quality of applicants, as well as ages and experience among students, and whether they were seeking doctoral or masters degrees, part-time or full-time required distinct recruitment strategies.
One key difference among the four departments which requires different approaches to recruitment is the simple difference in numbers of applicants to positions available. The Pure/Life department is rich in applicants, receiving over 700 applications per year for about 10 positions. Students applying to this department know that the competition is very tough and that the department concentrates more effort on selection than on actual recruitment. All of the students in this department worked very hard to make contacts within the department, and more than two-thirds obtained jobs within the department in order to gain research experience and improve their chances of being admitted. More than half of the students I talked to had applied to several other graduate programs at other institutions. In addition, students told me that they had learned during preliminary discussions about graduate school that to be competitive, having research experience was almost a requirement for being admitted to the program. They said, "the trend now is to come into graduate school with published research on your resume." One student told me she worked on weekends during the year prior to applying to graduate school in a research lab. She had been told by graduate students and faculty that having research experience would increase her chances of being accepted into the program.
Two students had inquired at graduate programs in other departments at this institution. They were not able to move and had decided that their contingency plan would be to seek a degree in an alternate department if they were not accepted in the Pure/Life department. All students in this department expressed concern about "getting in somewhere," because all departments in this field are believed to be very competitive.

In the Pure/Non-life department, the recruitment process is an active program designed to attract the best students to fill the approximately twenty teaching assistantship positions. Students applying to this department know that they are being recruited for teaching assistant positions. Students in this department expect to be invited for a campus visit and everybody knows (faculty and students alike) that "if they don't visit, they are not going to come." As a result, recruiting in this department is, in their words, "serious business," requiring a lot of time and money. Students see their recruitment process much like a job application process. Students said "they, (referring to departmental faculty), must want you as much as you want to get in." They experience what they refer to as "a sales job" intended to get them to "accept the offer." They consider carefully if they will be "happy" to live here for four or five years, and if they think it likely that
they will "succeed in finishing a degree from a program of high reputation."

Departments had chiefly two suppliers of graduate students, employers and/or undergraduate programs. In the Applied/Life department all except two of the students had worked a number of years after completing their undergraduate degrees. The range of years worked was from two to eighteen, with an average of 7.4 years of work before coming back to go to graduate school. Many of these students, whose average age was 34, had families, benefits and seniority in their place of work, and financial obligations which made full-time study difficult, if not impossible. This past year, about 75% of the masters students in this department were part-time students. Graduate assistantships and fellowships often require full-time study, and do not allow outside employment. For most students seeking graduate degrees in this department, full-time study and leaving their jobs entirely was too impractical. A student from this department said, "There isn't a lot of encouragement for doing it part-time. They want me not to work. They want me to quit my job and give up my benefits, my tuition reimbursement, to come over here and be an RA. There is a lot of pressure."

In contrast, the majority of prospective students in the Applied/Non-life department, Pure/Non-life, and the
Pure/Life department, whose average was 27, began the process of inquiring and applying to graduate school during the last year of their undergraduate degree or within the first two years following completion. Only five of the 38 students from these three departments had worked more than two years following completion of the baccalaureate degree. These students talked about the need to "do it" (go for the graduate degree), while they were "used to being a poor student without responsibilities." For these students full-time study was feasible and graduate assistantships were adequate, or nearly adequate, to live on. Almost all of the students who were interviewed were involved in full-time study in these three departments. As described earlier, all departments have some part-time students. The full-time students were more readily accessible to me for interviews. In one of the group interviews in the Applied/Non-life department, students expressed the strong belief that all graduate students in their department were funded. They said that they "couldn't imagine doing full-time doctoral research and making hamburgers in their spare time."

However, students in the Applied/Life department experienced a much different circumstance. Many of the students in this department said that they had not expected funding from anyone. Many had planned ahead and saved money to come back to school, or planned on taking out loans.
Some had applied for financial aid. The fellowships awarded were "complete surprises", "totally unexpected." Many had found out about the fellowship awards after enrolling in the program, and in some instances, long after the first semester had begun. The most important effect of the fellowships, in the words, was "it was the difference between part-time study and being able to go full-time." In this was, the fellowships were more important to decreasing the time-to-degree than they were actual recruiting mechanisms. This difference between students in two departments was significant.

**Differences by Gender**

In the Pure/Life and Pure/Non-life departments, where the population of students is approximately half men and half women, students of both sexes described similar experiences. They told me that there was no difference in the way that they had been recruited, the way they are treated in class, or in the way that they received graduate assistantships in the department.

The Applied/Life department is definitely a female dominated department. Male students in this department told me that they had experienced what they perceived to be preferential treatment during the recruitment process. A male student
told me, "oh yes, it is definitely an advantage here being a male, just as it is at work. Men tend to move up in positions more quickly at work, and here, we tend to be treated very well." Female students thought "the men fit in very well," and could see no difference in how they were treated.

In contrast, the Applied/Non-life department is a male dominated department. Women in the department told me that they felt that "certain assumptions are made about females" studying in this department and that is that "if they (women students) are here they must be pretty good." One female student explained her perception of the situation this way:

If you have a certain undergraduate class, a third of the class will be very good, a third of the class will be adequate, and a third just aren't cutting it. It is as if in the middle group, that's OK if you are male, but it's not OK if you are female. The assumption is that you will be good, and if you are not very good, then you don't belong.

Female students agreed that they felt like they stood out in classes, primarily because they were sometimes the only female in the class. Most saw this as an advantage because of the individual attention you get and you end up doing better in the class. However, one female student felt that she was "held to a higher standard (than men in her classes)," and had extreme difficulty getting a professor to
work with her on a research. She said, "I am a little resentful towards a lot of professors because they judged me beforehand, without giving me a chance." Interestingly enough, the male students told me that they respected the females in the class and noted that they usually are among the top students. Both male and female students told me that they thought women had an advantage during recruitment as well, because they are underrepresented in this field of study.

Differences by Ethnicity

Throughout the study and in every department, I looked for differences in how students of different ethnic background experienced the recruitment process. Because of the national and state attention to the issues of increasing minority representation in higher education, I expected to find specific efforts in place to recruit minority students into graduate school. The special programs for minority students sponsored by the Graduate College have already been described. In addition, a few departmental programs were located as explained in the previous chapter addressing the research question, How do departments recruit graduate students? The Applied/Non-life department belongs to a national consortium which sponsors a minority fellowship program, the Applied/Life department participates in a
minority summer research program, and the Pure/Life department utilizes a professional listing of minority students interested in particular areas of study in this discipline. Other than those three mentioned above, little effort goes into recruiting minority students at the departmental level.

