



College of Science
Office of the Dean

1040 E. 4th Street
Coulter-Simpson Bldg., Room 1025
P.O. Box 210077
Tucson, AZ 85721-0077

Tel: (520) 621-4090
Fax: (520) 621-8389
uasci@email.arizona.edu
<http://cos.arizona.edu>

University of Arizona College of Science Workplace Climate Assessment

This report contains the results from the Workplace Climate Survey that the College of Science conducted in the 2016 fall semester.

This important activity was designed to gather information that can help us to identify existing strengths and to make the workplace fairer, more equitable and more inclusive.

Confidential, online questionnaires were sent to all College of Science faculty, staff, postdocs and graduate students by the University of Michigan ADVANCE program, a National Science Foundation-funded program to promote diversity in institutional workplaces (<http://advance.umich.edu/index.php>).

We elected to ask the University of Michigan ADVANCE program to administer the survey and to collect and analyze the data, given the program's extensive experience and the benefit of confidentiality gained by partnering with an organization outside of the College of Science and the University of Arizona. These questionnaires have been in use for 10 years and have been administered to almost 90 units at the University of Michigan and elsewhere.

To help preserve anonymity, the survey responses were not broken down by department or unit and were only grouped by the four broad employment categories (faculty, staff, postdocs and graduate students). To ensure confidentiality and to avoid small sample sizes for individual groups, the survey results were analyzed at the level of the college only.

It took several months for the University of Michigan ADVANCE researchers to aggregate the data and write this detailed report. The College of Science received the report in February 2017.

The report has four sections, one for each group surveyed. The report is organized as follows:

- Faculty (this group includes tenured/tenure track faculty, research track faculty and instructional track faculty)
- Staff (this group includes both appointed professionals and classified staff)
- graduate students
- Postdoctoral researchers

We are interested in your feedback about the findings in this report. Please do not hesitate to contact me or the members of the College of Science Workplace Climate Committee, which was formed in January 2017. A list of committee members is here: <http://cos.arizona.edu/content/workplace-climate-survey-faq>

Joaquin Ruiz,
Dean, College of Science
jruiz@email.arizona.edu
520-621-4090

**University of Arizona College of Science Climate Assessment
Report on Faculty Data
Prepared by the ADVANCE Program
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INTRODUCTION

In the fall of 2016, the University of Michigan ADVANCE Program was asked by the dean of the University of Arizona College of Science (COS) to conduct a climate assessment of its workplace climate with all faculty, postdocs, staff, and graduate students. The surveys asked respondents to report on multiple dimensions of their departments' workplace climate including job satisfaction, professional resources and opportunities, and the environment for various groups. The surveys opened on September 19 and remained open through October 24, 2016. Following is a report of the findings from the survey for all faculty, including tenure track, research track, and instructional faculty.

A total of 419 out of 556 COS faculty responded to the survey (a 75% response rate). Of the respondents, 288 were tenured/tenure track faculty, 58 were research track faculty, and 73 were instructional faculty. Of the tenured/tenure track faculty, 72% indicated that they were tenured, and 25% were untenured (3%, n=9, did not indicate tenure status).

For ease of reporting, all of the respondents will be referred to collectively as faculty members. However, some survey items were specific only to the tenured/tenure track faculty members and were not asked of the instructional and/or research faculty (e.g., questions about teaching were not asked of the research faculty). This, in addition to partial survey responding by some faculty members, causes sample sizes to vary across the survey questions. Information about the numbers of people responding to each question is presented in the tables that are appended to this report.

Among all respondents, 29% identified as female, and 65% identified as male (6%, n=26, did not indicate gender). Twenty-six percent of respondents identified as being from a country other than the U.S., 8% identified as an underrepresented racial-ethnic minority, and 9% identified as being from a lower-income background. Very few respondents self-identified as a sexual/gender minority or as having a disability.

Analytic Strategy

We report frequencies, means, and standard deviations for closed-ended items (i.e., items that prompted respondents to select from a limited number of response options). The mean provides a measure of central tendency, averaging across all responses. However, similar-looking averages can be derived from very different spreads or dispersions of responses (e.g., responses that cluster around the mean or a more bi-modal response pattern with clusters of responses distributed at each end of the response scale). Thus, the standard deviation (the measure of spread around the mean) and frequencies provide further information about the response pattern beyond the mean (a larger standard deviation indicates more variability around the mean). Tables with standard deviations are appended to this report.

We also assessed differences between groups among the COS faculty. Data from previous ADVANCE Program climate assessments suggest that certain aspects of the climate are experienced differently, on average, by women, racial-ethnic minorities, and other marginalized groups. Moreover, majority group members tend to overestimate how positive the climate is for members of underrepresented groups. Thus, comparison analyses were conducted by gender,

race-ethnicity, international status, and socioeconomic background. For tenure track faculty, comparison analyses were also conducted by tenure status. Results from these comparison analyses are reported with the survey findings below.

To assist with the interpretation of the analyses of group differences, we note in the table below the groups that were directly compared.

<i>This Group...</i>	<i>Was <u>Only</u> Compared to</i>	<i>...This Group</i>
Female faculty	↔	Male faculty
Underrepresented racial-ethnic minority (URM) faculty	↔	Racial-ethnic majority faculty
International faculty	↔	Domestic faculty
Faculty from low-income backgrounds	↔	Faculty not from low-income backgrounds
Tenure track assistant professors (junior faculty)	↔	Tenured associate and full professors (senior faculty)

In the results reported below, references to group differences refer only to differences found to be statistically significant (i.e., $p \leq .05$). These are differences that would have emerged simply by chance (when there truly was no difference or effect) at or less than 5 percent of the time. This is a generally-accepted standard of statistical significance in social science research. Please note that when differences are not reported, it is simply because the mean for one group is not statistically different from the comparison group.

We begin with a summary of the findings across areas, highlighting key points. This is followed with a more detailed description of findings by topic area for College of Science faculty.

SUMMARY

General Department Climate

- COS faculty generally described their departments as positive (e.g., respectful and supportive) and tolerant (e.g., non-racist, non-sexist) overall.
 - Women faculty and faculty from lower-income backgrounds rated their departments less positively on several dimensions related to the environment.
 - Women faculty, underrepresented racial-ethnic minority faculty, and faculty from lower-income backgrounds rated their departments less positively on several dimensions related to tolerant environment.
- The majority of faculty members agreed that they can navigate the unwritten rules concerning how to conduct oneself as a faculty member, and that they feel comfortable raising personal and/or family responsibilities when scheduling work obligations. At the same time, only about half of faculty agreed that they have a voice in the decision-making affecting the direction of their department.
 - Underrepresented racial-ethnic minority faculty and faculty from lower-income backgrounds agreed more strongly that others seem to find it easier to “fit in.”
 - International and junior faculty were less likely to agree that they can navigate the unwritten rules concerning how one is to conduct oneself as a faculty member.

- Women faculty and faculty from lower-income backgrounds agreed more strongly that they feel excluded from an informal network in their department.
- Women faculty, international faculty, faculty from lower-income backgrounds, and junior faculty were more likely to disagree that they have a voice in decision-making that affects the direction of their department.
- Faculty members reported low-to-moderate levels of felt surveillance in their department.
 - Women faculty, underrepresented racial-ethnic minority faculty, faculty from lower-income backgrounds, and junior faculty reported higher levels of felt surveillance.

Climate Related to Gender, Race-Ethnicity, and Other Minority Groups

- COS faculty members described their departments as generally tolerant.
- However, some faculty reported experiencing bias by a superior, colleague, student, or staff member in their department due to their gender, race, or other personal characteristics.
- Women faculty, underrepresented racial-ethnic minority faculty, faculty from lower-income backgrounds, international faculty, and junior faculty were more likely to report experiencing bias by a department member.
- About three-quarters of COS faculty disagreed that they experienced tokenism in their department based on their gender and/or race-ethnicity.
- However, women and underrepresented racial-ethnic minority faculty reported higher levels of tokenism overall.
- Similarly, women faculty, underrepresented racial-ethnic minority faculty, and faculty from lower-income backgrounds agreed more strongly that their colleagues expect them to represent the “point of view” of their race-ethnicity.
- Faculty described their department as moderately gender egalitarian; most respondents agreed that there is equal access to lab/research space for both men and women, that people pay just as much attention when women speak in meetings as when men do, and that the environment promotes adequate collegial opportunities for women. Similarly, a majority of faculty disagreed that sex discrimination is a big problem in their department.
- However, only about half of respondents agreed that women are appropriately represented in senior positions and one-third of respondents agreed that some faculty have a condescending attitude toward women.
 - Moreover, women, underrepresented racial-ethnic minority faculty, and faculty from lower-income backgrounds were all more likely to report specific areas of less gender egalitarianism.
- A majority of faculty reported that their department environment is one in which men, women, underrepresented minorities, sexual/gender minorities, those from countries other than the U.S., those with disabilities, and those from lower-income backgrounds feel comfortable and are included.
 - However, women, underrepresented racial-ethnic minority faculty, faculty from other countries, and those from lower-income backgrounds were more likely to report some aspects of their department as less positive for them.

Job Satisfaction and Stress

- Two-thirds of faculty members indicated they were somewhat or very satisfied overall with their current position in the College of Science (12% were somewhat or very dissatisfied).
- Nearly three-quarters of faculty indicated they had considered leaving UA. The most commonly reported reason was to increase their salary.

- Women faculty and junior faculty were more likely to consider leaving to improve their prospects for tenure.
- Underrepresented racial-ethnic minority faculty were more likely to consider leaving to increase their salary and garner more respect.
- International faculty were more likely to consider leaving to increase their time to do research and to improve the employment situation of their partners.
- Faculty from lower-income backgrounds were more likely to consider leaving to increase their time to do research and to garner more respect.
- Junior faculty were more likely to consider leaving to reduce stress.
- Most faculty reported some level of satisfaction with their sense of being valued as a teacher or mentor/advisor by their students and for their research, scholarship, or creativity by department members. At the same time, one-third of COS faculty were dissatisfied with the level of funding for their research efforts.
 - Underrepresented racial-ethnic minority faculty expressed stronger satisfaction with their sense of contributing to developments in their discipline.
 - International faculty expressed stronger satisfaction with their balance between personal and professional life, and less satisfaction with their job overall and their sense of being valued as a mentor or advisor by their students.
 - Faculty from lower-income backgrounds reported less satisfaction with the level of funding for their research efforts and the level of intellectual stimulation in their day-to-day contacts with faculty colleagues.
- COS faculty generally indicated a high degree of self-determination and learning in their current positions, but also highly permeable work-life boundaries. Nearly all COS faculty agreed that they regularly bring work home and respond to work-related communications during their personal time.
 - Women faculty agreed more strongly that they have developed a lot as a person at work.
 - Underrepresented racial-ethnic minority faculty agreed more strongly that they allow work to interrupt them while spending time with family and friends.
 - International faculty agreed more strongly that they allow work to interrupt them while spending time with family and friends, and work during their vacations.
 - Junior faculty reported lower levels of self-determination.
- Most faculty were satisfied with their office and lab space, and their department's clerical and computer support staff. Most were also satisfied with their teaching and advising assignments. Fewer faculty, but still more than half, were satisfied with committee and administrative responsibilities, access to teaching assistants, advising support, and quality of undergraduate students.
- At the same time, more than one-quarter of faculty were dissatisfied with discretionary funds, salary, teaching support, time available for scholarly work, and support for securing grants
 - Women faculty were more satisfied with access to teaching assistants and quality of graduate students, and less satisfied with support for securing grants and time available for scholarly work.
 - International faculty were more satisfied with teaching support and less satisfied with the quality of graduate students.
 - Faculty from lower-income backgrounds were less satisfied with technical and research staff, computer support staff, support for securing grants, discretionary funds, and committee and advising responsibilities.
 - Junior faculty were less satisfied with advising support.

- COS faculty reported securing funding for research, teaching responsibilities, scholarly productivity, and managing a research group or grant as their main sources of stress.
 - Women, underrepresented racial-ethnic minority faculty, and junior faculty reported higher levels of stress related to the review/promotion process.
 - Women, underrepresented racial-ethnic minority faculty, international faculty, and faculty from lower-income backgrounds reported more stress related to bias/discrimination/unfairness in procedures.
 - Women and underrepresented racial-ethnic minority faculty reported higher levels of stress related to inequity in assignments.
 - Underrepresented racial-ethnic minority faculty reported higher levels of stress related to the scheduling of departmental meetings and functions.
 - Faculty from lower-income backgrounds reported higher levels of stress related to departmental politics.
 - Junior faculty reported higher levels of stress related to managing a research group or grant, scholarly productivity, teaching responsibilities, and reported lower levels of stress related to committee and/or administrative responsibilities and inequity in compensation.

