

Assessing the climate for doctoral students at the University of Michigan

Executive Summary

March, 2006

**PREPARED BY THE UM ADVANCE PROJECT
INSTITUTE FOR RESEARCH ON WOMEN AND GENDER**



INTRODUCTION¹²

The initial motivation for this report was a desire specifically to assess the climate for women and underrepresented minorities in doctoral programs at the University of Michigan. In the course of that assessment, the data we collected permitted us to develop an overview of how graduate students in general (and by gender and race-ethnicity) experience several domains of their experience (morale, department climate, experiences of graduate education, advising and support, and career goals). In all areas, many graduate students describe their experiences in very positive terms. At the same time, in all areas women students report somewhat less positive experiences than do men, and in some areas U.S. born students of color and international students of color report less positive experiences than U.S. born white students. As we note at the conclusion of this summary, interventions to address these issues would improve the experiences of graduate education for all students.

Of course evaluations of the “climate” are always subjective judgments. If we want to know about what a group of people, or an individual person, is experiencing—how they feel—it is actually best to ask them. This study, then, measured doctoral students’ judgments of the climate, with the primary goal of assessing whether that climate varied for particular groups of students, looking particularly at gender and race-ethnicity³. The goal of this report is to provide aggregate results across the sample.

Data Collection. The survey was initially developed by the NSF ADVANCE staff in conjunction with Rackham Graduate School administrators⁴ and was further modified based on feedback received from graduate students. Survey topics included skills, training and learning experiences, advising and mentoring, career planning goals, department climate, and background information.

In fall 2004 all doctoral students enrolled in Rackham for more than one year received a request to complete the on-line survey (n=5340). The surveys were anonymous and all respondents were promised confidentiality. We received a total of 1454 surveys (27% response rate). The demographic breakdowns within the analyzable sample generally reflect the overall rates of doctoral students reported by Rackham. However, female students responded at a higher rate than male students (they represent 44% of the Rackham student body but 60% of our sample), as is

¹ Electronic versions of this report as well as the Executive Summary can be found on UM ADVANCE’s website (full report: http://www.umich.edu/~advproj/PhD_Report.pdf; executive summary: http://www.umich.edu/~advproj/PhD_Report_es.pdf).

² This study was conducted, and the report prepared by Janet Malley, Jennifer Churchwell and Abigail Stewart for the UM ADVANCE Project with assistance from Keith Rainwater. The project was supported by combined funding from the ADVANCE project, the Office of the Provost and the Rackham Graduate School. We are grateful to Rackham’s Interim Dean Steven Kunkel and Senior Associate Provost Lester Monts for their support for this study. We are also grateful to Rackham’s Executive Board and UM ADVANCE’s Evaluation Advisory Committee (Deborah Carter, Mark Chesler, Mary Corcoran, Paul Courant, Richard Gonzalez, Janet Lawrence, Valerie Lee, Ann Lin, and Yu Xie) for their valuable feedback on the report and suggestions for clarification, additions and revisions. We have attempted to incorporate their wise advice, but they are in no way responsible for what we have written here.

³ We examined both Rackham Division and School or College differences, and were not convinced that these analyses captured important differences well.

⁴ We are grateful to Maia Bergman, John Godfrey, Kerry Larson and Jayne London for assistance and advice throughout this process. We are also grateful to Dean Janet Weiss and the staff she consulted for valuable comments and advice about the report.

typical in studies of this kind (see discussion in Stewart, Stubbs & Malley, 2002). Since men and international students of color were underrepresented in our sample, all analyses presented in this report were conducted with appropriate weights to account for these differences.⁵ In addition, all analyses were conducted controlling for the students' **current financial situation** and **number of years at UM**.

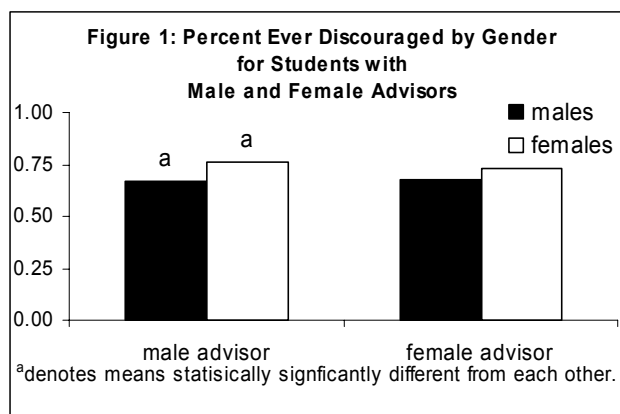
Statistically significant findings reported here account for these controls; that is, they cannot be accounted for by years at UM or current financial situation. In addition, where we did find significant differences for gender and/or race-ethnicity, we have verified that those differences hold up, regardless of differences in the other variable or by division.