Minority students I spoke with generally did not feel that their minority status had affected their recruitment in any way. One student said, "I had to compete just like everybody else. My grades and GRE scores were considered just like all students." Another student said, "the question of my ethnicity didn't come up until I had been here as a graduate student over a year and a half."

Four minority students from different departments spoke of the effect the minority fellowships they had received had on their experiences. They all said that the money received made the difference in being able to go to school full-time as opposed to part-time. One of the student had experienced resentment from some non-minority students in the class over the fact that she had gotten this award, "just because I was a hispanic, and not because I was a good student." She said she was constantly having to work very hard, "just to prove that I could do the classwork, just like everybody else." She said, "it was like I had to earn that fellowship, over and over again."
White students I spoke with talked about the need to encourage more minority students to enter graduate and they believed there was departmental preference given to minority candidates. One student explained,

I know that at some schools minority students are favored. Out of five positions at (one of the universities he had applied), they wanted three to be minorities. That was decided beforehand. My impression is here, that it made no difference at all if you were minority or not. They were looking for the better applicants. If you happen to be a minority, fine. It didn't really matter, they were not going to go out of their way to get the person.

Some minority students spoke of the difficulties experienced after they were admitted. Not only did they "not feel recruited," they did not "feel supported or understood," once they were admitted. For one minority student, graduate school meant changing cultural ideals to survive in the higher education system. The fierce competitive atmosphere evolving because of the emphasis on grades and achievement conflicts with the idea of community which is so strong in her culture. She says that graduate school makes you too much of an outsider. She explained her feeling, "The higher the degree, the farther you are away from your people." For this student, coming to graduate school meant pulling away from her people and her culture
and changing the way she behaves. She has had to learn to be more competitive and assertive.

It doesn't mean that you have to change completely, it just means that if you have this goal, you will have to behave temporarily a certain way in order to succeed.

She explained that she has done this purposefully with the idea of becoming a role model to other people from her culture. She said that she is just now beginning to understand just how unusual what she has done is for females in her culture. She said, "It is by the grace of God that I am not totally changing, that I have retained my sense of values."

**International students**

None of the departments in my study actually recruit international students. A graduate advisor in Applied/Non-life told me, "it is just too expensive and we always maintain priority for our domestic students." In the all departments, faculty explained that international students just come without being recruited.

International students I spoke with told me of their own special circumstances in coming to graduate school here. Many of these students learned of graduate opportunities through other students and faculty in their home country,
and by reading guides for international study found at their undergraduate institution. They told me that they were drawn to this institution because of the reputation and quality of academic and research programs in their departments. Most of these students had minimal information about the graduate programs to which they applied. Rarely were they able to visit the school prior to enrolling. In addition to experiencing a language barrier, depending on their proficiency with the English language, students told me they need a "cultural translator" to help them to understand American ways of doing things.

International students qualify for very little in the way of financial aid and there are restrictions about how much they can work. TA and RA positions are sometimes the only source of financial aid available.

Two international students said their impression was that faculty assumed that the education they received in their native countries was somehow inferior to that of American universities. One of the students said, "I feel that my education in the home country is poorly understood and assumed not to be good. I had to work very hard at my job in the research lab to convince them that I knew what I was doing."
SUMMARY

Findings from the study reveal how graduate students in four departments experienced the recruitment process, and how they made decisions to enroll in particular programs. Graduate students for the most part initiate the recruitment process on their own using a limited understanding of graduate school and of the recruitment process itself. The objective pattern most students experience appears to involve similar predictably ordered phases. The process begins with initial thinking about graduate study, then involves inquiring about and sorting information. Students then apply to one or several schools, and finally make a decision. While the order in which students experienced these phases was similar for all students in the study, the timing varied by department, and the way students experienced it varied by department and by the type of student (masters or doctoral, male or female, ethnic minority or majority).

In three of the four departments in the study, students typically thought about graduate study during their junior or senior undergraduate years. In the Applied/Life department, students usually worked several years before considering graduate school. The demands and possibilities of recruitment then, are department specific. Departments should consider who their customers are and where those
customers can be located when designing recruitment strategies. Three departments in this study should target undergraduate students in their department and in similar departments at other institutions. The fourth department should target a quite different population of working individuals, or consider ways to increase interest among qualified undergraduate students.

Most graduate students considered the recruitment process their responsibility and said it felt like "going out looking for a job." A striking difference appeared however, when I contrasted the experiences of masters students with doctoral students. Masters students talked about having especially hard times. Masters students expressed feelings of "struggling to find a place." They were frustrated in their efforts to gain faculty interest and support. Not only did they not feel recruited, they often did not feel welcome. Doctoral students did not indicate comparable feelings and difficulties. They said that once they were in the program, they felt that they had a job to do, and that their professors were supportive.

All students described the feeling that they had to compete and prove their qualifications to get in to their programs. Ethnic minority students, international students, and white students, men and women all agreed that they had met certain criteria in order to be accepted into their
graduate programs. Except for those minority students recruited through specially sponsored fellowships, minority students generally felt that they had competed just like everybody else to gain a place in graduate school. Many minority students said that the question of their ethnicity never came up until after they had been in their programs several semesters. White students told me that they did not think race and ethnicity had any influence on decisions made to admit graduate students in their departments.

However, differences were found in the way women and men experienced the process in the particular departments. Female students in male-dominated departments felt a need to maintain their competitive edge by being at the top of their class. They felt that they had to prove their capability and justify their place in graduate school, much more than their male counterparts in the same department. The men in those departments also expressed the sentiment that women tended to be top students. Female students in mixed or female-dominant departments did not experience this extreme pressure. Men in the female-dominated department felt that they had a competitive edge over female students in general.

In only one department (Pure/Non-life), where more structured and formal recruitment activities are conducted, did students feel that they were being recruited. While students still felt that they had to compete to get into
graduate school, the department itself is in a position of needing to compete with other similar departments for adequate numbers of the most qualified students. In this department, students valued "having a good time" and "getting to talk directly with professors," during the recruitment visit on campus. Students in this department felt important in the process and most felt certain that they would get in somewhere. They picked what they perceived to be the best department of those that accepted them into graduate school, although most also received financial support which undoubtedly influenced their choice of university.