Aspects of Academic Life

- Most COS faculty agreed that their department would support providing relief from teaching or other workload duties, or slowing or stopping the tenure clock for a faculty member's personal reasons.
 - Junior faculty were less likely to agree that their department would support providing relief from teaching or other workload duties for a faculty member's personal reasons.
- About half of respondents agreed that their department's procedures are fair and equitable to all and transparent and open for discussion, and that their department's allocation of committee assignments is fair and equitable to all.
- Fewer than half of respondents agreed that the decisions in their department are made in open forums.
 - Faculty from lower-income backgrounds and junior faculty were less likely to agree that department's procedures are fair and equitable to all and transparent and open for discussion.
 - Women were less likely to agree that their department's allocation of committee assignments is fair and equitable to all.
 - Women, international faculty, and junior faculty were less likely to agree that they are given the opportunity to serve on important departmental committees.
- Most faculty respondents agreed that a diverse faculty is important for their department's continued academic excellence; nearly two-thirds agreed that the climate and opportunities for underrepresented racial-ethnic minority faculty are at least as good as those for majority faculty in their department.
 - Women faculty were more likely to agree that a diverse faculty is important for their department's continued academic excellence.
- COS faculty reported low-to-moderate levels of felt influence over curricular and faculty matters, resource allocations, and departmental climate/culture.
 - Women faculty indicated less felt influence over resource allocations.
 - International faculty indicated less felt influence over curricular matters.
 - Faculty from lower-income backgrounds indicate less felt influence over faculty matters.

- Junior faculty indicated less felt influence over curricular matters, faculty matters, and overall department climate/culture.
- Two-thirds of faculty respondents reported that they had received adequate mentoring (formal or informal) in their departments.
 - Women faculty described their informal mentoring experiences as more helpful.

FINDINGS

General Department Climate

The climate in the College of Science was assessed in several ways. Many items examined the climate generally, including collegiality within their department, ratings of how positive the environment was for faculty, and levels of felt surveillance.

Department Collegiality

Faculty were asked to rate seven items addressing their experiences of their department as a collegial and communicative environment (e.g., I feel excluded from an informal network, I have a voice in the decision-making that affects the direction of their department) on a five-point scale that ranged from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 1.

A majority of all faculty respondents (70%) agreed that they can navigate the unwritten rules concerning how one is to conduct oneself as a faculty member. A similar number (68%) reported that their department is a place where individual faculty may comfortably raise personal and/or family responsibilities when scheduling department obligations. At the same time, fewer faculty agreed (51%) that they have a voice in decision-making that affects the direction of their department (29% disagreed). Nearly half of respondents (47%) indicated that some colleagues make discussions of important departmental issues difficult, and 19% indicated that they don't enjoy departmental meetings because some people are likely to behave badly (35% and 58% of respondents disagreed with these statements, respectively). Fewer faculty reported that others seem to find it easier to "fit in" (24%) or that they feel excluded from an informal network in their department (22%).

The following mean differences were found in group comparison analyses:

- Women faculty agreed more strongly that they feel excluded from an informal network in their department and were more likely to disagree that they have a voice in decision-making that affects the direction of their department.
- Underrepresented racial-ethnic minority faculty agreed more strongly that others seem to find it easier to "fit in."
- International faculty were less likely to agree that they can navigate the unwritten rules concerning how one is to conduct oneself as a faculty member and that they have a voice in decision-making that affects the direction of their department.
- Faculty from lower-income backgrounds agreed more strongly that others seem to find it easier to "fit in" and that they feel excluded from an informal network in their department. They were also more likely to disagree that they have a voice in decision-making that affects the direction of their department.
- Junior faculty were less likely to agree that they can navigate the unwritten rules concerning how one is to conduct oneself as a faculty member and that they have a voice in decision-making that affects the direction of their department..

Positive Environment

Faculty were asked to rate their department on continua of twelve pairs of characteristics (e.g., hostile/friendly) on a five-point scale (with five representing a more positive environment). Ratings on six of these continua (hostile/friendly; disrespectful/respectful; contentious/collegial; competitive/cooperative; individualistic/collaborative; not supportive/supportive) were combined to create a mean positive environment score.

The mean rating of the positive environment composite score for COS faculty was 3.84; see Table 2a. The most positive individual item rating, on average, was for friendly (4.15), followed by respectful (4.11), supportive (3.91), and collegial (3.85); see Table 2b. The least positive mean rating, on average, was for collaborative (3.38).

Women faculty rated their department as more collaborative, while faculty from lower-income backgrounds rated their department environment less positively on all dimensions but collegial.

Felt Surveillance

Faculty were asked four questions about their experiences of felt surveillance in their department (I am/was reluctant to bring up issues that concern me for fear that it will/would affect my promotion/tenure; I constantly feel under scrutiny by my colleagues; I have/had to work harder than I believe my colleagues do in order to be/have been perceived as a legitimate scholar; and there are many unwritten rules concerning how one is expected to interact with colleagues in my department); see Table 3.

Thirty-one percent of faculty members agreed that there are many unwritten rules concerning how one is expected to interact with colleagues in their department (50% disagreed). Fewer agreed that they were reluctant to bring up issues of concern for fear that it would affect their promotion or tenure (27%), that they have to work harder than their colleagues do in order to be perceived as a legitimate scholar (25%), and that they constantly feel under scrutiny by their colleagues (21%). These four items were combined to create an overall felt surveillance score. The mean score for COS faculty was 2.43 (on a five-point scale, with five representing the most felt surveillance).

The following mean differences were found in group comparison analyses:

- Women faculty indicated a higher level of felt surveillance overall and expressed stronger agreement with each of the four questions related to felt surveillance in their department.
- Underrepresented racial-ethnic minority faculty indicated a higher level of felt surveillance overall, and agreed more strongly that they were reluctant to bring up issues of concern for fear that it would affect their promotion or tenure, that they have to work harder than their colleagues do in order to be perceived as a legitimate scholar, and that they constantly feel under scrutiny by their colleagues.
- Faculty from lower-income backgrounds indicated a higher level of felt surveillance overall, and agreed more strongly that they were reluctant to bring up issues of concern for fear that it would affect their promotion or tenure and that there are many unwritten rules concerning how one is expected to interact with colleagues in their department.
- Junior faculty indicated higher levels of felt surveillance overall, and agreed more strongly that they were reluctant to bring up issues of concern for fear that it would affect their promotion or tenure, that they have to work harder than their colleagues do in order to be perceived as a legitimate scholar, and that there are many unwritten rules concerning how one is expected to interact with colleagues in their department.

Climate Related to Gender, Race-Ethnicity, and/or Other Minority Groups

Several items and scales assessed climate in the College of Science for members of underrepresented groups, including experiences of bias or exclusion and tokenism, ratings of how tolerant the environment was for faculty, gender egalitarianism, and experiences of their department environment. It should be reiterated here that, in some cases, these data represent primarily the perspective of the predominantly majority group faculty (e.g. White, male, heterosexual) who responded to the survey about their sense of the environment for different underrepresented groups.

Experiences of Bias or Exclusion

Faculty members were asked the extent to which they had personally experienced bias or exclusion due to their gender, race, or other personal characteristics by members of the COS on a three-point scale that ranged from a low of 'not at all' to a high of 'to a large extent'; see Table 4. About 21% of the faculty reported experiencing bias or exclusion by a colleague. Fewer faculty reported such experiences by a superior (17%), student (16%) or staff member (10%).

The following mean differences were found in group comparison analyses:

- Women faculty were more likely than men to report experiencing bias or exclusion by all four categories of department members.
- Faculty from lower-income backgrounds were more likely to report experiencing bias by a superior or colleague.
- Underrepresented racial-ethnic minority faculty, international faculty, and junior faculty were more likely to report experience bias by a student.

Experiences of Tokenism

Faculty were asked about any experiences of tokenism in their department based on their gender and/or race-ethnicity on a five-point scale that ranged from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 5. About three-quarters of faculty members disagreed that their colleagues expect them to represent the "point of view" of their gender (72%) or race-ethnicity (75%); (12% and 8%, respectively, agreed). These two items were combined to create a mean tokenism score of 1.87.

Both women and underrepresented racial-ethnic minority faculty reported higher levels of tokenism overall, and agreed more strongly that their colleagues expect them to represent the "point of view" of their gender or race-ethnicity. Faculty from lower-income backgrounds agreed more strongly that their colleagues expect them to represent the "point of view" of their race-ethnicity.

Tolerant Environment

Ratings of four of the remaining pairs of characteristics (racist/non-racist; homophobic/non-homophobic; homogeneous/diverse; sexist/non-sexist) described previously were used to assess how tolerant, on average, their department felt to faculty respondents.

The highest individual mean rating was for non-racist (4.48), followed by non-homophobic (4.41); see Table 2b. The lowest mean rating, on average, was for diverse (2.87). The overall mean rating of the tolerant environment scale was 3.89 for COS faculty; see Table 2a.

The following mean differences were found in group comparison analyses:

- Women faculty rated their department environment as more racist (although means for both groups rated closer to non-racist than racist).
- Underrepresented racial-ethnic minority faculty rated their department as less tolerant overall, and as more racist.
- Faculty from lower-income backgrounds rated their department environment as more racist and sexist (again, means for both groups rated closer to non-racist and non-sexist).
- International faculty rated their department environment as more diverse.

Gender Egalitarianism

Faculty were asked to rate their level of agreement with eight items assessing gender egalitarianism in their department (e.g., some faculty have a condescending attitude toward women, men are more likely than women to receive helpful career advice from colleagues, sex discrimination is a big problem in their department); see Table 6.

More than two-thirds of faculty respondents agreed that there is equal access to lab/research space for both men and women (73%), that people pay just as much attention when women speak in meetings as when men do (73%), and that the environment promotes adequate collegial opportunities for women (71%). However, only about half of respondents agreed that women are appropriately represented in senior positions (53%), and 33% percent of COS faculty agreed that some faculty have a condescending attitude toward women (49% disagreed with this statement). A majority of faculty disagreed that sex discrimination is a big problem in their department (77%) and that men receive preferential treatment in the areas of recruitment and promotion (67%); 4% and 11% of respondents, respectively, agreed. More than half of respondents also disagreed that sexist remarks are heard in their department (61%) and that men are more likely than women to receive helpful career advice from colleagues (57%); 21% and 13%, respectively, agreed with these statements.

These nine items were combined to create an overall gender egalitarianism score of 3.81 (with a score of five representing high gender egalitarianism).

The following mean differences were found in group comparison analyses:

- Women faculty indicated lower levels of gender egalitarianism overall, and were less likely to agree that there is equal access to lab/research space for both men and women and that people pay just as much attention when women speak in meetings as when men do. Women faculty expressed stronger agreement that men receive preferential treatment in the areas of recruitment and promotion and that men are more likely than women to receive helpful career advice from colleagues.
- Underrepresented racial-ethnic minority faculty agreed more strongly that men receive preferential treatment in the areas of recruitment and promotion, that men are more likely than women to receive helpful career advice from colleagues, and that sex discrimination is a big problem in their department.
- Faculty from lower-income backgrounds expressed stronger agreement that some faculty have a condescending attitude toward women and that sexist remarks are heard in the classroom.
- Junior faculty agreed more strongly that men are more likely than women to receive helpful career advice from colleagues.

Environment for Different Groups

COS faculty respondents were asked to indicate whether or not they were a man, woman, underrepresented racial-ethnic minority, sexual/gender minority, from another country, from a lower-income background/lower-socioeconomic status, or if they had a disability. They were then asked to respond to six questions about their departmental environment for each of these groups (e.g., the department environment is one in which these members feel comfortable and are included, these faculty members voice their ideas in meetings as often as others). For each group, frequencies were calculated for all responses, and comparison analyses were conducted between those who identified as a member of the group and those who did not. For example, for the questions pertaining to women (e.g., women voice their ideas in meetings as often as others), we compared the responses of those who did and did not identify as women. Too few respondents self-identified as sexual/gender minorities or those with disabilities for such comparison analyses to be conducted.

Most respondents agreed that their department environment is one in which men feel comfortable and are included (86%) and that men voice their ideas in meetings as often as others (82%). Fewer respondents (27%) agreed that their department strives to address any concerns about the status and treatment of men (15% disagreed). More than two-thirds of respondents disagreed that some department members have a condescending attitude toward men (80%), and that department members expect more (67%) or less (69%) from men than from others.

- Respondents who self-identified as men were more likely to agree that some department members have a condescending attitude toward men, and more likely to disagree that their department environment is one in which men feel comfortable and are included and that their department strives to address any concerns about the status and treatment of men.