DOCTORAL STUDENTS' MORALE

Confidence. Women and men were equally confident of their ability to obtain an academic job and their research skills. However, women were significantly less confident than men of their abilities as a teacher; to obtain a non-academic position, and to balance work and family lives. When these gender differences were examined by gender of advisor the differences on two scales (teaching and obtaining a non-academic position) only held for students with male advisors.

There were no differences among students by race-ethnicity in their confidence about teaching and research abilities or in their ability to combine work and family. However, international students of color reported significantly less confidence than both groups of U.S. students on the university/research job and non-academic job scales.

Discouragement. Generally, women were significantly more likely than men to indicate that they had been discouraged (75% of the women compared to 67% of the men). When examined by gender of advisor these statistically significant differences only held for students with male advisors (see Figure 1). There were no differences on this item by race-ethnicity.



OVERALL CLIMATE OF DEPARTMENT OR AREA

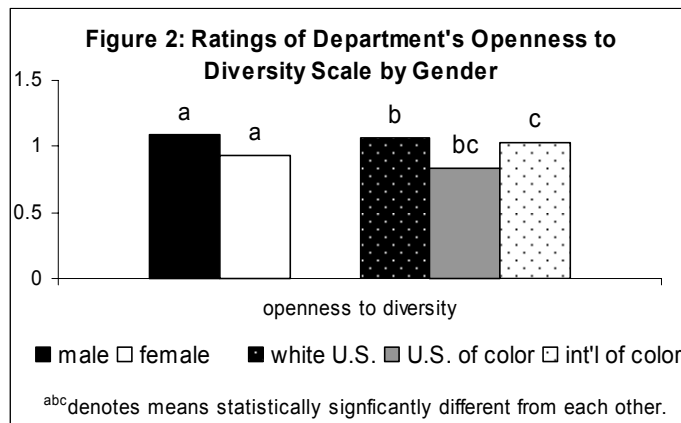
Department Climate. Women students were significantly less satisfied with the climate than male students; however, when examined by gender of advisor this difference only held for students with male advisors. No differences were found among the three race-ethnicity groups.

Slightly more than half of the total sample of students reported that their departments offered a supportive environment for women, international students and racial/ethnic minorities. Fewer indicated that it was supportive for men, sexual minorities and disabled students.

⁵ We are grateful to Brady West at the Center for Statistical Consulting and Research at the University of Michigan for advice on this issue.

About one quarter of the students reported that some faculty and students have a condescending attitude toward international students and slightly fewer have condescending attitudes toward racial/ethnic minorities, women, sexual minorities and disabled students. Women and students of color were also more likely to report hearing more negative comments about women, racial/ethnic minorities and/or sexual minorities.

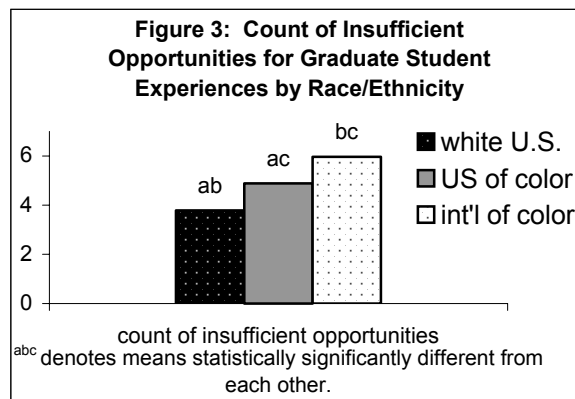
Women rated their department climates as less positive on both climate scales⁶ than did their male counterparts. The difference on the general climate scale only held for students with male advisors. U.S. students of color rated their departments as being less open to diversity than all other students (see Figure 2).



Sexual Harassment. About 10% of the women students (compared with 1% of the male students) reported having experienced sexual harassment at the UM within the past year, a statistically significant difference.