In the Pure/Life department, a much lower probability of getting in exists because of the large numbers of applicants for such few positions. Students in this department experienced a great deal of uncertainty and worry that they will not get into to any quality graduate program. Many students experience a sort of "obsession" about getting in somewhere, and they contrived various mechanisms to get their applications to the top of someone's desk. They found work in department laboratories in order to gain research experience and demonstrate their work to professors doing the research. Students told me that it is now common for applicants to already have published research on their
resume. Competition among students is a very prominent topic of discussion among these graduate students.

In summary, it appears that the largest difference in how students experience the recruitment process depends on the level of competition that exists within a department, whether the student is in the masters or doctoral program, and gender differences in male-dominated or female-dominated departments.
CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

Introduction

Findings of this study show that graduate student recruitment varies by departments due in part to their environmental contingencies. Theoretical frameworks used to shape the study allowed me to analyze departmental differences as well as the connections among units on campus and among departments in the same discipline at different institutions.

Experiences of the students interviewed offer distinctive and practical insights into the recruitment process. Candid reflections of students' experiences contribute understandings about the recruitment process which can be useful in future planning and policy development. Contributions to the literature regarding recruitment of diverse graduate students in disparate departments are highlighted in the course of discussing the study's findings.

Summary of the Findings

The way in which departments go about recruiting graduate students is influenced by the environmental contingencies peculiar to their particular field of study. The parts of the environment explored for each department
were the customers, suppliers, competitors, and regulatory
groups. Of these environmental contingencies, numbers and
characteristics of the customers, suppliers, and competitors
had the most significant impact on departmental recruitment.
The strongest influence on departmental recruitment
activities appears to be the number of prospective customers
within their own discipline interested in graduate degrees.
Departmental faculty and administrators do not see much need
for recruitment efforts in departments that have all the
students they want or need. The quality of the applicants
and the level of academic preparation is a concern shared by
all departments.

Informal mechanisms of attracting students to come into
graduate programs were adequate in the past. However, with
the declining numbers of undergraduate students in certain
fields and growing numbers of part-time students, new ways
of attracting more students, especially full-time students,
may be required. Departments typically do not have
personnel with expertise in developing marketing programs to
recruit graduate students.

Similar departments at other institutions are key
competitors and influence recruiting strategies by competing
for some of the same qualified students. Departments must
do what "everybody else" is doing in order to keep pace in
the search for students. This means that posters and
brochures must be of comparable quality, and campus visits must be well planned and entertaining. It also means that teaching and research assistant stipends must remain competitive with those in similar departments at comparable institutions.

Regulations related to recruitment that effect departments come primarily from the Graduate College. The Graduate College determines entry grade point average requirements, course credit hour requirements, and rules about the process of registration and progression through various steps toward degree completion. Department administrators indicated that the Graduate College grade point average requirement of 3.0 does not restrict their admissions because departmental requirements are usually higher. The course credit requirement however, is considered by some departmental faculty as constraining. They view the doctoral degree in their discipline as a research degree and would like to allow students to focus more attention on research and less on completing courses. According to these faculty, course credit hour requirements should be determined by individual departments.

Mechanisms that shape isomorphic patterns were also examined for their influence on departmental recruitment mechanisms. Of the three mechanisms of isomorphic change (coercive, mimetic, and normative) as described by DiMaggio
and Powell (1983), only the mimetic appears to be dominant at the departmental level. Departments are influenced by what similar departments in the same discipline at comparable institutions are doing. Other departments in the same discipline are the chief competitors, and departments adjust their recruitment strategies accordingly. Among diverse departments at this institution, mimetic mechanisms are not well developed. Some departments had developed recruitment strategies suited to their particular needs, but little connection among departments was identified. If relations among departments were strengthened, departments could learn from each other about recruitment strategies, and adapt them to meet particular needs.

While normative pressures are apparent in relation to developing professional standards of knowledge and practice, these influences do not appear to effect recruitment in any noticeable way. In contrast to professional schools, such as Law and Medicine, where recruitment of minority and women have grown significantly, departments have not fully capitalized on connections among professional organizations in order to meet recruitment goals. Only one department, Applied/Non-life, is formally involved with a consortium of industries and departments across the country to actively recruit and support minority students into their graduate programs. Opportunities for collaborative exchange of ideas
and activities in other disciplines are underutilized. These connections among departments within a discipline should be developed to enhance student recruitment efforts.

In contrast to undergraduate recruitment where coercive mechanisms have been applied centrally, through access and equal opportunity initiatives, graduate recruitment has been left to the departments. Graduate College administrators said that goals for recruitment of graduate students focus on increasing the diversity of the student population and the quality of academic preparation. Departmental faculty and administrators told me that departmental goals were focused on getting the best students that they could find. Coercion and centralization are important to the recruitment process, yet not fully implemented at the graduate level.

Faculty and administrators expressed the need to evaluate recruitment efforts more closely. It is difficult to really know which recruitment activities are effective. Efforts initiated by the Graduate College which benefit all departments are difficult to track. Participation in name exchanges through minority locator services is an example. The Graduate College sends names of prospective students to the departments requesting that the departments send program materials to the students who have indicated interest in this institution. Departmental graduate advisors express doubts that this particular activity results in many
students actually coming into their programs, but no one knew for sure. Another example is the minority videos produced by the Graduate College to enhance minority student recruitment efforts. Departments do not use these tapes, and faculty question their effectiveness in recruiting students into particular academic disciplines.

Specific recruitment approaches by individual departments were also examined. Departmental goals related to recruitment were not well defined and little in the way of specific plans was evident. None of the departments indicated goals related to attracting more students or expanding programs. Maintaining programs and balancing enrollment among divisions (subspecialties) within the department appears to be the primary goal in general.

Departments do not do much to recruit their own undergraduate students. The fear of "intellectual inbreeding" was offered by some faculty members as the explanation. Their objective is not to recruit their own undergraduate students, but to encourage them to go somewhere for graduate school.