A majority of respondents agreed that their department environment is one in which women feel comfortable and are included (67%), that women voice their ideas in meetings as often as others (71%), and that their department strives to address any concerns about the status and treatment of women (61%; 11%, 15%, and 11%, respectively, disagreed with these statements). At the same time, only half of respondents disagreed that some department members have a condescending attitude toward women (51%; 32% agreed). Two-thirds or more disagreed that department members expect more (64%) or less (74%) from women than from others.

- Respondents who self-identified as women were more likely to agree that department members expect more from women than from others, and more likely to disagree that women voice their ideas in meetings as often as others and that their department strives to address any concerns about the status and treatment of women.

More than half of respondents agreed that their department environment is one in which underrepresented racial-ethnic minorities feel comfortable and are included (59%), and that underrepresented racial-ethnic minorities voice their ideas in meetings as often as others (55%) (11% of respondents disagreed with each of these statements). However, less than half of respondents agreed that their department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities (48%). Two-thirds or more of respondents disagreed that some department members have a condescending attitude toward underrepresented racial-ethnic minorities (70%), or that department members expect more (64%) or less (64%) from underrepresented racial-ethnic minorities than from others (3-11% agreed with these statements and the remaining were neutral).

- Respondents who self-identified as underrepresented racial-ethnic minorities were more likely to agree that some department members have a condescending attitude toward them and that department members expect more from them than from others, and more likely to disagree that underrepresented racial-ethnic minorities voice their ideas in meetings as often as others.

Half or fewer of respondents agreed that their department environment is one in which sexual/gender minorities feel comfortable and are included (54%), that sexual/gender minorities voice their ideas in meetings as often as others (44%), and that their department strives to address any concerns about the status and treatment of sexual/gender minorities (42%; 40%, 51%, and 52% of respondents, respectively, were neutral). More than half of respondents disagreed that some department members have a condescending attitude toward sexual/gender minorities (59%), or that department members expect more (55%) or less (55%) from sexual/gender minorities than from others (33%, 44%, and 44% of respondents, respectively, were neutral).

A majority of respondents agreed that their department environment is one in which those from countries other than the U.S. feel comfortable and are included (74%), and voice their ideas in meetings as often as others (68%) (4% and 11% of respondents disagreed, respectively). However, less than half of respondents agreed that their department strives to address any concerns about the status and treatment of those from countries other than the U.S. (47%; 9% disagreed). Nearly three-quarters of respondents disagreed that some department members have a condescending attitude toward those from other countries (73%), or that department members expect more (72%) or less (73%) from those from other countries than from others (1-13% agreed with these statements and the remaining were neutral).

- Respondents who self-identified as from a country other than the U.S. were more likely to disagree that their department strives to address any concerns about the status and treatment of those from other countries.

More than half of respondents agreed that their department environment is one in which those with disabilities feel comfortable and are included (57%), but fewer than half agreed that those with disabilities voice their ideas in meetings as often as others (41%) or that their department strives to address any concerns about the status and treatment of those with disabilities (47%; 38%, 55%, and 48% of respondents were neutral, respectively). More than half of respondents disagreed that some department members have a condescending attitude toward those with disabilities (67%), or that department members expect more (55%) or less (53%) from them than from others (28%, 45%, and 44% of respondents were neutral, respectively).

About half of respondents agreed that their department environment is one in which those from lower-income backgrounds feel comfortable and are included (54%), but fewer than half agreed that those from lower-income backgrounds voice their ideas in meetings as often as others (44%) or that their department strives to address any concerns about the status and treatment of those from lower-income backgrounds (37%; 37%, 50%, and 55% of respondents were neutral, respectively). More than half of respondents disagreed that some department members have a condescending attitude toward those from lower-income backgrounds (63%), or that department members expect more (58%) or less (56%) from them than from others (27%, 42%, and 42% of respondents were neutral, respectively).

- Respondents who self-identified as from a lower-income background/lower-socioeconomic status were more likely to agree that some department members have a condescending attitude toward them.

Open-ended Responses Related to Climate

Faculty were asked to respond to two open-ended questions regarding the climate in their departments. A thematic coding scheme was devised based on the responses. A subsample of responses was then coded by two ADVANCE staff members who obtained an acceptable inter-rater reliability of at least 0.85. One of the coders then coded the remaining responses. We note that it was possible for a single response to be coded into more than one category.

In the first open-ended question, faculty were asked to describe their most important concern about the climate in their department; 205 faculty members responded. The most frequently reported concerns are described below (the number of responses related to each theme are included in parentheses):

- *Hostile work environment and lack of collegiality (n=67)*. Many respondents described their departments as being dominated by a small number of faculty who engage in aggressive, hostile, and intimidating behaviors. Similarly, respondents reported a lack of collaboration among faculty in the department and described their departments as individualistic and not fostering or encouraging collaboration.
- *Incidents of bias/discriminatory behavior in departments and other places on campus based on gender, race-ethnicity, age, and family responsibilities (e.g., working mothers) (n=24)*. Respondents described overt incidences of sexism as well as subtle or implicit bias against women and underrepresented minorities in their departments.
- *Inequities in multiple aspects of department life (n=52)*. Respondents described inequities in these areas:
 - Compensation and recognition – inequitable compensation among individuals and departments, particularly departments that have more women faculty (these departments typically have lower salaries) and salary inequities between tenure-track and instructional/research faculty. Similarly, other forms of professional recognition, such as awards and promotions, are not awarded equitably within departments.
 - Other financial resources – funding is not equitably distributed among departments in the College.
 - Professional development opportunities – only a few are given opportunities for professional growth.
 - Workload and assignments – there are higher expectations of service and teaching for some faculty (usually women) over others. Workloads are higher for some departments than others due to staff reductions and budget cuts.
- *Lack of diversity in departments (n=22)*. Faculty noted that there are very few women and underrepresented racial-ethnic minority faculty in the College. Respondents also reported a lack of diversity along other dimensions including socioeconomic status, cultural background, and intellectual diversity.
- *Lack of transparency in decision-making (n=37)*. Many respondents described the decision-making processes in their departments as top-down and not inclusive of faculty input. Decisions seemed to be made by the department head and select department members behind closed doors. Respondents described feeling excluded from departmental decision-making and wanting more opportunities for shared governance.

Some respondents also described being afraid to speak up or offer a dissenting opinion for fear of retaliation by their department head or colleagues.

- *Concerns regarding leadership at the department and College level (n=23)*. Some respondents reported bullying and intimidation by their department heads and senior faculty members, as well as concern about the accountability of department heads to the Dean. Respondents also expressed concern about the College's and departments' handling of complaints and incidents related to bias and harassment and a lack of response by leadership regarding these issues.
- *Stratification of faculty by rank (n=9)*. Respondents reported division and exclusion between tenure-track faculty and non-tenure track research and instructional faculty. Research and instructional faculty are often treated as "less than" tenure-track faculty, excluded from important decision-making, and not valued as equal contributors to the department.
- *Positive remarks about climate (n=11)*. Some respondents described their departmental climate as having gotten better over the last few years but still in need of improvement. A few respondents also reported having no concerns about the climate and described their department's climate as positive and welcoming.

Faculty were also asked if there was any additional information about the climate in their department that they would like to share; 93 people responded. One-third of respondents (n=30) provided positive comments about their department's climate. These respondents described the department as supportive and welcoming, and expressed appreciation for their colleagues and a collegial environment. Respondents also provided comments related to the themes described above including hostile work environment and lack of collegiality (n=17); incidents of bias and discriminatory behavior (n=8); inequities in compensation and opportunities (n=11), and concerns about department and College leadership (n=8).

Job Satisfaction and Stress

Several questions addressed faculty members' overall job satisfaction, their satisfaction with specific areas of their academic work, their degree of self-determination, boundary management, and learning in their position, their experiences of stress, and their intent to leave the University of Arizona.

Satisfaction with Job and Areas of Academic Work

Faculty were asked about their overall satisfaction with their current position in their department on a five-point scale that ranged from a low of 'very dissatisfied' to a high of 'very satisfied.' Most of faculty indicated that they were somewhat (39%) or very (41%) satisfied with their current position (mean of 4.06); see Table 8. Twelve percent of respondents were somewhat or very dissatisfied.

In addition, faculty were queried about their satisfaction with twelve specific areas related to their academic work (e.g., the opportunity to collaborate with other faculty, sense of being valued as a teacher by their students) on a five-point scale that ranged from a low of 'very dissatisfied' to a high of 'very satisfied'; see Table 8.

Most faculty reported some level of satisfaction with their sense of being valued as a mentor or advisor (89%) or as a teacher (83%) by their students. Two-thirds or more of faculty reported satisfaction with their sense of being valued for their teaching (68%), and research, scholarship, or creativity by department members (71%); 16% and 17% were dissatisfied with these areas of their work, respectively. Similarly, most respondents were satisfied with their sense of

contributing to developments in their discipline (83%), opportunity to collaborate with other faculty (81%), amount of social interaction with department members (68%), and the level of intellectual stimulation in their day-to-day contacts with faculty colleagues (67%).

At the same time, about one-quarter or more of respondents were dissatisfied with the level of funding for their research efforts (32%), ability to attract students (21%) or postdocs (24%) to work with them, and the balance between their personal and professional lives (24%).

The following mean differences were found in group comparison analyses:

- Underrepresented racial-ethnic minority faculty expressed stronger satisfaction with their sense of contributing to developments in their discipline.
- International faculty expressed stronger satisfaction with their balance between personal and professional life, and less satisfaction with their job overall and their sense of being valued as a mentor or advisor by their students.
- Faculty from lower-income backgrounds reported less satisfaction with the level of funding for their research efforts and the level of intellectual stimulation in their day-to-day contacts with faculty colleagues.

Self-determination, Boundary Management, and Learning

Faculty were then asked to rate their level of agreement with ten items assessing the degree of self-determination, boundary management, and learning they have in their position (on a five-point scale that ranged from a low of 'strongly disagree' to a high of 'strongly agree'); see Table 9.

Three items addressed faculty members' self-determination in their jobs. Most COS faculty agreed that they can decide on their own how they go about doing their work (92%), that they have significant autonomy in determining how they do their job (92%), and that they have considerable opportunities for independence and freedom in how they do their job (89%). These three items were combined to create a self-determination score of 4.50 for COS faculty.

Faculty were also asked to respond to four items that assessed their boundaries between their professional and personal lives (note: higher ratings on these items indicate more permeable boundaries between work and personal life). Nearly all faculty agreed that they regularly bring work home (91%) and respond to work-related communications during their personal time (94%). Most also reported that they work during their vacations (78%) and allow work to interrupt them when they spend time with their family and friends (70%). The four items were combined to create a boundary management score of 4.25, indicating a highly permeable work-life boundary.

Three items assessed opportunities for professional development. Most faculty agreed that they have developed a lot as a person at work (79%), find themselves learning often at work (88%), and continue to learn more and more as time goes by (88%). These three items were combined to create an overall learning score of 4.25.

The following mean differences were found in group comparison analyses:

- Women faculty agreed more strongly that they have developed a lot as a person at work.
- Underrepresented racial-ethnic minority faculty agreed more strongly that they allow work to interrupt them while spending time with family and friends.
- International faculty agreed more strongly that they allow work to interrupt them while spending time with family and friends, and work during their vacations.

- Junior faculty reported lower levels of self-determination overall, and agreed less strongly that they have significant autonomy in determining how they do their job, and that they have considerable opportunities for independence and freedom in how they do their job.

Satisfaction with Work-Related Resources and Workload

Faculty also rated their level of satisfaction with fifteen work-related resources and workload (e.g., salary, teaching responsibilities, and time available for scholarly work) on a five-point scale that ranged from a low of 'very dissatisfied' to a high of 'very satisfied'; see Table 10.

Most faculty were satisfied with their office space (79%) and lab space (74%), and the majority also reported satisfaction with their department's clerical and administrative staff (69%), technical and research staff (71%), computer support staff (70%), and quality of graduate students (70%). Most faculty were also satisfied with teaching assignments (77%) and advising assignments (69%). Fewer faculty, but still more than half, were satisfied with committee and administrative responsibilities (60%), access to teaching assistants (57%), advising support (59%), and quality of undergraduate students (58%).

At the same time, one-quarter or more of faculty were dissatisfied with discretionary funds (51%), salary (38%), teaching support (30%), time available for scholarly work (30%), and support for securing grants (25%); 27-54% of respondents were satisfied with these resources.

The following mean differences were found in group comparison analyses:

- Women faculty were more satisfied with access to teaching assistants and quality of graduate students, and less satisfied with support for securing grants and time available for scholarly work.
- International faculty were more satisfied with teaching support and less satisfied with the quality of graduate students.
- Faculty from lower-income backgrounds were less satisfied with technical and research staff, computer support staff, support for securing grants, discretionary funds, and committee and advising responsibilities.
- Junior faculty were less satisfied with advising support.

