

**ASSESSING DOCTORAL STUDENT EXPERIENCE:
GENDER AND DEPARTMENTAL CULTURE**

**31 Annual Conference of the Association for Institutional Research
San Francisco, Ca
May 26-29, 1991**

**Maresi Nerad
Special Assistant to the Dean
for Research on Graduate Education
Graduate Division
317K University Hall
University of California at Berkeley
Berkeley, CA 94720
Tel: (415) 643-5675**

**Carol Lynn Stewart
Post-Graduate Researcher

Graduate Division
Sproul Hall 302
University of California at Berkeley
Berkeley, CA 94720
Tel: (415) 642-4589**

Assessing Doctoral Student Experience:

Gender and Departmental Culture

Abstract

This study investigated gender differences in the experience of graduate school, using a measure of departmental culture. The survey included 807 men and 334 women who filed their doctoral dissertations at a major research university during 1987-88. In addition, in-depth interviews were conducted with 15 men and 19 women doctoral students. Clear differences between men and women emerged in several major fields of study, with women reporting more dissatisfaction than men in their assessment of the fairness of departmental distribution of resources, the relationships with their doctoral advisors and faculty help with employment. Additionally, hierarchical multiple regression analyses showed a relationship between positive departmental culture and shorter time-to-degree for men and women in some fields. Finally, qualitative analysis of interviews with 34 advanced graduate students revealed a striking pattern of alienation and isolation among the women graduate students. If institutions want to reduce attrition and improve time to doctoral degree, they must improve the culture at the departmental level.

ASSESSING DOCTORAL STUDENT EXPERIENCE: GENDER AND DEPARTMENTAL CULTURE

Introduction

The increasing demand for doctorates to supply American universities and colleges with sufficient numbers of professors has led to a re-examination of graduate education in recent years (Girves and Wemmerus, 1988; Bowen and Sosa, 1989; AAU, 1990; Ziolkowski, 1990). Time-to-degree has become a major focus in several of these studies (Tuckman, Coyle and Bae, 1990; Bowen, Lord, and Sosa, 1991; Nerad and Cerny, 1991). Only a few studies went beyond analyzing statistical data based on demographic student information and examined reasons for long time to degree (Benkin 1984, Tuckman 1990, Nerad 1990). This study continues past research efforts at UC Berkeley and focuses on gender differences in the experience of graduate school and examines whether departmental culture has an influence on time-to-degree.

Gender differences related to satisfaction with graduate school have been observed by Adler (1976) and Clark (1990). These studies reported that graduate women are less satisfied with graduate school than graduate men. Adler points out that the experience of graduate school is indeed different for men and women. She explained that this difference was mainly due to the structure of knowledge acquisition, which tends to be competitive and isolating, and thus many women found it very alienating. Additionally, the conflict between work and family led them to experience graduate

school in a different light than men.

Our focus on departmental culture or climate--the literature often uses these terms interchangeably (Denison, 1990)--emerged from a series of interviews with graduate students from various disciplines. In these interviews, advising and the process of socialization into the profession emerged as key problem areas. Advising comprises guidance both at the departmental level and at the individual level with the dissertation advisor. Professional socialization encompasses encouragement and financial support by the department to present research and publish it, and faculty assistance in the search for employment. All of these issues contribute to departmental culture. Certainly the institution itself, in this case, the University of California at Berkeley, has a culture of its own. There are also subcultures, the major disciplines and departments within those disciplines, which envelop the student and shape a student's graduate career (Becher 1984, Clark 1970).

Organizational theory defines culture as shared assumptions and traditional modes of thinking and behaving. Culture is transmitted to members of the organization through the process of socialization (Louis, 1980; Sathe, 1983; Schein, 1985). It is curious that departmental culture has been rarely studied, because studies of organizational climate and culture have consistently found climate variables to be associated with job satisfaction (Friedlander and Margulies, 1969; Pritchard and Karasick, 1973) and productivity (Hall and Lawler, 1969). According to Denison (1990), a key factor in

organizational culture is the participation of its members in the organization. In our case, that means doctoral students are treated as junior colleagues and integrated into the life of the department, including professional and social activities. Women and minorities are often "outsiders" within the culture of the organization (Kanter, 1977; Forisha and Goldman, 1981). They are isolated and alienated in their position as "outsiders on the inside." Are graduate women as well-integrated into the culture of their departments as graduate men? We examined men's and women's experience of departmental culture to answer this question.

We defined departmental culture as consisting of a set of eight variables: (1) professional relationship with the dissertation advisor; (2) encouragement to publish; (3) faculty assistance with the job search; (4) departmental advising and guidance; (5) fairness of the distribution of financial support within the department; (6) quality of teaching in the department; (7) assessment of the qualifying exam; and (8) faculty/department support to participate and present at local and national conferences.