Graduate students experience the recruitment process in fairly predictable phases in every department. The phases of the process were initial thinking about graduate school, inquiring and sorting the information about graduate school, applying, and deciding where to enroll. Students in
particular departments experienced these phases in similar ways. In every case, it was the student who initiated the contact with the department and independently pursued information about the program and entry requirements.

Graduate students decide to attend a particular graduate program by considering similar lists of factors. Examples of factors students considered important to their decision were personal contacts with faculty members doing research in their area of interest, reputation of the department or faculty in the department, size and quality of research facilities, and several personal factors such as location, climate, and culture of the area. The most frequent key reason doctoral students chose the graduate program was strength of the program in terms of faculty research activity. Students were attracted to quality programs in their discipline, and also were influenced by the level of funding available.

Of the recruitment tactics experienced by students I interviewed, direct faculty contact seemed to be the most effective. But only about one fifth of the students I interviewed had experienced being called by a faculty member. The ten students who had been contacted directly by a professor, explained that this interaction was, for them, the most persuasive reason to come here.

The level of funding available was also important to
their decision, but not more important than what they perceived as the quality of the program. Students told me that the level of funding was comparable to departments at other institutions in their field of study, with the exception with the "top of the top programs". Students in each department who applied to several schools tended to apply to one or two "top" programs, a couple considered in the "middle", and maybe one "lower" school, just in case they were not accepted to any of their first few choices. Students got information about which schools were the best in their area of study primarily from undergraduate professors, rankings published by professional journals, national professional associations.

In the male-dominated department, men told me that women in their department were excellent top-rated students. Women in the male-dominated department said that they felt it was an unofficial expectation that they be at the top of the class. For women in this department, "it wasn't OK to be an average student." In the female-dominated department, males felt "favoritism," and perceived that they had advantages because there were few men in the department. They did not feel that they had to be at the top of the class, or prove that they were qualified to be in the graduate program. They had experienced encouragement and
support from faculty once they initiated the recruitment process by inquiring.

Minority students generally did not experience being recruited in ways different from majority students. They told me that they competed to get into their graduate programs, just like every other student. With the exception of those students who had received minority fellowships, none of the students had actually been recruited to come into graduate school. Minority students and white students alike explained that minority status "doesn't make any difference," when it comes to graduate school.

Implications and Recommendations

Findings from this study lead to nine practical implications related to graduate student recruitment. Recommendations related to each implication are explained. The recommendations suggested here, for the most part, do not cost much money and could be implemented without additional personnel.

Graduate Student Recruitment is a Student-Initiated Process

The first implication is that graduate student recruitment is primarily a student-initiated process. This means that potential students must know more about graduate
school in general, and specifically more about getting into graduate programs. It also means that we must improve communication about graduate school. A consistent theme heard from students and program directors on campus was the need to improve mechanisms to inform potential students, most particularly undergraduate students, about graduate school and graduate programs. At the undergraduate level, little information is available about what graduate school is all about, and the usefulness of a graduate degree in a particular discipline. Many students told me that they had no idea what graduate school would be like. They complained that the process of getting into a good graduate program was never adequately explained. When I asked departmental faculty and administrators about ways that they recruit their own graduate students, most replied that very little is done formally. Senior courses in two departments include some discussion of graduate study in that discipline. In one department, seminars are held during the semester to discuss graduate school and the process of getting admitted. The purpose of these seminars is to inform students about graduate school admission in this field of study, not necessarily to recruit them to this department. We need to include this information in the undergraduate curriculum so that all students are more aware early during the undergraduate years.
Departments utilizing graduate assistants in undergraduate courses should capitalize on their frequent contact with undergraduate students by including opportunities to discuss what graduate school is about. Undergraduate students can learn about graduate school through purposely planned and informal interactions with graduate students who are in their classrooms on a regular basis. These interactions could serve to inform undergraduate students about graduate school in general and stimulate interest early during the undergraduate years. In addition, graduate students could share the strategies they used to get through the phases of the recruitment process, leading to a decision to enroll.

Students suggested that more information about careers in their disciplines which require higher degrees be included somewhere in the planned curriculum. They said that if they had known that a graduate degree was needed to turn their interest in the area into a real job, they may have made different selections of courses and sought opportunities in undergraduate research. Program directors and faculty talked about the need to more fully inform undergraduate students early in the process so that they can realize the importance of doing well in their course work.
and organizing their course work to prepare them for graduate work.

Because most graduate students initiate contacts with departments on their own, departments must establish effective mechanisms to process all inquiries and maintain communication. Staff who answer the phone must be well-informed and personable. Students told me that their first impression of the department many times came from a single phone call. How quickly departments responded to questions and supplied program materials made a difference to students and subsequently influenced their final decisions.

Taking Better Care of our Undergraduate and Graduate Students

A second implication from the findings of the study is that we must take better care of our students, both undergraduate and graduate. Students who have a positive experience at the undergraduate level, are more likely to want more education, and masters degree students who are well supported, may be more likely to go on for the doctorate. Students are attracted to programs they perceive to be supportive. This means that departmental faculty must communicate their interest in students during the recruitment process. In addition, faculty must work together to create an environment of support through
developing mentoring relationships, establishing mechanisms to follow student progress, and actively seeking sources of funding for graduate students.

There was a clear distinction between the experiences of masters students and those of doctoral students. Doctoral students had established connections with faculty during the recruitment process, continuing on into the course work and the dissertation stage. In some departments, it is an admission requirement that a faculty member agree to work with the doctoral student in research. The "fit" between available faculty and the student's area of research interest is an important component of the process which culminates in the student's decision to enroll in a graduate program. In many departments, the masters student is told to find his own faculty mentors, and research projects. Masters students told me that they feel like isolated "second-class" citizens, and that they lack support and mentoring relationships.

Departments seemed to rely on informal "word of mouth" recruiting. Several faculty members suggested that their students are their best recruiters. While interactions with active graduate students are important for prospective students, students are not necessarily good recruiters. Those who have had negative experiences will "spread the word" just as loudly as those have favorable things to say.
Several students described the recruitment process as a continuum from the initial contact with the department, through the education process. Some students felt that they had been encouraged to come, or recruited into the program, only to be left alone to struggle through the program, unable to find mentors to assist with research projects, and unsuccessful in finding funding sources beyond the first year of study. The importance of academic advising and mentoring cannot be overstated as crucial to this effort. Several students, most of whom were masters students told me that their experiences trying to obtain advising and seeking out mentors to begin research projects had been painful and difficult. They told me they "felt the doors closing" throughout the program. This is not the way to treat future "recruiters" of our graduate programs. Part of our recruiting efforts should be focused on taking care of current students and facilitating their progress toward their degree.