Sources of Stress

Faculty also reported the extent to which thirteen different aspects of their work (e.g., scheduling of departmental meetings and functions, teaching responsibilities, bias, discrimination, and unfairness in procedures) were sources of stress for them on a three-point scale that ranged from a low of 'not at all' to a high of 'a great deal'; see Table 11.

Most faculty reported some degree of stress associated with securing funding for research (87%), teaching responsibilities (80%), scholarly productivity (78%), and managing a research group or grant (75%). Half or more also reported stress regarding committee and/or administrative responsibilities (71%), departmental politics (64%), scheduling of departmental meetings and functions (56%), review/promotion process (55%), inequity in compensation (55%), and advising responsibilities (51%). More than one-third of faculty reported stress associated with length of departmental meetings and functions (45%), inequity in assignments (38%), and bias, discrimination, and unfairness in procedures (34%).

The following mean differences were found in group comparison analyses:

- Women faculty reported higher levels of stress related to the review/promotion process, bias/discrimination/unfairness in procedures, and inequity in assignments.
- Underrepresented racial-ethnic minority faculty reported higher levels of stress related to the review/promotion process, bias/discrimination/unfairness in procedures, inequity in assignments, and the scheduling of departmental meetings and functions.
- International faculty reported higher levels of stress related to bias/discrimination/unfairness in procedures.
- Faculty from lower-income backgrounds reported higher levels of stress related to departmental politics and bias/discrimination/unfairness in procedures.
- Junior faculty reported higher levels of stress related to managing a research group or grant, scholarly productivity, teaching responsibilities, and the review/promotion process, and reported lower levels of stress related to committee and/or administrative responsibilities and inequity in compensation.

Considered Leaving UA

In addition to questions about job satisfaction and stress, faculty were asked if they had ever considered leaving UA; nearly three-quarters of faculty (71%) indicated that they had.

Faculty who had considered leaving UA also reported the extent to which each of ten reasons for leaving (e.g., to increase salary, to pursue a nonacademic job, or to reduce stress) were ones they had considered on a three-point scale that ranged from a low of 'not at all' to a high of 'a great deal'; see Table 12.

Most faculty (82%) reported that they had considered leaving to increase their salary. Half or more considered leaving UA to find a more supportive work environment (64%), to garner more respect (60%), to reduce stress (44%), or to increase time to do research (54%).

The following mean differences were found in group comparison analyses:

- Women faculty were more likely to consider leaving to improve their prospects for tenure.
- Underrepresented racial-ethnic minority faculty were more likely to consider leaving to increase their salary and garner more respect, and less likely to consider leaving to retire.
- International faculty were more likely to consider leaving to increase their time to do research and to improve the employment situation of their partners, and less likely to consider leaving to retire.
- Faculty from lower-income backgrounds were more likely to consider leaving to increase their time to do research and to garner more respect.
- Junior faculty were more likely to consider leaving to improve their prospects for tenure and to reduce stress and less likely to consider leaving to retire.

Aspects of Academic Life

Several questions addressed aspects of academic life for faculty, including experiences of department procedures, teaching, tenure and promotion, views about diversity, level of felt influence within their department, and mentoring.

Department Policies and Procedures

Five questions addressed faculty members' experiences of departmental policies and procedures (on a five-point scale that ranged from a low of 'strongly disagree' to a high of 'strongly agree'); see Table 13.

Half or more of COS faculty agreed that they feel they are given the opportunity to serve on important departmental committees (67%), that their department's procedures are fair and equitable to all (57%) and transparent and open for discussion (51%), and that their department's allocation of committee assignments is fair and equitable to all (51%); 15-28% of respondents disagreed with these statements. Fewer than half of respondents agreed that the decisions in their department are made in open forums (43%; 35% disagreed).

- Women faculty were less likely to agree that their department's allocation of committee assignments is fair and equitable to all and that they are given the opportunity to serve on important departmental committees.
- Underrepresented racial-ethnic minority faculty were less likely to agree that their department's procedures are fair and equitable to all.
- International faculty were less likely to agree that they are given the opportunity to serve on important departmental committees.
- Faculty from lower-income backgrounds were less likely to agree that department's procedures are fair and equitable to all and transparent and open for discussion.
- Junior faculty were less likely to agree that department's procedures are fair and equitable to all and transparent and open for discussion, and that they are given the opportunity to serve on important departmental committees.

Teaching

Two items addressed teaching (see Table 13). Sixty-three percent of COS faculty agreed that their department would support providing relief from teaching or other workload duties for a faculty member's personal reasons (14% disagreed). Fewer faculty agreed that their department's allocation of teaching assignments is fair and equitable to all (56%; 20% disagreed).

- Underrepresented racial-ethnic minority faculty and faculty from lower-income backgrounds were less likely to agree that the allocation of teaching assignments is fair and equitable to all;
- Junior faculty were less likely to agree that their department would support providing relief from teaching or other workload duties for a faculty member's personal reasons.

Tenure and Promotion

Four items assessed faculty members' level of agreement about the department's policies and procedures for tenure and promotion on a five-point scale that ranged from a low of 'strongly disagree' to a high of 'strongly agree' (see Table 13). More than half of the faculty agreed their department would support slowing or stopping the tenure clock for a faculty member's personal reasons (83%), and that the criteria for tenure (72%), promotion (57%), and annual performance reviews (59%) are clearly communicated in their department; 5-25% of respondents disagreed on these statements.

- Women faculty and international faculty were less likely to agree that the criteria for promotion are clearly communicated in their departments.

- Junior faculty were less likely to agree with all four statements related to procedures for tenure and promotion.

Views about Diversity

Two items addressed faculty members' views about diversity in their departments. Most faculty respondents agreed (80%) that a diverse faculty is important for their department's continued academic excellence (see Table 13). More than half of faculty also indicated (63%) that the climate and opportunities for underrepresented racial-ethnic minority faculty are at least as good as those for majority faculty in their department (21% were neutral, and 16% disagreed).

- Women faculty were more likely to agree that a diverse faculty is important for their department's continued academic excellence.

Experiences of Felt Influence

Faculty reported their felt experiences of influence in eight work-related areas (e.g., curriculum decisions, selecting new faculty members to be hired, and affecting the overall department climate/culture). Seven of these items were combined to create three scales: influence over faculty matters, resource allocations, and curricular matters. The last item (affecting the overall department climate or culture) remained separate.

Mean scores for the three scales and one separate item ranged from 2.20 to 3.08 (on a five-point scale that ranged from a low of 'really no influence' to a high of 'tremendous influence'). On average, faculty felt the highest level of influence over curricular matters (3.08), followed by faculty matters (2.79), department climate/culture (2.59), and resource allocations (2.20); see Table 14.

- Women faculty indicated less felt influence over resource allocations.
- International faculty reported less felt influence over curricular matters.
- Faculty from lower-income backgrounds indicated less felt influence over faculty matters.
- Junior faculty reported less felt influence over curricular matters, faculty matters, and overall department climate/culture.

Mentoring

All faculty members were asked about both formal mentoring (someone officially assigned to them) and informal mentoring (someone not officially assigned to them who gives advice on career issues and/or advocates for them) within their department.

Overall faculty ratings of both formal and informal mentoring are reported in Table 15; of all faculty respondents, 29% reported having a formal mentor in their department and 60% reported having an informal mentor. Most faculty with mentors indicated they found this formal and informal mentoring helpful (72% and 90%, respectively). Women faculty were more likely to report this. Sixty-five percent of respondents indicated they had received adequate mentoring in their department (36% reported they did not receive adequate mentoring).

We also examined mentoring experiences of junior (untenured, on tenure-track) faculty (tenured) separately. More than half of junior faculty reported having a formal (58%) or informal (75%) mentor in their department.

Table 1: Department Collegiality

	n	strongly disagree	tend to disagree	neutral	tend to agree	strongly agree	mean	sd
Others seem to find it easier than I to “fit in.”	395	26%	27%	22%	17%	7%	2.52 †	1.25
I can navigate the unwritten rules concerning how one is to conduct oneself as a faculty member/researcher.	382	3%	7%	21%	51%	19%	3.75	0.93
I feel excluded from an informal network in my department.	397	30%	29%	19%	15%	7%	2.40 †	1.24
My department is a place where individual faculty/researchers may comfortably raise personal and/or family responsibilities when scheduling department obligations.	393	3%	11%	18%	42%	26%	3.77	1.06
I have a voice in the decision-making that affects the direction of the department.	399	14%	15%	20%	36%	15%	3.25	1.27
Some colleagues make discussions of important departmental issues difficult.	386	15%	20%	19%	32%	15%	3.12 †	1.30
I don't enjoy department meetings because I know some people are likely to behave badly.	378	30%	28%	22%	11%	8%	2.40 †	1.26

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Table 2a: Department Characteristics

	n	mean	sd
tolerant environment scale	405	3.89	0.76
positive environment scale	406	3.84	0.84

Table 2b: Department Characteristics

	1	2	3	4	5		n	mean	sd
hostile	2%	7%	10%	37%	44%	friendly	405	4.15	0.99
racist	1%	3%	8%	23%	65%	non-racist	402	4.48	0.84
homogeneous	9%	32%	31%	21%	8%	diverse	404	2.87	1.08
disrespectful	1%	6%	15%	37%	41%	respectful	406	4.11	0.94
contentious	3%	12%	14%	38%	33%	collegial	405	3.85	1.11
sexist	5%	8%	22%	29%	36%	non-sexist	405	3.83	1.15
individualistic	8%	16%	26%	31%	20%	collaborative	405	3.38	1.20
competitive	4%	11%	22%	38%	25%	cooperative	404	3.67	1.09
homophobic	0%	1%	19%	15%	64%	non-homophobic	401	4.41	0.87
not supportive	3%	8%	17%	41%	31%	supportive	405	3.91	1.02
alienating	3%	8%	16%	38%	36%	welcoming	405	3.95	1.05
snobbish	3%	11%	23%	36%	27%	down to earth	405	3.72	1.08

Table 3: Felt Surveillance

	n	strongly disagree	tend to disagree	neutral	tend to agree	strongly agree	mean	sd
felt surveillance scale	401	--	--	--	--	--	2.43	1.09
I am/was reluctant to bring up issues that concern me for fear that it will/would affect my promotion/tenure.	356	32%	27%	14%	17%	10%	2.45	1.35
I constantly feel under scrutiny by my colleagues.	400	37%	24%	19%	15%	6%	2.29	1.26
I have/had to work harder than I believe my colleagues do, in order to be/have been perceived as a legitimate scholar.	384	38%	22%	16%	15%	10%	2.37	1.37
There are many unwritten rules concerning how one is expected to interact with colleagues in my department.	395	32%	18%	20%	21%	10%	2.58	1.37

Table 4: Experiences of Bias or Exclusion

Have you experienced bias or exclusion due to your gender, race, or other personal characteristics by members of the department?	n	not at all	to some extent	to a large extent	mean	sd
by a superior	406	83%	12%	5%	1.22	0.52
by a colleague	407	79%	16%	5%	1.26	0.54
by a student	407	84%	13%	3%	1.19	0.45
by a staff member	406	90%	9%	1%	1.12	0.36

Table 5: Experiences of Tokenism

	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
tokenism scale	356	--	--	--	--	--	1.87	1.11
My colleagues expect me to represent "the point of view" of my gender.	351	55%	17%	16%	7%	5%	1.89	1.19
My colleagues expect me to represent "the point of view" of my race/ethnicity.	341	59%	16%	17%	5%	3%	1.77	1.08

Table 6: Gender Egalitarianism

	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
gender egalitarianism scale	404	--	--	--	--	--	3.81	0.81
Some faculty have a condescending attitude toward women.	402	28%	21%	17%	27%	6%	2.62 †	1.31
Sexist remarks are heard.	403	34%	27%	18%	15%	6%	2.32 †	1.25
There is equal access for both men and women to lab/research space.	398	3%	5%	19%	35%	38%	4.02	1.01
The environment promotes adequate collegial opportunities for women.	398	3%	7%	19%	37%	34%	3.93	1.03
Men receive preferential treatment in the areas of recruitment and promotion.	403	37%	30%	21%	9%	2%	2.08 †	1.06
Men are more likely than women to receive helpful career advice from colleagues.	400	33%	24%	31%	9%	4%	2.28 †	1.12
In meetings, people pay just as much attention when women speak as when men do.	402	3%	8%	15%	37%	36%	3.95	1.06
Women are appropriately represented in senior positions.	401	6%	19%	23%	27%	26%	3.48	1.22
Sex discrimination is a big problem in the department.	403	52%	25%	18%	3%	1%	1.78 †	0.96

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

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Table 7: Environment for Groups