Faculty are the socializing agents of the scholarly professions. Girves and Wemmerus (1988:168) have stated, "the degree to which faculty impart the feeling of acceptance, support and encouragement will influence the student's feeling of belonging, which could influence retention." Faculty assistance with the job search completes the circle of graduate student experience within the department. A good dissertation advisor should provide guidance on how to obtain professional employment.

Advising on the departmental level should keep students informed of pertinent deadlines, such as fellowships and filing deadlines¹, as well as providing consistent feedback on a student's progress. In this sense, the flow of information should be open and participation of students should be welcome. For example, if information is clearly disseminated in the department, students should know the means of selection for student appointments, and be able to assess the distribution of financial support. Ideally, financial support should be distributed fairly, based on both merit and need.

Students' assessment of a major "rite of passage", the qualifying examination, provided another measure of departmental culture. At best, the qualifying exam should measure a student's mastery of the field, and should provide feedback from the qualifying committee. At worst, a qualifying exam can be a pro forma meeting that has little relationship to progress toward the degree.

The department's provision and support for their students to attend and present their research at local or national conferences, as well as encouragement to publish, shows a concern for students. Whether students are treated as "professionals in the making" or as inferiors affects the culture of the department.

¹ This is mostly performed by the graduate assistant or graduate secretary.

Method

This study has three parts. In the first part, the UC Berkeley Doctoral Exit Questionnaire was examined to determine whether there are differences between women and men in their experience of departmental culture. The second part examined whether a "positive" experience with departmental culture is associated with shorter time-to-degree, or whether dissatisfaction would correlate with longer time-to-degree. The third part consisted of 34 in-depth interviews conducted with advanced doctoral students. All these students had nearly completed their dissertation or had just filed their thesis.

For the first part we analyzed the UC Berkeley Doctoral Exit Questionnaires regarding students' experiences with their departmental culture. This questionnaire was distributed to students at the time they obtained the title page for their dissertations and was collected when they filed their dissertations with the Graduate Division. Students were guaranteed anonymity in this survey. The questionnaire was designed to measure students' graduate experience at UC Berkeley and consisted of 24 questions divided into four parts: (a) demographic information; (b) departmental experience such as financial support, teaching quality, experience with orals, advising and guidance, relationship with major adviser and professional development support; (c) general university experience and; (d) questions concerning future employment.

For our purpose we selected those questions that related to the students' experiences with the departmental culture and asked them to rate their satisfaction on a

three-point scale from very satisfied to dissatisfied.² The following ten questions were chosen to examine gender differences: (1) "Was your departmental graduate student support distributed fairly?" (Students could answer with yes, no, or don't know, and were asked to give further comments.) (2) "As you look back over your doctoral studies at UCB how satisfied have you been with departmental advising and guidance?" (3) "With the overall quality of teaching?" (4) "With the professional relationship with your doctoral supervisor?" (5) "With faculty efforts in assisting you to find professional employment?" (6) "Was your Ph.D candidacy exam and preparation a beneficial educational experience?" (Students could answer yes or no and give open-ended comments.) (7) "Did you attend any national scholarly meetings?" (8) "Did you deliver a paper(s) at any national scholarly meetings?" (9) "Were you encouraged by faculty in your department to publish?" In addition students were asked: (10) "Do you have any other comments concerning your department; e.g., quality of administrative staff, participation in departmental governance, affirmative action efforts, adequacy of space, and information flow?"

We analyzed the data for students from the 98 doctoral programs at UC Berkeley by aggregating the answers by seven major fields of study (humanities, biological sciences, engineering, natural resources, physical sciences, professional schools, and social sciences) and by cross-tabulations, using chi-square analysis. To analyze the three open-ended

²A three-point scale was used to force students to make a definite decision. We realize that a five or seven-point scale would allow finer discrimination of the level of satisfaction.

three-point scale from very satisfied to dissatisfied.² The following ten questions were chosen to examine gender differences: (1) "Was your departmental graduate student support distributed fairly?" (Students could answer with yes, no, or don't know, and were asked to give further comments.) (2) "As you look back over your doctoral studies at UCB how satisfied have you been with departmental advising and guidance?" (3) "With the overall quality of teaching?" (4) "With the professional relationship with your doctoral supervisor?" (5) "With faculty efforts in assisting you to find professional employment?" (6) "Was your Ph.D candidacy exam and preparation a beneficial educational experience?" (Students could answer yes or no and give open-ended comments.) (7) "Did you attend any national scholarly meetings?" (8) "Did you deliver a paper(s) at any national scholarly meetings?" (9) "Were you encouraged by faculty in your department to publish?" In addition students were asked: (10) "Do you have any other comments concerning your department; e.g., quality of administrative staff, participation in departmental governance, affirmative action efforts, adequacy of space, and information flow?"