Faculty Involvement in Recruitment is Important

The importance of faculty involvement in the recruitment process, as well as academic advising and mentoring was emphasized in conversations with students and faculty. Many students shared with me that direct interactions they had
with faculty was the single most powerful catalyst which led to their enrollment. Getting a personal call from a faculty member to discuss the program and potential research opportunities was "a really big deal" for students. While most faculty understand the importance of this time spent with students, they told me they sometimes just cannot participate in recruitment. The pressures of publications and research for promotion and tenure take priority over activities with students. Faculty need incentives to spend some of their time with students. Because of budget cuts and questions raised by the public and the legislature, there has recently been much attention to quantifying faculty workload. By most calculation formulas, only hours in the classroom are counted as teaching hours. If hours in the classroom can be quantified as a part of workload, it seems reasonable to be able to calculate hours spent advising students. These can contribute to annual reviews of faculty and to the considerations relevant for tenure and promotion. The point is that faculty interaction with prospective graduate students is needed as a crucial part of the recruitment process. This must be built into the faculty workload and reward structure.

At the same time, faculty must understand and believe that their active participation in graduate school
recruitment is important. They must show commitment to the recruitment of graduate students by involving undergraduates and graduate students in their research, spending time to advise and mentor undergraduates and graduate students, and working with recruitment and admission committees to assist in the recruitment process.

**Strengthening Connections Among Units on Campus**

Strengthening connections among units on campus can augment available resources to enhance graduate student recruitment. Currently, several units on campus operate independently in their service to undergraduate and graduate students. The organizational structure of the Graduate College emerges to establish external legitimacy while not being actively involved in coordinating internal activities of departments. The Graduate College recognizes the need for departments to act autonomously with regards to graduate student recruitment. Other campus services are peripherally involved with graduate student recruitment, though potentially could contribute more to the overall process. For example, the three cultural centers on campus provide academic and social support for undergraduate students. Administrators of the cultural centers explained that there was no connection between the Graduate College and the Cultural Centers because the cultural centers were created
to serve undergraduate students. They differed in their views regarding inclusion of advising students regarding graduate school. One administrator explained that students are simply referred to the Graduate College for help. Another administrator said that he personally advises students about graduate school, but that is not his job and he has been criticized for spending too much time with students. Collaboration between the cultural centers and departments along with the Graduate College could enhance academic advising and career planning for undergraduate minority students. Through campus units working more closely together pooling undergraduate and graduate services, a continuum of experiences may be established. In this way, having students going on to graduate school would be a retention effort, and would involve coordination and collaboration of several campus services.

**Departments Lack Expertise in Recruitment**

Generally, departments lack personnel and expertise in marketing their programs. For the most part, many departments have relied on informal and unplanned recruitment strategies, with little or no ongoing evaluation. Little is actually known about what works to improve recruitment in various departments. One department, concerned about declining pools of qualified
applicants to their graduate programs, send the graduate advisor to a national workshop on marketing graduate programs. He learned about how to set goals and target populations, as well as design appropriate mechanisms to recruit students. These strategies are still being used in this department. Information from this type of workshop could benefit all departments. The Graduate College is the ideal unit on campus to sponsor this type of workshop for departments. Individualized approaches to recruitment could then be developed by departmental faculty and staff. Findings from this study strongly suggest the need for strengthening the liaison functions and consultation support of the Graduate College.

Increasing Minority Enrollment in Graduate School

Another important example of the need to foster closer working relations between the Graduate College and departments is in relation to recruiting special groups of students. Of the 677 graduate students in the four departments included in this study, only 70 of those are minority students. There are 414 men and 263 women. The Graduate College clearly has set goals to increase minority student representation among graduate students on campus. Examples of the Graduate College commitment to minority students are the competitive minority fellowships awarded to
departments, the sponsorship of a state-wide graduate forum, and subscriptions to the minority locator services. The Graduate College also identified a need to develop individual recruitment strategies for particular minority groups and, as a result, developed separate videos for Hispanic, African American, and Native American graduate student recruitment. The trouble with these initiatives is that the commitment and goals that drive these initiatives remain for the most part in the Graduate College and with central administration. Graduate student recruitment is a departmental responsibility and varies greatly by departments who are responsive to their own professional environment. Departments do not display much in way of special efforts to increase minority students in general, much less create specific and separate strategies for each ethnic group.

The Graduate College and departments do not share exactly the same goals in regards to graduate enrollment. The goals of the Graduate College according to administrators there, describe a clear commitment to increase the diversity of the student population and improve academic quality. Highly visible efforts to enhance opportunities for ethnic minorities are managed by the Graduate College. For example, the Graduate College subscribes to minority name-exchanges to provide departments
with names of interested minority students. The Graduate College produced three video tapes to assist in the recruitment of three different ethnic minority groups, African American, Hispanic, and Native American. The reason for producing the tapes was to show that ethnic minority groups differ greatly and therefore require different recruitment strategies.

At the departmental level, statement of goals obtained from administrators, faculty and graduate advisors, primarily indicated a focus on getting the best students available. Not only are specific initiatives to enhance minority representation lacking in departments, there was no evidence of individual approaches for particular ethnic groups, except for a few fellowships targeted for specific ethnic students. Faculty and graduate advisors in the departments expressed frustration about their lack of success in recruiting minority students. More needs to be done at the departmental level to enhance the enrollment of minority students.

Exploring External Sources of Potential Graduate Students

Another practical implication of the findings involves the exploration of additional potential suppliers of graduate students. Departments typically target undergraduate programs in their field of study at other
institutions to locate potential graduate students. Some departments work actively with professional associations increasing visibility of faculty members and their research, as well as increasing direct contacts with potential students. When faculty are attending these professional meetings and presenting papers, they must also involve themselves in recruiting. More can be done within departments to tap this important recruitment opportunity.