In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward men .	400	50%	30%	15%	5%	1%	1.79	0.95
the department environment is one in which men feel comfortable and are included.	400	1%	2%	11%	38%	48%	4.29	0.83
men voice their ideas in meetings as often as those not belonging to this group.	399	3%	4%	12%	34%	48%	4.20	0.97
department members expect more from men than from others.	398	35%	32%	26%	6%	1%	2.05	0.96
department members expect less from men than from others.	399	36%	33%	26%	4%	2%	2.05	0.98
the department strives to address any concerns about the status and treatment of men .	396	7%	8%	58%	17%	10%	3.15	0.94
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward women .	397	28%	23%	17%	26%	6%	2.60	1.31
the department environment is one in which women feel comfortable and are included.	394	2%	9%	22%	41%	26%	3.79	1.00
women voice their ideas in meetings as often as those not belonging to this group.	393	3%	12%	14%	43%	28%	3.82	1.07
department members expect more from women than from others.	394	29%	35%	23%	10%	2%	2.22	1.04
department members expect less from women than from others.	397	33%	41%	22%	3%	1%	1.97	0.86
the department strives to address any concerns about the status and treatment of women .	393	4%	7%	27%	38%	23%	3.69	1.05
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward underrepresented racial-ethnic minorities .	396	35%	35%	19%	10%	1%	2.08	1.03
the department environment is one in which underrepresented racial-ethnic minorities feel comfortable and are included.	393	2%	9%	31%	36%	23%	3.69	0.97
underrepresented racial-ethnic minorities voice their ideas in meetings as often as those not belonging to this group.	391	2%	9%	35%	35%	20%	3.63	0.95
department members expect more from underrepresented racial-ethnic minorities than from others.	396	30%	34%	32%	3%	1%	2.10	0.90
department members expect less from underrepresented racial-ethnic minorities than from others.	395	31%	33%	33%	3%	0%	2.08	0.87
the department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities .	395	3%	5%	43%	31%	17%	3.55	0.93
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward sexual/gender minorities .	392	34%	25%	33%	8%	1%	2.17	1.00
the department environment is one in which sexual/gender minorities feel comfortable and are included.	388	1%	4%	40%	31%	23%	3.70	0.90
sexual/gender minorities voice their ideas in meetings as often as those not belonging to this group.	383	1%	3%	51%	25%	19%	3.60	0.85
department members expect more from sexual/gender minorities than from others.	386	28%	27%	44%	0%	0%	2.17	0.86
department members expect less from sexual/gender minorities than from others.	387	29%	26%	44%	1%	0%	2.17	0.87
the department strives to address any concerns about the status and treatment of sexual/gender minorities .	387	2%	4%	52%	25%	17%	3.51	0.88
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those from countries other than the U.S.	400	38%	35%	15%	11%	2%	2.03	1.05
the department environment is one in which those from countries other than the U.S. feel comfortable and are included.	397	1%	3%	21%	44%	30%	3.99	0.87
those from countries other than the U.S. voice their ideas in meetings as often as those not belonging to this group.	394	2%	9%	22%	40%	28%	3.84	0.98
department members expect more from those from countries other than the U.S. than from others.	398	34%	38%	26%	2%	1%	1.97	0.84
department members expect less from those from countries other than the U.S. than from others.	399	34%	39%	27%	1%	0%	1.95	0.81
the department strives to address any concerns about the status and treatment of those from countries other than the U.S.	396	2%	7%	44%	31%	16%	3.51	0.91
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those with disabilities .	388	40%	27%	28%	4%	1%	1.99	0.96
the department environment is one in which those with disabilities feel comfortable and are included.	385	2%	3%	38%	31%	26%	3.76	0.94
those with disabilities voice their ideas in meetings as often as those not belonging to this group.	379	2%	2%	55%	22%	19%	3.56	0.88
department members expect more from those with disabilities than from others.	385	30%	25%	45%	0%	0%	2.16	0.87
department members expect less from those with disabilities than from others.	386	27%	26%	44%	3%	1%	2.24	0.91
the department strives to address any concerns about the status and treatment of those with disabilities .	386	2%	3%	48%	28%	19%	3.61	0.89
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those from lower-income backgrounds .	390	33%	30%	27%	7%	2%	2.14	1.01
the department environment is one in which those from lower-income backgrounds feel comfortable and are included.	388	1%	8%	37%	31%	23%	3.67	0.95
those from lower-income backgrounds voice their ideas in meetings as often as those not belonging to this group.	384	2%	4%	50%	25%	19%	3.55	0.91
department members expect more from those from lower-income backgrounds than from others.	387	31%	27%	42%	0%	1%	2.14	0.89
department members expect less from those from lower-income backgrounds than from others.	388	30%	26%	42%	2%	0%	2.17	0.90
the department strives to address any concerns about the status and treatment of those from lower-income backgrounds .	386	2%	6%	55%	23%	14%	3.41	0.87

Table 8: Job Satisfaction

	n	very dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied	mean	sd
overall job satisfaction	409	4%	8%	8%	39%	41%	4.06	1.07
opportunity to collaborate with other faculty	415	2%	6%	11%	27%	54%	4.26	1.01
amount of social interaction with department members	414	2%	12%	18%	35%	33%	3.84	1.09
level of funding for my research or creative efforts	371	10%	22%	17%	29%	22%	3.33	1.30
ability to attract students to work with me	357	4%	17%	15%	29%	34%	3.72	1.22
sense of being valued as a teacher by my students ¹	352	2%	6%	9%	31%	52%	4.25	0.99
sense of being valued as a mentor or advisor by my students	385	1%	3%	7%	27%	62%	4.46	0.81
sense of being valued for my teaching by department members ¹	351	5%	11%	15%	38%	30%	3.77	1.15
sense of being valued for my research, scholarship, or creativity by department members ²	341	7%	10%	11%	34%	37%	3.85	1.22
level of intellectual stimulation in my day-to-day contacts with faculty colleagues	414	4%	11%	18%	35%	32%	3.79	1.13
sense of contributing to developments in my discipline	377	1%	7%	9%	33%	50%	4.23	0.96
balance between professional and personal life	413	7%	17%	17%	33%	26%	3.53	1.24
ability to attract postdocs to work with me ²	252	7%	17%	32%	23%	21%	3.35	1.19

¹ Denotes items not included on the research faculty survey; ² Denotes items not included on the instructional faculty survey

Table 9: Self-determination, Boundary Management, and Learning

	n	strongly disagree	tend to disagree	neutral	tend to agree	strongly agree	mean	sd
self-determination scale	418	--	--	--	--	--	4.50	0.76
I can decide on my own how to go about doing my work.	418	0%	4%	4%	27%	65%	4.52	0.78
I have significant autonomy in determining how I do my job.	417	1%	4%	3%	27%	65%	4.52	0.80
I have considerable opportunity for independence and freedom in how I do my job.	417	2%	4%	4%	25%	64%	4.46	0.89
boundary management scale	418	--	--	--	--	--	4.25	0.77
I allow work to interrupt me when I spend time with my family and friends.	417	3%	12%	15%	40%	30%	3.82 †	1.08
I regularly bring work home.	417	1%	3%	5%	24%	67%	4.51 †	0.84
I respond to work related communications during my personal time away from work.	414	1%	2%	4%	25%	69%	4.58 †	0.74
I work during my vacations.	411	5%	8%	9%	29%	49%	4.09 †	1.17
learning scale	418	--	--	--	--	--	4.25	0.72
I find myself learning often at work.	418	0%	4%	7%	43%	45%	4.28	0.80
At work, I continue to learn more and more as time goes by.	418	0%	4%	8%	41%	47%	4.30	0.81
I have developed a lot as a person at work.	412	0%	4%	17%	36%	43%	4.18	0.87

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Table 10: Satisfaction with Work-Related Resources and Workload

	n	very dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied	mean	sd
salary	417	15%	23%	13%	33%	15%	3.09	1.33
office space	415	1%	9%	11%	27%	52%	4.18	1.05
lab/research space ²	279	2%	11%	13%	29%	45%	4.04	1.11
computer resources	408	4%	14%	14%	28%	39%	3.84	1.21
clerical and administrative staff	413	4%	17%	9%	25%	44%	3.89	1.25
technical and research staff	343	4%	10%	15%	31%	40%	3.92	1.15
computer support staff	416	3%	14%	13%	29%	41%	3.90	1.17
support for securing grants	350	8%	17%	21%	28%	26%	3.49	1.26
discretionary funds	348	25%	26%	23%	18%	9%	2.60	1.27
teaching support ^{1,2}	277	8%	22%	27%	27%	16%	3.21	1.17
access to teaching assistants	321	7%	15%	20%	31%	26%	3.54	1.23
advising support ^{1,2}	256	3%	11%	28%	27%	32%	3.75	1.10
quality of graduate students	369	3%	13%	14%	34%	36%	3.86	1.13
quality of undergraduate students	378	4%	13%	24%	40%	18%	3.55	1.07
time available for scholarly work	387	7%	23%	21%	32%	18%	3.30	1.20
committee and administrative responsibilities	374	2%	11%	27%	38%	22%	3.68	0.99
teaching assignments ¹	352	2%	6%	15%	35%	42%	4.10	0.99
advising assignments ¹	279	1%	3%	27%	36%	33%	3.98	0.89

¹ Denotes items not included on the research faculty survey; ² Denotes items not included on the instructional faculty survey

Table 11: Sources of Stress

	n	not at all	somewhat	a great deal	mean	sd
scheduling of departmental meetings and functions	400	44%	49%	7%	1.62	0.60
length of department meetings and functions	400	55%	40%	5%	1.50	0.60
managing a research group or grant (e.g., finances, personnel)	346	25%	42%	33%	2.08	0.76
securing funding for research	354	13%	35%	52%	2.39	0.70
scholarly productivity	379	22%	39%	39%	2.16	0.77
teaching responsibilities ¹	354	21%	58%	22%	2.01	0.65
advising responsibilities	367	50%	41%	10%	1.60	0.66
committee and/or administrative responsibilities	384	30%	55%	16%	1.86	0.66
review/promotion process	372	45%	37%	18%	1.73	0.75
departmental politics	407	36%	40%	24%	1.89	0.77
bias/discrimination/unfairness in procedures	399	66%	22%	12%	1.45	0.69
inequity in assignments ^{1,2}	282	62%	27%	11%	1.48	0.68
inequity in compensation ^{1,2}	283	45%	35%	20%	1.75	0.77

¹ Denotes items not included on the research faculty survey; ² Denotes items not included on the instructional faculty survey

Table 12: Reasons for Leaving

	n	not at all	to some extent	a great deal	mean	sd
to increase your salary	293	18%	41%	41%	2.22	0.74
to improve your prospects for tenure ²	248	80%	11%	9%	1.29	0.62
to find a more supportive work environment	294	35%	40%	24%	1.89	0.77
to increase your time to do research	290	46%	37%	17%	1.71	0.74
to pursue a nonacademic job	292	71%	21%	8%	1.37	0.63
to reduce stress	293	56%	28%	16%	1.61	0.75
to address family-care related issues	291	71%	18%	11%	1.40	0.68
to improve the employment situation of your partner	291	65%	22%	14%	1.49	0.73
to garner more respect	292	40%	42%	18%	1.79	0.73
to retire	287	85%	11%	3%	1.18	0.47

¹ Denotes items not included on the research faculty survey; ² Denotes items not included on the instructional faculty survey

Table 13: Aspects of Academic Life

	n	strongly disagree	tend to disagree	neutral	tend to agree	strongly agree	mean	sd
My department's procedures are fair and equitable to all.	404	6%	15%	21%	37%	20%	3.50	1.15
My department's procedures are transparent and open for discussion.	406	8%	20%	20%	34%	17%	3.31	1.21
My department's allocation of committee assignments is fair and equitable to all.	379	7%	12%	27%	39%	15%	3.43	1.10
I feel I am given the opportunity to serve on important departmental committees.	374	6%	9%	17%	32%	35%	3.82	1.18
My department's allocation of teaching assignments is fair and equitable to all. ¹	343	5%	15%	24%	40%	16%	3.47	1.08
Decisions in my department are made in open forums. ^{1,2}	281	10%	25%	22%	33%	10%	3.10	1.18
My department would support providing relief from teaching or other workload duties for a faculty member's/researcher's/lecturer's personal reasons, including care giving for a child or parent, family crisis, or his/her own health concerns.	386	3%	11%	23%	38%	25%	3.71	1.05
The criteria for tenure are clearly communicated in my department. ^{1,2}	270	3%	13%	13%	43%	29%	3.82	1.08
The criteria for promotion are clearly communicated in my department.	391	10%	15%	18%	36%	21%	3.44	1.24
The criteria for annual performance reviews are clearly communicated in my department. ^{1,2}	281	7%	16%	18%	37%	22%	3.50	1.20
My department would support slowing or stopping the tenure clock for a faculty member's personal reasons, including care giving for a child or parent, a family crisis, or the faculty member's own health concerns. ^{1,2}	259	2%	3%	13%	43%	40%	4.17	0.87
I feel that a diverse faculty is important for my department's continued academic excellence.	403	2%	5%	13%	29%	51%	4.22	1.00
I feel the climate and opportunities for underrepresented minority faculty are at least as good as those for majority faculty in my department.	376	5%	11%	21%	37%	26%	3.68	1.12

¹ Denotes items not included on the research faculty survey; ² Denotes items not included on the instructional faculty survey

Table 14: Felt Influence

	n	mean	sd
influence over curricular matters ^{1,2}	280	3.08	0.85
influence over faculty matters ^{1,2}	278	2.79	0.98
influence over resource allocations ²	338	2.20	0.89
influence over department climate/culture	404	2.59	1.10

1 Denotes items not included on the research faculty survey; 2 Denotes items not included on the instructional faculty survey

Table 15: Mentoring

	n	very unhelpful	somewhat unhelpful	neutral	somewhat helpful	very helpful	mean	sd
How helpful have you found this formal mentoring?	115	3%	6%	19%	35%	37%	3.95	1.06
How helpful have you found this informal mentoring?	239	1%	5%	5%	39%	51%	4.34	0.83

**University of Arizona College of Science Climate Assessment
Report on Staff Data
Prepared by the ADVANCE Program
February 2017**

INTRODUCTION

In the fall of 2016, the University of Michigan ADVANCE Program was asked by the dean of the University of Arizona College of Science (COS) to conduct a climate assessment of its workplace climate with all faculty, postdocs, staff, and graduate students. The surveys asked respondents to report on multiple dimensions of their departments' workplace climate including job satisfaction, professional resources and opportunities, and the environment for various groups. The surveys opened on September 19 and remained open through October 24, 2016. Following is a report of the findings from the staff survey.