DOCTORAL STUDENTS' EXPERIENCES OF GRADUATE SCHOOL

Graduate Student Experiences. International students of color reported a significantly higher total number of insufficient opportunities for a series of graduate students experiences than all other students; U.S. students of color reported a significantly higher number than white U.S. students (see Figure 3). Men and women did not differ on this variable.



Access to Information. International students of color were significantly more likely than all other students to indicate that they didn't have much information on a variety of topics and less likely than all others to learn from other students. U.S. students of color were most likely to report that they learned information on their own; moreover, U.S. white students were more likely to report that they learned on their own than international students of color.

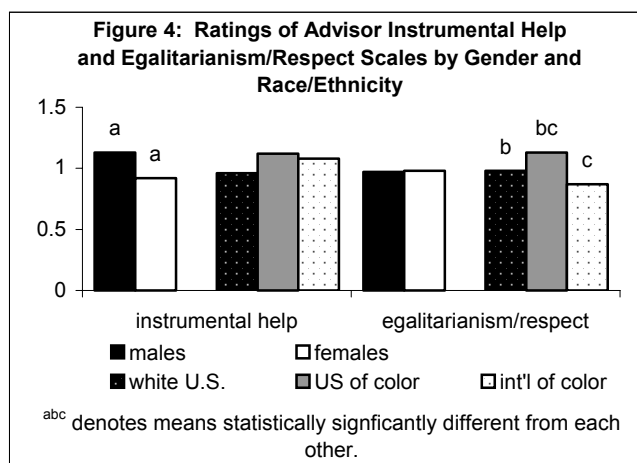
⁶ One scale focused on the four items reflecting the environment's openness to diversity (i.e., non-sexist/sexist, non-homophobic/homophobic, non-racist/racist, diverse/homogeneous) and the other constituted a general climate scale (welcoming/alienating, friendly/hostile, respectful/disrespectful, collegial/contentious, collaborative/individualistic, cooperative/competitive, supportive/not-supportive, flexible/rigid, protective/threatening, encouraging/discouraging, down-to-earth/snobbish).

ADVISING AND SUPPORT

Advisors. Of those who did not have advisors assigned to them (2/3 of the sample), 41% reported that it was hard, or very hard to get an advisor. International students of color found it hardest. Male students reported a statistically significantly higher level of satisfaction with advisors than female students; however, when analyzed separately by gender advisor this difference only held for students with male advisors.

On two of the three scales assessing advisor support (instrumental help from advisor; advisor's availability to the student; and advisor's respectful treatment) male students reported average scores that were significantly higher than those of female students on two scales (instrumental help and general availability); see Figure 4. The significant gender differences remained on those scales when we limited our analyses to students whose advisors were male.

International students of color scored significantly higher on the advisor instrumental help scale than white U.S. students; U.S. students of color scored higher on the advisor respect scale than all other students (see Figure 4). Interestingly, the results were consistent when we limited analyses to students with male advisors. We found no race-ethnicity group differences on the instrumental help and respect scales for students with female advisors.



Non-Advisor Support/Advice. On average, students reported a higher level of advice and help from faculty and other students than from members of other groups (e.g., staff). International students of color reported receiving significantly less help and advice from staff, non-UM faculty, and other students than both groups of U.S. students. They also reported significantly lower levels of help in several areas.

Across the sample, family and friends were identified often as a source of social and emotional support for students, particularly in providing emotional support when they needed it and building their confidence. Not surprisingly, faculty, especially advisors, were also mentioned frequently as providing such support.

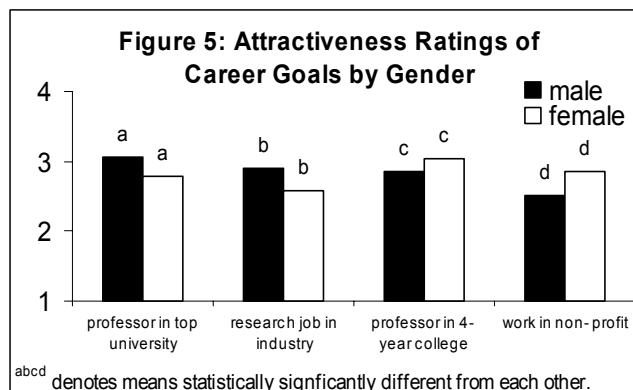
The one area where neither advisors nor faculty in general provided much support was in talking with students about the conflicting demands between academic life and starting/managing a family. For this item, other students and family/friends were far more likely to be identified as providing support.