Another important source of potential graduate students is in the community colleges. The community colleges have many bright students, including a large proportion of minority students, with the potential for going on for the bachelors and graduate degrees. Setting students on track toward graduate school while they are still at the community college is important to raising aspirations, and ultimately increasing the flow of community college students through the baccalaureate degree. Departments could take advantage of this significant pool of potential students by establishing working relationships with appropriate faculty and departments. As an example of the institution’s recognition of the need to establish connections with the community college students, the Graduate College is involved in hosting a state-wide forum with several of the state’s community colleges to inform students about graduate school. This and similar efforts will be diluted and perhaps
ineffective unless departments follow through and continue active involvement.

Financial Obstacles to Graduate Study

One of the key obstacles faced by potential graduate students is lack of adequate funding. We must continue efforts to maintain competitive funding in every department. Fellowships, teaching and research assistant positions are essential forms of support for full-time graduate students. While these types of funding will help those students who can devote full-time to graduate school, older students who have family and work responsibilities may not be able to afford to give up their jobs, along with insurance benefits and salaries. Part-time study may be their only option. More support for students, part-time and full-time will be needed. Administrators at the Graduate College talked about being more involved in helping departments secure grant and fellowship funding. Collaboration between the departments and the Graduate College, along with institutional initiatives through the Foundation and Sponsored Research will continue to be crucial to the institution’s ability to recruit graduate students.

No Goals to Increase the Numbers of Graduate Students

There are no goals to increase the numbers of graduate
students in departments I studied. This is understandable when considering tight budgets and limited space and faculty resources. However, the complete absence of concern over increasing the numbers of individuals prepared with higher degrees seems short-sighted when considering demographic and workforce forecasts. While graduate enrollment continues to hold steady across the country, the percentage of doctoral degrees awarded to domestic students continues to decline (international graduates are increasing), as does the percentage of doctorates awarded to certain ethnic minority groups. Researchers report evidence of anticipated shortages of PhDs to fulfill this country's future vacant faculty positions and jobs in research and high technology. Realizing variations from one discipline to another, and without ignoring obvious practical considerations in expanding programs, there is a need to anticipate supply and demand issues in regards to the nations’ qualified workforce, and perhaps step up particular recruitment efforts for specific graduate programs.

**Recommendations for Future Research**

Findings of this study lead to suggestions for additional research which will contribute to what is known about graduate students and about the process of recruiting
graduate students into particular programs. Results indicate the need to further analyze the way in which graduate student recruitment is organized and the way in which our students experience the recruitment process. Findings from this study suggest investigations are needed to further refine our understanding of the organizational structures in which autonomous departments along with various campus units can function within the institution.

Previous studies have noted that recruiting at the graduate level is sporadic with little central coordination or planning. While each department has unique circumstances shaping their recruitment activities, overall trends in enrollment and costs of graduate education will impact everyone. Findings from this study suggest that departments need assistance with recruitment, especially as it relates to recruiting minority students, and may respond positively to central administrative efforts to coordinate or offer advice related to graduate recruiting. Activities already sponsored centrally, such as the Graduate Student Forum, can be utilized more fully by departments to enhance their attempts to recruit special groups of students.

One consistent theme in departments and at the Graduate College was the need to know more about what recruitment strategies work. Little is known about what works in terms of recruiting graduate students. Evaluation research
projects need to be established to get a better sense of how strategies should be implemented and how money should be spent. Because departments are responsible for most graduate student recruitment, it is important that tracking systems and evaluative studies be put in place at that level. Findings from this study support previous studies (Olson, 1985; Olson and King, 1985) which suggest that departments are responsible for graduate student recruitment, yet lack sophistication expertise and resources to do recruitment. Departments will need support, which could be organized centrally, in order to establish and evaluate effective recruitment mechanisms.

Previous studies about the recruitment process for graduate students have been primarily quantitative and focused on factors influencing the decision to attend (Olson and King, 1985; Malaney, 1988). The importance of including qualitative approaches for input on student satisfaction and student suggestions should be underscored. Findings from this study indicate that students generally do not have enough information about graduate school, or the recruitment process. For some departments, this information must reach students during their undergraduate years. Students expressed feelings about their interactions with faculty members, and explained how influential and crucial these interactions were to their subsequent decisions. Each
department would benefit from knowing more about the experiences of the students who decide to attend their particular graduate programs, and those who decide not to attend.

Programs initiated at the Graduate College also need to be evaluated. In doing so, however, studies must maintain identity of departments and separate unique characteristics of students such as masters and doctoral level, full-time and part-time status, and domestic, international, and ethnic classifications. The graduate college could offer direction in the evaluation process and supply guidance and consultation in developing evaluative strategies, and refining strategies for particular student populations in individual departments.

As graduate school is viewed by some students and faculty as a continuum, retention research should be conducted to look more closely at how aspirations to continue on to graduate school are formulated. Factors related to persistence in community college students and undergraduates may be similar for graduate students, but little research has been conducted to determine how these may be related. Knowing more about these factors may lead to more targeted interventions and generally improve the sophistication with which we approach graduate student recruitment.
Policy research is needed to inform graduate programs about effects of changes in admission requirements or changes in graduate assistantship arrangements. In departments where numbers of applicants are plentiful, in an effort to enroll the best students, grade point average and/or graduate record exam (GRE) requirements are often increased. How these changes effect the applicant pool, and what long term effect these changes have on the diversity of the student body are important to study. Many faculty expressed dissatisfaction with the use of the GRE as a screening tool to determine the most likely students to succeed in their graduate program. Most agreed that the test was not helpful in terms of predicting success. Faculty told me that discipline, work ethic, determination were better signs of capability to do graduate work than the GRE scores. We need to search out qualitative indicators of success in graduate school so that recruitment approaches can include looking for those qualities in prospective students.

Another area in need of research is faculty attitudes about being involved in graduate student recruitment. From the students' perspectives, faculty interactions and mentoring relationships are clearly very important to the recruitment process. Students told me how crucial contact with faculty members was to their decision to attend
particular graduate programs. Students who had great difficulty establishing mentoring relationships complained about feeling isolated and discouraged, and about having to delay graduation when they could not find help to get their research going. Many faculty expressed understanding the need to participate, yet were frustrated about the amount of time it took from their research. They told me there is little incentive built in to do these things.