A total of 754 staff members in the College of Science were surveyed and of these, 425 responded (a 56% response rate).¹ Fifty-four percent of the respondents self-identified as women, and 43% self-identified as men; 23 respondents did not indicate their gender. About one-third of the respondents have worked at the University of Arizona for five or fewer years (33%) or between 6-15 years (30%). Fewer have been at the University 16-25 years (20%) or longer (15%); 13 respondents did not report the number of years they have worked at the University. Women and sexual/gender minority staff, on average, worked at the University for fewer years than men and sexual majority staff.

Analytic Strategy

We report frequencies, means, and standard deviations for close-ended items (i.e., items that prompted respondents to select from a limited number of response options).² The mean provides a measure of central tendency, averaging across all responses. However, similar-looking averages can be derived from very different spreads or dispersions of responses (e.g., responses that cluster around the mean or a more bi-modal response pattern with clusters of responses distributed at each end of the response scale). Thus, we provide standard deviations (the measure of spread around the mean) and frequencies to describe the response pattern beyond the interpretation of the mean. Tables are appended to this report.

Data from previous ADVANCE Program climate assessments suggest that certain aspects of the climate are experienced differently, on average, by certain groups (e.g., women, underrepresented racial-ethnic minorities, and sexual/gender minorities). Moreover, majority group members tend to overestimate how positive the climate is for members of underrepresented groups. Thus, analyses were conducted to compare staff responses by gender, race-ethnicity, international status, disability status, sexual orientation or gender identity, and by socioeconomic background. For the comparisons by international status, fewer statistically significant differences emerged than would be expected to occur by chance alone (fewer than 5% of all comparisons) and the results of these comparisons are not reported. We also note that staff who self-identified as underrepresented racial-ethnic minorities were more likely than others to also self-identify as from a lower-income background, and were also more

¹ Some questions were skipped by some respondents (the settings of the online survey did not 'force' participants to respond any question). In other areas of the survey, some respondents did not receive all possible questions (e.g., participants were asked about the climate for women in their department only if they indicated that they themselves were women). As a result, the analyses presented below, and the accompanying tables, have varying sample sizes.

² The frequencies presented for an individual item in this report and accompanying tables sometimes sum to 99% or 101% due to rounding.

likely to be women. Women were more likely to indicate that they were from a lower-income background than men.

To assist with the interpretation of the group differences we identify in this report, we note in the table below the groups that were directly compared in our analyses.

<i>This Group...</i>	<i>Was <u>Only</u> Compared to</i>	<i>...This Group</i>
Female staff	↔	Male staff
Underrepresented racial-ethnic minority (URM) staff	↔	Racial-ethnic majority staff
Staff with disabilities	↔	Staff without disabilities
Sexual/gender minority (LGBTQ) staff	↔	Sexual majority staff
Staff from lower-income backgrounds	↔	Staff not from lower-income backgrounds

In the results reported below, all references to group differences refer to differences found to be statistically significant (i.e., $p \leq .05$). These are differences that would have emerged simply by chance (when there truly was no difference or effect) at or less than 5 percent of the time. This is a generally-accepted standard of statistical significance in social science research. Please note that when differences are not reported, it is simply because the mean for one group is not statistically different from the comparison group.

We begin with a summary of the findings across areas, highlighting key points. This is followed with a more detailed description of findings by topic area for the College of Science staff.

SUMMARY

Department Climate

- College of Science staff reported a generally tolerant environment (based on rating of these characteristics: non-racist, non-sexist, non-homophobic, and diverse) and positive environment (based on ratings of these characteristics: friendly, respectful, collegial, collaborative, cooperative, and supportive). The most positive ratings were for non-racist and non-homophobic; the least positive were for collaborative and diverse.
- Staff described their departments as moderately gender egalitarian. Three-quarters disagreed that sex discrimination is a big problem in their department and two-thirds disagreed that sexist remarks are heard in their department.
- However, one-quarter disagreed that women are appropriately represented in senior positions and another one-quarter agreed that some department members have a condescending attitude toward women.
- More than three-quarters agreed that their department environment is one in which men feel comfortable and are included and that they voice their ideas in meetings as often as others; slightly fewer agreed with the same statements regarding members of the other demographic groups asked about (i.e., women, underrepresented racial-ethnic minorities, sexual/gender minorities (LGBTQ), those from other countries, those with disabilities, and those from lower-income backgrounds).
- One-quarter of the respondents reported that they had experienced bias or exclusion by faculty; fewer reported the same treatment by fellow staff or students.

- When asked to describe their most important concern about the climate in their department, the largest percentages of staff noted concerns about their work conditions and about their supervisors or those in leadership positions. Staff also mentioned poor communication, gender discrimination, and inadequate salaries, promotions, and recognition.
- By contrast, when asked if there was any additional information about the climate in their department they would like to share, the most common responses provided positive feedback about their departments. Fewer noted a reluctance on the part of those in power to take action in addressing climate concerns or described a particularly negative climate for certain underrepresented groups.

Group Differences on Ratings of the Department Climate

Women

- Women rated their departments as less friendly and down-to-earth, and as more sexist.
- They also rated their departments as less gender egalitarian and expressed more agreement with the following items: some department members have a condescending attitude toward women, men receive preferential treatment in the areas of recruitment and promotions, men are more likely than women to receive helpful career advice from colleagues, and sex discrimination is a big problem in their department. Women were less likely to agree that people pay just as much attention when women speak in meetings as when men do and that women are appropriately represented in senior positions.
- Women also reported more experiences of bias or exclusion by faculty, staff, and students and indicated more agreement with two items: department members expect more from women than from others and some department members have a condescending attitude toward them. They less strongly agreed that their department strives to address any concerns about the status and treatment of women.

Men

- Men more strongly disagreed that department members expect less from them than from others.

URM Staff

- URM staff rated their departments as less gender egalitarian and reported more agreement with the following items: some department members have a condescending attitude toward women, men receive preferential treatment in the areas of recruitment and promotions, and men are more likely than women to receive helpful career advice from colleagues. They less strongly agreed that people pay just as much attention when women speak in meetings as when men do.
- They reported more experiences of bias or exclusion by faculty and staff and less strongly agreed that their department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities.

Sexual/gender minorities (LGBTQ)

- Sexual/gender minority (LGBTQ) staff rated their departments as less tolerant overall and specifically as less diverse and collaborative, and as more racist, sexist, and homophobic.
- They also rated their departments as less gender egalitarian and indicated more agreement with the following items: some department members have a condescending attitude toward women, men receive preferential treatment in the areas of recruitment and promotions, men are more likely than women to receive helpful career advice from colleagues, and sex discrimination is a big problem in their departments. They less strongly agreed that there is equal access for both men and women to the lab and research space and that women are appropriately represented in senior positions.
- Staff who self-identified as a sexual or gender minority expressed more agreement that department members expect more and less from them than from others; they less strongly agreed that they voice their ideas in meetings as often as others and that their department strives to address any concerns about the treatment of sexual and gender minorities.

Staff from Lower-income Backgrounds

- Staff from lower-income backgrounds rated their departments as less positive overall and as less friendly, cooperative, down-to-earth, respectful, collaborative, and welcoming and as more racist and homophobic.
- They also rated their departments as less gender egalitarian and reported more agreement with two items from this scale: men receive preferential treatment in the areas of recruitment and promotions and men are more likely than women to receive helpful career advice from colleagues.
- Staff who self-identified as from a lower-income background reported more experiences of bias or exclusion by faculty and staff and less strongly agreed that their department is one in which those from lower-income backgrounds feel comfortable and are included, that their department strives to address any concerns about the status and treatment of those from lower-income backgrounds, and that they voice their ideas in meetings as often as others. They expressed more agreement that some department members have a condescending attitude toward those from lower-income backgrounds and department members expect more from them than from others.

Staff with Disabilities

- Staff with disabilities rated their departments as less positive overall and as less friendly, respectful, cooperative, supportive, and welcoming.
- They more strongly agreed that some department members have a condescending attitude toward women and that men receive preferential treatment in the areas of recruitment and promotions; they less strongly agreed that people pay just as much attention when women speak in meetings as when men do.
- Staff with disabilities reported more experiences of bias or exclusion by faculty and more strongly agreed that some department members have a condescending attitude toward them; they less strongly agreed that their department strives to address any concerns about the status and treatment of those with disabilities.

Job Satisfaction

- Most staff members reported satisfaction with their current position.
- Nearly all agreed that they like the work they do and they feel a sense of pride in doing their job.
- At the same time, fewer than half indicated that they are satisfied with the staff performance appraisal system, their pay is fair compared with similar positions at the University of Arizona, and they are satisfied with their chances for promotion.
- Staff reported a moderately-high rating of their positions on the self-determination scale.
- They indicated moderate levels on the boundary management scale.
- Three-quarters or more agreed that their working conditions are safe, they enjoy their co-workers, their job makes good use of their skills and abilities, staff have sufficient knowledge to provide good service, their job responsibilities are clear, they are involved in decisions that affect their work, and they know who to go to for help when they have a problem.
- By contrast, one-third agreed that they have too much to do at work.
- Three-quarters or more agreed that their supervisor treats them with respect, cares about quality improvement, has realistic expectations about what they can achieve, supports them in balancing their work life and personal life, encourages teamwork, and supports them in developing new skills. More than three-quarters also reported that they respect their supervisor's abilities.
- Similarly, three-quarters or more agreed that they are treated with respect by their co-workers, they understand how their work contributes to their department's mission, vision, values, and goals, their department students treat staff members with respect, and their department conducts business in an ethical manner.
- However, one-third of the staff reported that they often do not know what is going on in their department and one-quarter agreed that decisions in their department are made with little regard for the opinions of staff members.

Group Differences on Ratings of Job Satisfaction

Women

- Women less strongly agreed that their ideas and suggestions are seriously considered, they are involved in decisions that affect their work, and they feel free to report instances of misconduct within their department.
- They were also less likely to disagree that they find they have to work harder at their job because of the incompetence of the people they work with.
- Women less strongly agreed that they usually receive recognition when they have done a job well and that they are satisfied with the recognition they receive from their supervisor for doing a good job.
- They also less strongly agreed that they are treated with respect by their co-workers, that department faculty treat staff members with respect, and that there is a climate of trust in their department. They indicated more agreement that decisions in their department are made with little regard for the opinions of staff members.

Men

- Men more strongly agreed that they regularly bring work home and allow work to interrupt them when they spend time with their family and friends.

URM

- URM staff were less satisfied with their current positions and less strongly agreed that they get the training they need to do a good job.
- They indicated less agreement that their pay is fair compared to similar positions at the University of Arizona and more strongly agreed that there are few rewards for people who work there.
- URM staff more strongly agreed that decisions in their department are made with little regard for the opinions of staff members.