Men reported receiving more kinds of social and emotional support from UM faculty than women reported. International students of color reported receiving significantly fewer kinds of psycho-social support from other students, faculty and staff than both groups of U.S. students. They also reported significantly fewer groups providing support than all U.S. students. U.S. students of color were more satisfied with the support their received

from their primary advisor than white U.S. students.

CAREER GOALS

Future Career Goals. Student ratings of a series of career goals revealed statistically significant gender differences on several items. Male students rated two career goals as significantly more attractive than female students: becoming a professor in a top research university and getting a research job in industry or the private sector. Women reported two different career goals as more attractive than the men: becoming a professor in a 4-year college and working in a non-profit or government agency (see Figure 5). Again, these differences only held for students with male advisors. There were also differences by race-ethnicity groups on some items. International students of color rated being a professor in a top research university and research in industry or the private sector as more attractive than both groups of U.S. students; in contrast they rated being a professor in a 4- and 2-year college as less attractive than their comparison groups. U.S. students of color also rated getting a research job in industry or the private sector significantly more positively than white U.S. students.



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Influential Features of Academia. Overall, men and women students ranked most of the same features of academic as the most influential to them. The top two features listed as having the most positive effect by both men and women were research and teaching as was true for white U.S. students. U.S. students of color selected teaching more often than research. For these students, making an impact beyond academia was also highly rated. Research was also a top positive feature for international students of color; teaching was less popular than other aspects of careers.

Men's ratings were significantly higher than women's on the family life factors scale (ability to have both children and a career; ability to balance personal and professional lives; compatibility with spouse' career options). Similarly, international students of color scored higher on this scale than the two U.S. groups.

RELATIONSHIPS BETWEEN KEY VARIABLES AND STUDENT MORALE

Correlations revealed strong and significant relationships between students' morale and career goals and the climate, advisor, and broader experience factors in the expected directions. Generally, we found that the climate, advisor, and broader experience items were all significantly negatively correlated with discouragement (the more positive the experience the lower the level of discouragement). They were also positively correlated with four of the five confidence subscales (not with confidence in obtaining a non-academic job), and having a career goal to become a professor in a top university (the more positive the experience the higher the

reported level of confidence). These results suggest that students' experiences of their departments' climates as well as their relationships with their advisors and other UM faculty have implications for students' confidence and desire to pursue a career in a research university.

We also examined the relationship between the climate and advisor variables, since advisors may play an important role in students' experiences of their departments' climate. Correlational analyses again revealed strong positive results. It is important to note, however, that the correlation coefficients (which range from .21 to .51) suggest that students are not equating the climate with their experiences with their advisors, and that other factors beyond their advisors play an important role in how they experience their department climates⁷. However, the strength of the relationship between advisor and climate ratings increases over time.

IMPLICATIONS OF FINDINGS

Taken together, these findings reveal that students' *experiences of the climate*, as well as their *relationship with their advisors* (and other UM faculty), play a powerful role in the students' confidence that they can be successful academics and their interest in pursuing a faculty career at a top research university. The provision of *opportunities for the broad range of experiences* normally open to students is also important as well as *managing a personal and professional life*. It is, then, in these four areas that it seems most important to attempt to create changes in students' graduate school experience.

Conclusions

The findings from this study point to specific goals individual departments and schools should adopt to improve the experiences of Ph.D. students at the University of Michigan. Specifically, units should:

- sensitize graduate chairs, department chairs, and faculty in general to different experiences/needs of female students and students of color;
- ensure that critical information about graduate training is formally, widely, and clearly disseminated to all students;
- provide formal support structures, including for finding an advisor, especially for students who may be less well integrated into the department;
- Increase exposure to a range of alternative ways of managing personal and professional lives in academia.

The specific findings from this study do vary in important ways for different demographic groups of student. However, we note that everything recommended here would benefit all graduate students, and therefore the entire institution. Improving the climate and the quality of advising, information and structures for graduate students should not only improve graduate students' morale (and thereby retention), but also their continued aspiration to the kinds of careers they came to the University of Michigan to pursue.

⁷For example, students' discouragement with their interactions with other students, their satisfaction with the support they receive from other faculty, students and staff, as well as their reports of prevalence and frequency of sexual harassment are all also highly correlated with their ratings of the department climate.



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The full report is available on the UM ADVANCE website at: http://www.umich.edu/~advproj/PhD_Report.pdf.