A final area in need of research is in the area of analyzing the organizational structure of how Graduate College operates with several autonomous departments. While graduate student recruitment is primarily a departmental responsibility, the Graduate College provides support and structure to the process of admitting graduate students. The Graduate College serves as a liaison for departments in regards to the admissions process and works to streamline rules and regulations so that all departments can be served. In addition, other units on campus serve students in a variety of ways. We need to know more about how to serve prospective graduate students across campus perhaps through combined efforts of the Graduate College, departments, and other units on campus.
Summary

The nine implications derived from findings of this study include aspects of working with students as well as organizational insights into the recruitment process. The nine implications are: 1) Graduate student recruitment is a student-initiated process which requires clear communication about the nature of graduate study and the advantages of pursuing a higher degree; 2) Institutions and departments must take better care of their students, providing environments of support, and facilitating students' progress through the undergraduate degree toward graduate school; 3) Faculty involvement in the recruitment process is very influential and crucial to many students' decisions to attend particular graduate programs; 4) Strengthening connections among units on campus can augment available resources to enhance graduate student recruitment; 5) Departments lack expertise in designing and implementing recruitment strategies, and can benefit from stronger advisory relationships with the Graduate College; 6) Goals to increase minority enrollment in graduate programs are more visible at the Graduate College level than within departments, suggesting that more needs to be done to assist departments in recruiting minority graduate students; 7) External sources of potential graduate students, such as within community colleges, have not been fully explored; 8)
As finances continues to be a major obstacle for many graduate students, efforts to maintain and locate new sources of fellowship and grant funding must be continued; and 9) Goals do not include increasing the numbers of graduate students, while percentages of doctorates awarded to domestic students and particular ethnic minority students continues to decline, and shortages of faculty and individuals prepared to work in highly technological work areas are anticipated.

Future research suggested from findings of this study include: 1) evaluation research to determine what efforts are effective in recruiting graduate students; 2) studies to investigate retention and aspirations of graduate students; 3) investigating predictors and qualitative indicators of academic success; 4) analysis of faculty attitudes regarding graduate student recruitment; and 5) studies about the organizational structure of the Graduate College and departments which has an impact on graduate student recruitment.

The implications from this study will be useful to assist departmental and institutional administrators in designing recruitment strategies and in raising important questions related to graduate student recruitment.
### APPENDIX A: ENROLLMENT DATA

<table>
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<tr>
<th>DEPARTMENT</th>
<th>UNDERGRAD* ENROLLMENT</th>
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<th>FULL-TIME</th>
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Source: Student Affairs Research

*Undergraduate enrollment is for 100 and 200 level courses

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<th>FULL-TIME</th>
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<tr>
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<td>40</td>
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</table>

Source: Institutional Research
APPENDIX B: Interview questions for Students

1. Tell me about how you decided to come to graduate school in this department at the U of A. Begin with the first recollection of your considering graduate school here.
   Define the situation
   What activities were involved
   What criteria/standards did you consider in making your decision?
   Where else did you apply?

2. Why did you decide on the U of A program?

3. Tell me about the steps you went through in making the decision to attend here:
   getting information about programs and requirements to enter; degree requirements, program offerings, financial obligations and support
   How long did it take to go through each step?

4. What were your expectations of the recruitment process, and about deciding to attend this graduate program?

5. What did attending graduate school in this particular department mean to you?

6. Who did you interact with as you were considering graduate school here at the U of A?
   U of A contacts?
   Interaction with other graduate programs to which you applied?

7. Who was most important to your decision?

8. What did you make of the interactions you had with individuals?

9. Reflect on materials received about graduate program.
   What materials did you receive?
   What did you make of these materials?

10. What did you think about requirements (entrance exams, applications, degree requirements, GPA, interviews)?

11. What did you think about financial aid availability, fellowships or TA/RA positions, or scholarships available?
APPENDIX C: STUDENTS INTERVIEWED

TOTAL: 52

Age Range: 22-45
Average Age: 28.2

Men: 25
Women: 27

Ethnic Minority: 11
International: 6
White: 35

PhD Students: 39
Masters Students: 13

DEPARTMENTAL DATA:

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APPENDIX D: LIST OF CODES FOR STUDENT INTERVIEWS

STUDENT DATA ANALYSIS

Student Perspective
Decision
Meaning
Expectation
Finance

Interactions
personal contacts
university/departmental individuals

Interpretation
materials
requirements
interactions

Sequence
time sequence
steps in process
APPENDIX E: Survey To Students Who Did Not Enroll

The University of Arizona Graduate College
Graduate Student Survey

Tell us why you chose not to attend the University of Arizona. What was important to you and how satisfied were you? We want to improve our service and need your input.

Degree sought

<table>
<thead>
<tr>
<th>Importance to You</th>
<th>Overall Satisfaction</th>
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<tbody>
<tr>
<td>1= Not Important</td>
<td>5= Essential</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
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</table>

Please rate the following attributes with respect to the importance and overall satisfaction to you.

- Affordability of graduate study.
- Availability of departmental funding, (i.e. TA, RA, fellowships, grants etc.)
- Personal attention received by the Graduate College throughout the application process.
- Personal attention received by the department throughout the application process.
- Communication/correspondence from the Graduate College.
- Timely processing of your application by the Graduate College.
- Communication/correspondence from the department.
- Timely processing of your application by the department.
- Adequate funding of department program. (i.e. classes, professors, labs, research etc.)
- Availability of evening/weekend classes and part-time graduate programs.

11. Why did you choose to apply to the U of A? (Circle as many as may apply)
   a. Reputation of the U of A
   b. Quality of departmental program
   c. Program offered
   d. Availability of funding
   e. Climate/气候
   f. Other
   ____________________________

12. Why did you choose not to attend the U of A? (Circle as many as may apply)
   a. Accepted offer at another institution.
   b. Inadequate funding
   c. U of A acceptance offer received too late
   d. Other
   ____________________________

13. Have you previously applied to the U of A?
   a. Yes
   b. No

14. Did you apply before the departmental deadline date?
   a. Yes
   b. No
   c. Don't know

15. Any additional comments?

IMPORTANT: WHEN RETURNING, PLEASE FOLD AND TAPE CLOSED SO THAT THE U OF A ADDRESS IS ON THE OUTSIDE.
APPENDIX F: Survey to Admitted Students Who Enrolled

The University of Arizona Graduate College

Graduate Student Survey

We need your help. The Graduate College wants to serve you better. Tell us about your experience with admission to The University of Arizona - what was important to you and how satisfied were you.