Sexual/gender minorities

- Sexual/gender minority staff reported less agreement that they allow work to interrupt them when they spend time with their family and friends.
- They less strongly agreed that their job makes good use of their skills and abilities and that their job responsibilities are clear; they less strongly *disagreed* that many of the rules and procedures make doing a good job difficult.
- Sexual/gender minority staff expressed more agreement that they do not feel the work they do is appreciated and less agreement that their pay is fair compared to similar positions at the University of Arizona.
- In addition, they indicated more agreement that they often feel they do not know what is going on in their department and less agreement that their department demonstrates a commitment to workforce diversity, their department operates smoothly and efficiently, and they understand how their work contributes to their department's mission, vision, values, and goals.

Staff from Lower-income Backgrounds

- Staff from lower-income backgrounds were less satisfied with their current positions and reported less agreement that their department is adequately staffed, their job makes good use of their skills and abilities, their job responsibilities are clear, their ideas and suggestions are seriously considered, they are involved in decisions that affect their work, they get the training they need to do a good job, and they enjoy their co-workers.
- They also expressed less agreement that they are satisfied with the recognition they receive from their supervisor for doing a good job, they like the work they do, they are satisfied with the staff performance appraisal system in their department, they usually receive recognition when they have done a job well, their pay is fair compared to similar positions at the University of Arizona, and they are satisfied with their chances for promotion; they expressed more agreement that they do not feel the work they do is appreciated and there are few rewards for people who work at the University.
- They less strongly agreed that there is effective communication in their department, there is a climate of trust in their department, department students treat staff members with respect, and they are treated with respect by their co-workers.
- Staff from lower-income backgrounds reported more agreement that decisions in their department are made with little regard for the opinions of staff members and they often feel they do not know what is going on in their department.

Staff with Disabilities

- Staff with disabilities less strongly agreed that their job makes good use of their skills and abilities and that they have the resources they need to do their job.

- They also less strongly agreed that they have significant autonomy in how they do their job, they respect their supervisor's abilities, their supervisor treats them with respect, and their supervisor supports them in developing new skills.
- Staff with disabilities expressed more agreement that they do not feel the work they do is appreciated and less agreement that they are satisfied with the staff performance appraisal system in their department, their chances for promotion, and the recognition they receive from their supervisor for doing a good job.
- They indicated more agreement that they often feel they do not know what is going on in their department and less agreement that administration communicates well with staff and their department students treat staff members with respect.

FINDINGS

Department Climate

Several questions assessed staff members' views concerning their department's climate in general, as well as for certain groups. This included questions about gender egalitarianism, the environment for specific groups, and experiences of bias or exclusion.

Department Characteristics

Staff members rated their department's climate on 12 pairs of characteristics (e.g., friendly/hostile; non-racist/racist; diverse/homogeneous; respectful/disrespectful) on a five-point scale (with five representing a more positive environment); see Tables 1a-b.

The most positive rating, on average, was for non-racist (4.51), followed by non-homophobic (4.39), friendly (4.29), and respectful (4.23). The least positive ratings were for down-to-earth (3.84), cooperative (3.80), collaborative (3.64), and diverse (3.52).

Two summary scales were created from ten individual items. The tolerant environment scale was comprised of four items (non-racist, non-sexist, non-homophobic, and diverse) and the positive environment scale was comprised of six items (friendly, respectful, collegial, collaborative, cooperative, and supportive). Mean scores were 4.09 for tolerant environment and 3.99 for positive environment.

The following significant group differences emerged:

- Women rated their departments as less friendly and down-to-earth and as more sexist.
- Sexual/gender minority (LGBTQ) staff rated their departments as less tolerant overall and specifically as less diverse and collaborative and as more racist, sexist, and homophobic.
- Staff from lower-income backgrounds rated their departments as less positive overall and specifically as less friendly, cooperative, down-to-earth, respectful, collaborative, and welcoming and as more racist and homophobic.
- Staff with disabilities rated their departments as less positive overall and as less friendly, respectful, cooperative, supportive, and welcoming.

Gender Egalitarianism

Staff members rated their level of agreement with nine items assessing gender egalitarianism in their department (e.g., some department members have a condescending attitude toward women, men are more likely than women to receive helpful career advice from colleagues, and sex discrimination is a big problem in my department) on a five-point scale from 'strongly

disagree' to 'strongly agree.' These items were combined to create a gender egalitarianism scale. The mean gender egalitarianism scale score for staff was 3.69; see Table 2.

At least half of the staff agreed that people pay just as much attention when women speak in meetings as when men do (63%), the environment promotes adequate collegial opportunities for women (61%), there is equal access for both men and women to lab and research space (59%), and women are appropriately represented in senior positions (50%); 15%, 12%, 7%, and 27%, respectively, disagreed.

Three-quarters (73%) disagreed that sex discrimination is a big problem in their department and two-thirds (68%) disagreed that sexist remarks are heard in their department; 7% and 14%, respectively, agreed. Approximately half also disagreed that some department members have a condescending attitude toward women (57%), men receive preferential treatment in the areas of recruitment and promotions (48%), and men are more likely than women to receive helpful career advice from colleagues (48%); 26%, 18%, and 11%, respectively, agreed.

The following significant group differences emerged:

- Women, URM staff, sexual/gender minorities, and staff from lower-income backgrounds rated their departments as less gender egalitarian.
- Women expressed more agreement with the following items: some department members have a condescending attitude toward women, men receive preferential treatment in the areas of recruitment and promotions, men are more likely than women to receive helpful career advice from colleagues, and sex discrimination is a big problem in their department. They less strongly agreed that people pay just as much attention when women speak in meetings as when men do and that women are appropriately represented in senior positions.
- URM staff were more likely to agree that some department members have a condescending attitude toward women, men receive preferential treatment in the areas of recruitment and promotions, and men are more likely than women to receive helpful career advice from colleagues. They were less likely to agree that people pay just as much attention when women speak in meetings as when men do.
- Sexual/gender minority (LGBTQ) staff indicated more agreement that some department members have a condescending attitude toward women, men receive preferential treatment in the areas of recruitment and promotions, men are more likely than women to receive helpful career advice from colleagues, and sex discrimination is a big problem in their departments. They were less likely to agree that there is equal access to both men and women to the lab and research space and that women are appropriately represented in senior positions.
- Those from lower-income backgrounds were more likely to agree with two items: men receive preferential treatment in the areas of recruitment and promotions and men are more likely than women to receive helpful career advice from colleagues.
- Staff with disabilities were more likely to agree that some department members have a condescending attitude toward women and that men receive preferential treatment in the areas of recruitment and promotions; they were less likely to agree that people pay just as much attention when women speak in meetings as when men do.

Environment for Different Groups

Staff were asked to indicate whether or not they were a member of each of seven demographic groups: men, women, those from other countries, underrepresented racial-ethnic minorities, sexual or gender minorities (LGBTQ), those with disabilities, and those from a lower-income

background or lower-socioeconomic status. They were then asked to respond to six questions about the departmental environment for all of the groups, regardless of whether or not they were a member of the group in question (e.g., the department environment is one in which these staff feel comfortable and are included, these staff voice their ideas in meetings as often as others) on a five-point scale from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 3. For these items, comparative analyses were only conducted to contrast responses from staff who self-identified as members of the group in question to all others.

Environment for Men

Most staff agreed that their department environment is one in which men feel comfortable and are included (85%) and that men voice their ideas in meetings as often as others (76%); few (2-4%) disagreed with these statements. One-third (30%) agreed that their department strives to address any concerns about the status and treatment of men; 10% disagreed and 59% were neutral. In addition, more than half disagreed that some department members have a condescending attitude toward men (78%), department members expect less from men than from others (60%), and department members expect more from them than from others (56%); 4-6% agreed. Men more strongly disagreed that department members expect less from them than from others.

Environment for Women

Two-thirds of the staff agreed that women voice their ideas in meetings as often as others (67%) and that their department environment is one in which they feel comfortable and are included (65%); 10% disagreed. Half (48%) agreed that their department strives to address any concerns about the status and treatment of women; 14% disagreed. Two-thirds (63%) disagreed that department members expect less from women than from others and half disagreed that some department members have a condescending attitude toward women (54%) and department members expect more from them than from others (53%); 3%, 25%, and 12%, respectively, agreed. Women were more likely to agree with two items: department members expect more from women than from others and some department members have a condescending attitude toward them. Women were more likely to disagree that their department strives to address any concerns about the status and treatment of women.

Environment for Underrepresented Racial-Ethnic Minorities

More than half of the staff agreed that their department environment is one in which underrepresented racial-ethnic minorities feel comfortable and are included (62%) and that they voice their ideas in meetings as often as others (53%); 6-8% disagreed. Slightly fewer (45%) agreed that their department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities; 8% disagreed. Two-thirds (66%) disagreed that some department members have a condescending attitude toward underrepresented racial-ethnic minorities and half disagreed that department members expect more (55%) or less (56%) from underrepresented racial-ethnic minorities than from others; few (2-9%) agreed. URM staff were less likely to agree that their department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities.

Environment for Sexual and Gender Minorities

Half of the staff agreed that their department environment is one in which sexual and gender minorities feel comfortable and are included (54%) and that they voice their ideas in meetings as often as others (49%); 3-5% disagreed. Forty percent also agreed that their department strives to address any concerns about the status and treatment of sexual and gender minorities; 6% disagreed. Sixty-one percent of the staff disagreed that some department members have a condescending attitude toward sexual and gender minorities and half (50%) disagreed that

department members expect more or less from them than from others; 0-1% agreed with these statements. Staff who self-identified as a sexual or gender minority were more likely to agree that department members expect more or less from them than from others; they were less likely to agree that sexual and gender minorities voice their ideas in meetings as often as others and that their department strives to address any concerns about the treatment of sexual and gender minorities.

Environment for Those from Countries Other than the U.S.

Nearly three-quarters of the staff (71%) agreed that their department environment is one in which those from countries other than the U.S. feel comfortable and are included and half (57%) also agreed that they voice their ideas in meetings as often as others; 4% disagreed with both statements. Slightly fewer (45%) agreed that their department strives to address any concerns about the status and treatment of those from countries other than the U.S.; 4% disagreed. Three-quarters (72%) disagreed that some department members have a condescending attitude toward those from countries other than the U.S.; 8% agreed. Half (54-56%) also disagreed that department members expect more or less from those from countries other than the U.S. than from others; 1-2% agreed.

Environment for Those with Disabilities

Half of the staff agreed that their department environment is one in which those with disabilities feel comfortable and are included (57%) and they voice their ideas in meetings as often as others (47%); 3-5% disagreed. Slightly fewer (42%) agreed that their department strives to address any concerns about the status and treatment of those with disabilities; 7% disagreed. Two-thirds (68%) disagreed that some department members have a condescending attitude toward those with disabilities; 4% agreed. Half also disagreed that department members expect more or less from them than from others; 1-2% agreed. Staff with disabilities were more likely to agree that some department members have a condescending attitude toward them and less strongly agreed that their department strives to address any concerns about the status and treatment of those with disabilities.

Environment for Those from Lower-Income Backgrounds

Finally, half of the staff agreed that their department environment is one in which those from lower-income backgrounds feel comfortable and are included (55%) and that they voice their ideas in meetings as often as others (47%); 6-7% disagreed. One-third (37%) agreed that their department strives to address any concerns about the status and treatment of those from lower-income backgrounds; 8% disagreed. Half of the staff disagreed that some department members have a condescending attitude toward those from lower-income backgrounds (59%) and that department members expect more (53%) or less (53%) from them than from others; 12%, 4%, and 3%, respectively, agreed. Staff who self-identified as from a lower-income background were more likely to agree with two items: some department members have a condescending attitude toward those from lower-income backgrounds and department members expect more from them than from others. They were also less likely to agree that their department is one in which those from lower-income backgrounds feel comfortable and are included, their department strives to address any concerns about the status and treatment of those from lower-income backgrounds, and they voice their ideas in meetings as often as others.

Experiences of Bias or Exclusion

Staff members reported on the extent to which they had experienced bias or exclusion by faculty, staff, or students due to their gender, race, or other personal characteristics (on a three-point scale from a low of 'not at all' to a high of 'to a large extent'); see Table 4. One-quarter (23%) of the staff respondents reported that they had experienced bias or exclusion by faculty to

some or to a large extent. Fewer reported the same treatment by fellow staff (15%) or students (8%).

The following significant group differences emerged:

- Women reported more experiences of bias or exclusion by faculty, staff, and students.
- URM staff and those from lower-income backgrounds reported more such experiences by faculty and staff.
- Staff with disabilities reported more experiences of bias or exclusion by faculty.

Open-Ended Responses Related to Climate

Staff were also asked to respond to two open-ended questions regarding the climate in their departments. A thematic coding scheme was devised based on the responses. A subsample of responses was then coded by two ADVANCE staff members who obtained an acceptable inter-rater reliability of at least 0.85. One of the coders then coded the remaining responses. We note that it was possible for a single response to be coded into more than one category.