We analyzed the data for students from the 98 doctoral programs at UC Berkeley by aggregating the answers by seven major fields of study (humanities, biological sciences, engineering, natural resources, physical sciences, professional schools, and social sciences) and by cross-tabulations, using chi-square analysis. To analyze the three open-ended

²A three-point scale was used to force students to make a definite decision. We realize that a five or seven-point scale would allow finer discrimination of the level of satisfaction.

questions, a stratified random sample of 240 questionnaires, weighted by the n in each discipline, was drawn from the total sample of questionnaires in which students chose to answer these questions (not all students chose to answer). These written responses were used to illustrate the findings.

The thirty-four in-depth interviews (fifteen men and nineteen women) were conducted during the academic year 1987-1988. These advanced doctoral students represented selected departments including the humanities, social sciences, biological sciences, mathematics, and the professional schools. Each interview took approximately one to two hours, and focused upon the student's experience in the department. These interviews served the purpose of placing the responses of the survey within a meaningful context. The in-depth interviews were subjected to qualitative analysis.

Respondents

Respondents for this study were 1,141 graduate students who filed their doctoral dissertations during the academic year 1987-88, and Fall 1988. The high response rate (95%) is due to the fact that students are required to complete the survey questionnaire when they file their dissertations with the Graduate Division.³ Two-thirds (71% or 807) of all students who completed the questionnaire were men and one third (29% or 334) were women. Of these 1,141 students, 62% (711) were Caucasian, 10% (119) were

³ At this point in time, students respond very honestly because they feel fairly secure with their degree in hand.

ethnic minorities, and 24% (272) were international students. Within the ethnic groups, 6% (65) were Asian American, 2% (28) were African-American, another 2% (20) were Hispanics, and 0.4% (4) students were Native American. Half of all foreign students came from five countries; Korea, Taiwan, India, China, and Canada.

Half of all students received a doctorate in engineering (24%) and physical sciences (25%). Another third received their degree in social sciences (17%), biological sciences (10%), and professional schools (10%). The remaining 14% studied humanities (8%) and natural resources (6%).

It is important to understand that women and men are concentrated in different fields of study. In this survey of the 1987-88 doctorates, men as a group were concentrated mainly in three major fields: engineering (31%), physical sciences (28%), and social sciences (15%). Women studied under a wider range of fields: 23% were in the social sciences, 19% were in the professional schools, 16% were in the physical sciences and humanities, and 13% were in biological sciences. Although there were twice as many men as there were women in the surveyed group, women were the majority in the humanities (58%) and the professional schools (55%). The smallest proportion of women were in engineering (9%), with 26 women versus 250 men (Chart 1).

The clustering of men and women in certain departments of the 1987-88 doctorates represents a general trend at UC Berkeley and elsewhere (Nerad 1990).

Taking a larger pool of students -- all those who received doctorates at UC Berkeley between 1980-1987 -- we find a similar picture: women earned their degrees mainly in the social sciences, professional schools, biological sciences, and humanities; men earned their degrees in engineering, physical sciences, social sciences, and biological sciences.

The majority (76%) of these students started their programs between 1980 and 1984; 15% started between 1975 and 1979, another 5% between 1984 and 1985, and the remaining students started graduate study before 1974. Consequently, about two-thirds of all graduate students in this survey completed their degrees in 4 (15%), 5 (24%), 6 (17%) or 7 years (13%). Because women were clustered in departments with long time-to-degree, one-third of the women (31%) took 8 to 13 years, compared with only 17% of the men. However, when time-to-degree for women and men was compared within major fields, there was no significant difference between the average time of women and that of men.

Results

Major gender differences regarding student satisfaction with departmental culture were found. In the following we will discuss only those findings where the differences between men and women showed significant results.

Departmental Financial Fairness

Overall, the respondents stated that financial resources in the department were

not distributed equitably. Students in the physical sciences (74%), natural resources (72%), biological sciences (72%), and engineering (60%) tended to assess their departments as fair in distributing financial resources. About half (52%) of students in the social sciences considered the distribution fair. However, less than half (45%) of the students in the humanities, and only 39% of the students in the professional schools, felt that resources were distributed fairly. Fifty-two percent of the students in the professional schools stated that they could not assess the fairness of the financial support distribution (Table 1). This difference by field was to be expected, since students in the physical sciences, biological sciences and engineering tend to be better funded than in the humanities and social sciences. Probably, the students who received a satisfactory level of support tend to evaluate the fairness more favorably. What was unexpected, however, was the differences by men and women in the same field of study.

Fewer women (33%) than men (61%) in the humanities felt that resources were distributed fairly. Further, 45% of the women in the humanities versus 28% of the men felt that the method for distributing resources was a mystery (^{Graph}~~Table~~ 1). Women's comments reflected this assessment: "The criteria for [financial] awards was never made public"; and "The competition for resources is not open -- you have to wait until the first day of the semester to see if you have support"; "There is no clear policy of eligibility for support." Although nearly equal percentages of women (51%) and men (53%) in the social sciences felt that their departments were fair in distributing resources, 20% of the women and only 7% of the men in these departments felt that the distribution was