Department to which you applied

Degree sought

Gender

Ethnicity

Citizenship

Residency status

Age

Please rate the following attributes with respect to the importance and overall satisfaction to you.

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<td>Availability of departmental funding, (i.e. TA, RA, fellowships, grants etc.)</td>
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<td>Personal attention received by the Graduate College throughout the application process</td>
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<td>Adequate funding of department program, (i.e. classes, professors, labs, research etc.)</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5 NA</td>
<td></td>
</tr>
<tr>
<td>Availability of evening/weekend classes and part-time graduate programs</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5 NA</td>
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</tr>
<tr>
<td>Orientation to the U of A Campus</td>
<td>1 2 3 4 5</td>
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<td>1 2 3 4 5 NA</td>
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<tr>
<td>Why did you choose to attend the U of A?</td>
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<tr>
<td>U of A made a better offer than any other institutions applied to.</td>
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<td></td>
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<tr>
<td>Only acceptance offer received</td>
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<td></td>
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<tr>
<td>Only Institution applied to.</td>
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<tr>
<td>Reputation of the U of A</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Quality of departmental program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program offered</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of funding</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Climate/location</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Other</td>
<td></td>
<td></td>
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</table>

15. What information would be helpful prior to arrival at the U of A? (Circle as many as may apply)

<table>
<thead>
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<th>Information</th>
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<tbody>
<tr>
<td>a. Maps</td>
<td></td>
</tr>
<tr>
<td>b. Housing Information</td>
<td></td>
</tr>
<tr>
<td>c. Community services</td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>d. Registration Information</td>
<td></td>
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<tr>
<td>e. Parking information</td>
<td></td>
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<tr>
<td>f. Health Insurance</td>
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<tr>
<td>Information</td>
<td></td>
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<tr>
<td>g. Child care Information</td>
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</tr>
<tr>
<td>h. Other</td>
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</table>

16. Any additional comments?

_______

IMPORTANT: WHEN RETURNING, PLEASE FOLD AND TAPE CLOSED SO THAT THE U OF A ADDRESS IS ON THE OUTSIDE.
APPENDIX G:
Interview questions for Administrators and Recruiters

1. Tell me about the recruitment process for graduate students in your department. Explain timing and time frame of the process.

2. What are your goals in terms of recruitment?

3. Who is responsible for recruitment?

4. Who is involved (faculty, admin, students, staff) and what role do they play?

5. What strategies are in place? Cooperative? Competitive? (Who are you competing with?) What do you offer students?

6. How are recruitment activities budgeted?

7. What would you consider the most important factors and priorities in graduate student recruitment for your program?

8. How is recruitment evaluated?

9. How has the process changed over time? Trends?

10. Describe the ideal graduate student. Who are you attempting to recruit? (customers) undergrad students, college graduates, high school/community college students, women or men, minority students, majority students, foreign students, high GPA or high scoring GRE, MAT, etc.

11. What patterns are seen in recruitment pool, in potential students?

12. Are industries/businesses also considered "customers" or consumers of your graduates?
13. How do these customers influence/effect the recruitment process?
   Do the occupations/organizations in which you place students influence the types of students you try to recruit?

14. Where do you look for students? (suppliers)
   - colleges/universities
   - specific undergraduate programs
   - employers

15. What constraints shape the recruitment process?
    (regulatory groups)
    What rules and regulations are imposed by the university regarding recruitment of students for graduate programs?
    - by accrediting agencies?
    - by affirmative action guidelines?

16. Do you talk about recruitment with colleagues at other institutions at professional meetings?

17. How do other places do recruitment? Where do you get ideas for recruitment strategies?

18. Are there professional standards (regulations) set which affect recruitment process?

19. What connection does your department have with the graduate college relative to recruitment?
### APPENDIX H: PROFILE OF FACULTY/ADMINISTRATORS INTERVIEWED

<table>
<thead>
<tr>
<th>Institution/Graduate College n=17</th>
<th>Departmental Faculty and Graduate Advisors n=18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women: 8</td>
<td>10</td>
</tr>
<tr>
<td>Men: 9</td>
<td>8</td>
</tr>
<tr>
<td>Minority: 7</td>
<td>3</td>
</tr>
<tr>
<td>White: 10</td>
<td>15</td>
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</table>
APPENDIX I: LIST OF CODES FOR FACULTY INTERVIEWS

ORGANIZATIONAL ANALYSIS

Task Environments
Customers
Suppliers
Competitors
Regulators

Goals

Strategies

Connectedness

Professional Networks
APPENDIX J: LIST OF DOCUMENTS/MATERIALS ANALYZED

INSTITUTIONAL AND GRADUATE COLLEGE MATERIALS:

Toward the Year 2000 (Arizona Board of Regents)
The Graduate Minority Educational Forum (flyer)
Mentoring: The Faculty-Graduate Student Relationship
(position paper)
Graduate Study in a Culturally Diverse Environment
(Graduate College packet of materials)
Graduate Catalogue
Graduate College Instructions and Information
for Graduate Degree Program Application
The Graduate Informer, spring 1992, Vol.1, No.2

DEPARTMENTAL INFORMATION:
Annual Reports (data on enrollment, faculty
productivity, program activity)
Departmental Strategic Plans
Graduate Fellowship Applications (student applications)
Graduate College Fellowship Application (for four
departments)
Graduate Fellowship Programs (brochure)
Posters with reply cards
Minority Graduate Research Fellowship applications
(National Science Foundation)
National Defense Science and Engineering Graduate
Fellowship Application
Minority High School Student Research Program
Application (National Center for Research
Resources)
Summer Research Internship Program for Minority
Undergraduate Students (Graduate College)
Departmental newsletters
Departmental Fact Sheets (sent to students)
Application Information (sent to students)
Letters sent to inquiring students
Program of Study Information Sheets (sent to students)
Departmental Faculty (booklet describing research)
Research Experiences for Undergraduate Women (pamphlet)

VIDEOS:

Why Graduate School? developed by University of Arizona,
National Science Foundation, Michigan State University, and
Graduate Education for Minorities Program
African American Recruiting Video (Graduate College)
Native American Recruiting Video (Graduate College)
Hispanic Recruiting Video (Graduate College)
REFERENCES


--------- (1987c). Why students pursue graduate education, how they find out about a program, and why they apply to a specific school? *College and University.* 62(2), 247-258.