When asked to describe their most important concern about the climate in their department, 183 staff responded. Of these, one-quarter (28%; n=52) described specific negative work conditions. They noted staffing concerns and heavy workloads, lack of training, concerns about job security, lack of evaluations and feedback about their performance, lack of accountability for poor performance, lack of input into decisions that affect their work, poor building conditions, and a lack of clear job responsibilities.

Several of the respondents (19%; n=35) mentioned concerns about interpersonal interactions. Comments included mentions of disrespectful treatment of staff by faculty, a lack of collegiality, instances of hostility and bullying, cliques, and a general lack of attentiveness when others speak.

A similar number (19%; n=34) expressed concerns about supervisors and those in leadership positions. They reported instances of favoritism and nepotism, micromanagement as well as disengagement, resistance to change, a lack of concern for the welfare of staff, reluctance to hold others accountable for inappropriate behavior, and generally poor leadership. In addition, some (17%; n=31) were unhappy about salaries, promotions, and recognition. These staff noted inequities in salaries and promotions, low salaries, too few promotions or raises, and a lack of appreciation or recognition for their work.

Fourteen percent of the respondents (n=25) commented on poor communication within and between departments. These responses mentioned a lack of communication across units, a lack of meetings and social events, slow response times, and unclear goals. Ten percent of the respondents (n=19) reported about gender discrimination including sexism, sexual harassment, inequities in salaries, work assignments and expectations due to gender, disrespectful treatment, and few women in positions of power within the College.

A few staff reported on more general diversity-related concerns including a lack of an institutional response and/or policies to address diversity-related issues (n=14), observations or experiences of non-gender based discrimination (e.g., based on race-ethnicity, religion, international status, disability status; n=9), and a lack of a safe and confidential mechanism to report concerns (n=5). In addition, a few staff mentioned a general lack of financial resources (n=13).

Some staff (n=13) also provided positive feedback about their departments. These staff described their departments as inclusive, cooperative, and tolerant; some also expressed appreciation for aspects of their departments (e.g., leadership, support groups). In addition, several respondents (21%; n=39) reported that they had no concerns related to their department's climate.

Staff were also asked if there was any additional information about the climate in their departments that they would like to share; 120 responded. Of these, one-quarter (27%; n=32) provided positive feedback about their departments. They described their departments as welcoming, tolerant, communicative, and inclusive. Some also noted appreciation for their colleagues and departmental leadership, gratitude for professional opportunities and benefits, and that their department makes an effort to promote workforce diversity.

By contrast, fifteen percent (n=18) noted a reluctance on the part of those in power to take action to address climate concerns. They reported a need for additional training and recruitment efforts to promote inclusivity and diversity, a lack of accountability for inappropriate and/or rude conduct, and instances in which leadership has not addressed unethical conduct. In addition, thirteen percent of the respondents (n=16) described a particularly negative climate for certain underrepresented groups (e.g., based on gender, race-ethnicity, age, and health). These staff mentioned experiences of sexism, racism, isolation, and condescension. Eight percent (n=9 in each instance) also commented on inadequate communication (e.g., lack of communication and meetings, lack of staff input into decision-making, and lack of collaboration) and dissatisfaction with salaries, promotion policies, and staff recognition. Fewer respondents noted staffing concerns, high levels of stress, divisions between faculty and staff, burdensome policies, poor training, and concerns about the physical environment.

Fourteen staff provided feedback about the survey instrument. These staff reported that a 'don't know' option would have been appropriate for many of the items on the survey, they did not have sufficient information to confidently answer some questions about their department climate, and/or they did not know how to respond to the questions about the environment for identity-based groups to which they do not belong; many of these staff indicated that they selected a neutral response for these questions. Some also expressed displeasure with the inclusion of the 'those from a lower-income background/lower socioeconomic status' identity category and with the exclusion of an item that would differentiate respondents by job category or age. A few expressed concerns about the confidentiality of their response.

Finally, nearly one-quarter (n=27) reported that they had no additional information to share.

Job Satisfaction

Several questions addressed College of Science staff members' overall job satisfaction as well as their satisfaction with specific areas of their work (e.g., work conditions, relationships with supervisors, job satisfaction and recognition, and communication).

Overall Satisfaction

Staff members were asked to rate their satisfaction with their current positions on a five-point scale that ranged from a low of 'very dissatisfied' to a high of 'very satisfied'; see Table 5. On average, staff members were satisfied with their position (mean of 4.13). Most indicated that they were somewhat (35%) or very (46%) satisfied with their current position; 11% were dissatisfied and 8% were neutral. URM staff and those from lower-income backgrounds were less satisfied with their current positions.

Self-determination, Boundary Management, and Learning

Staff were asked to rate their level of agreement with ten items assessing the degree of self-determination, boundary management, and learning in their positions. Ratings were provided on a five-point scale from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 6.

Most College of Science staff agreed that they can decide on their own how to go about doing their work (88%; 4% disagreed), they have significant autonomy in determining how they do their jobs (85%; 7% disagreed), and they have considerable opportunity for independence and freedom in how they do their jobs (84%; 7% disagreed). Staff with disabilities less strongly agreed that they have significant autonomy in how they do their jobs. The three items were combined to create a self-determination scale mean score of 4.23.

Staff also indicated their level of agreement with four statements that assessed their ability to manage boundaries between their professional and personal lives. Many (70%) indicated that they respond to work related communications during their personal time away from work; 19% disagreed. Fewer than half agreed that they allow work to interrupt them when they spend time with their family and friends (48%), they work during their vacations (45%), and they regularly bring work home (41%); 34%, 38%, and 42%, respectively, disagreed. Men were more likely to agree that they regularly bring work home and allow work to interrupt them when they spend time with their family and friends. Sexual/gender minority staff reported less agreement that they allow work to interrupt them when they spend time with their family and friends. The items were combined into one scale where higher numbers indicate more permeable work-life boundaries; the average for College of Science staff was at the midpoint (3.22).

Finally, three items assessed staff members' opportunities for learning and professional development. Most staff agreed that they continue to learn more and more at work as time goes by (85%); 6% disagreed. Three-quarters also indicated that they find themselves learning often at work (79%) and that they have developed a lot as a person at work (76%); 9% and 7%, respectively, disagreed. These three items were combined to create a mean learning scale score of 4.02.

Work Conditions

Staff members reported on their level of agreement with 16 items that address working conditions (e.g., my department is adequately staffed, my ideas and suggestions are seriously considered, and I have the resources I need to do my job). Responses were provided on a five-point scale from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 7.

Most staff agreed that their working conditions are safe (87% agreed; 4% disagreed) and they enjoy their co-workers (85%; 3%). Three-quarters agreed that their job makes good use of their skills and abilities (78%; 10%), staff have sufficient knowledge to provide good service (78%; 7%), their job responsibilities are clear (76%; 10%), they are involved in decisions that affect their work (75%; 13%), they know who to go to for help when they have a problem (75%; 13%), their ideas and suggestions are seriously considered (72%; 13%), and they have the resources they need to do their job (72%; 14%).

Fewer staff agreed that they feel free to report instances of misconduct within their department (64%; 17% disagreed), they get the training they need to do a good job (58%; 15%), their department is adequately staffed (49%; 35%), their department provides adequate mentoring opportunities for employees (40%; 31%), and they have too much to do at work (34%; 30%).

Nearly two-thirds of the staff disagreed that they find they have to work harder at their job because of the incompetence of the people they work with (65%) and that many of their department's rules and procedures make doing a good job difficult (61%); 17% and 19%, respectively, agreed.

The following significant group differences emerged:

- Women were less likely to agree that their ideas and suggestions are seriously considered, they are involved in decisions that affect their work, and they feel free to report instances of misconduct within their department. They were more likely to agree that they find they have to work harder at their job because of the incompetence of the people they work with.
- URM staff were less likely to agree that they get the training they need to do a good job.
- Staff who self-identified as sexual/gender minorities were less likely to agree that their job makes good use of their skills and abilities and that their job responsibilities are clear. They also were more likely to agree that many of their rules and procedures make doing a good job difficult.
- Staff from lower-income backgrounds were less likely to agree with seven items: my department is adequately staffed, my job makes good use of my skills and abilities, my job responsibilities are clear, my ideas and suggestions are seriously considered, I am involved in decisions that affect my work, I get the training I need to do a good job, and I enjoy my co-workers.
- Staff with disabilities were less likely to agree that their job makes good use of their skills and abilities and that they have the resources they need to do their job.

Relationship with Supervisor

Staff members indicated their level of agreement with nine items addressing their relationship and satisfaction with their supervisor (e.g., my supervisor supports me in developing new skills, my supervisor has realistic expectations about what I can achieve, and my supervisor treats me with respect). Ratings were provided on a five-point scale that ranged from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 8.

Most staff agreed that they respect their supervisor's abilities (86%), their supervisor treats them with respect (82%), and their supervisor cares about quality improvement (80%); 5%, 4%, and 7%, respectively, disagreed. Three-quarters or more reported that their supervisor has realistic expectations about what they can achieve (79%), supports them in balancing their work life and personal life (76%), encourages teamwork (75%), and supports them in developing new skills (75%); 11%, 9%, 9%, and 8%, respectively, disagreed. Two-thirds indicated that they are satisfied with the recognition they receive from their supervisor for doing a good job (67%); 17% disagreed. In addition, most staff (67%) disagreed that their supervisor shows too little interest in the feelings of supervisees; 15% agreed.

The following significant group differences emerged:

- Women, those from lower-income backgrounds, and those with disabilities were less likely to agree that they are satisfied with the recognition they receive from their supervisor for doing a good job.
- Staff with disabilities were less likely to agree that they respect their supervisor's abilities, their supervisor treats them with respect, and their supervisor supports them in developing new skills.

Job Satisfaction and Recognition

Staff members rated their level of agreement with eight items about job satisfaction and recognition (e.g., I like the work I do, I feel a sense of pride in doing my job, and I am satisfied with my chances for promotion) on a five-point scale from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 9.

Nearly all College of Science staff (91-92%) agreed that they like the work they do and they feel a sense of pride in doing their job; 1% disagreed with both statements. Nearly two-thirds (61%) reported that they usually receive recognition when they have done a job well; 20% disagreed. At the same time, fewer than half indicated that they are satisfied with the staff performance appraisal system (48%), their pay is fair compared with similar positions at the University of Arizona (46%), and they are satisfied with their chances for promotion (33%); 21%, 25%, and 36%, respectively, disagreed.

Two-thirds (69%) disagreed that they do not feel the work they do is appreciated and 38% disagreed that there are few rewards for people who work there; 16% and 35%, respectively, agreed.

The following significant group differences emerged:

- Women were less likely to agree that they usually receive recognition when they have done a job well.
- URM staff were less likely to agree that their pay is fair compared to similar positions at the University of Arizona. They were more likely to agree that there are few rewards for people who work there.
- Sexual/gender minority staff expressed more agreement that they do not feel the work they do is appreciated; they expressed less agreement that their pay is fair compared to similar positions at the University of Arizona.
- Staff from lower-income backgrounds expressed more agreement that they do not feel the work they do is appreciated and there are few rewards for people who work there. They expressed less agreement with five items: I like the work I do, I am satisfied with the staff performance appraisal system in my department, I usually receive recognition when I have done a job well, my pay is fair compared to similar positions at the University of Arizona, and I am satisfied with my chances for promotion.
- Staff with disabilities expressed more agreement that they do not feel the work they do is appreciated. They expressed less agreement that they are satisfied with the staff performance appraisal system in their department and they are satisfied with their chances for promotion.

Communication

Finally, staff responded to 13 statements concerning relationships and communication within their department (e.g., there is effective communication in the department, I am treated with respect by my co-workers, and there is a climate of trust in the department). Ratings were provided on a five-point scale from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 10.

Most staff (88-89%) agreed that they are treated with respect by their co-workers and they understand how their work contributes to their department's mission, vision, values, and goals; 3-4% disagreed with these items. Three-quarters indicated that their department students treat staff members with respect (78%), their department conducts business in an ethical manner (77%), and they have confidence in their department head's leadership (73%); 2%, 7%, and

11%, respectively, disagreed. Fewer agreed that their department faculty treat staff members with respect (69%), their department demonstrates a commitment to workforce diversity (60%), there is a climate of trust in their department (59%), their department operates smoothly and efficiently (56%), there is effective communication in their department (50%), and administration communicates well with staff (50%); 9-24%, disagreed with these items.

In addition, one-quarter to one-third of the staff agreed that decisions in their department are made with little regard for the opinions of staff members (25%) and they often do not know what is going on in their department (30%); 44-45% disagreed.

The following significant group differences emerged:

- Women were less likely to agree that they are treated with respect by their co-workers, department faculty treat staff members with respect, and there is a climate of trust in their department. They also indicated more agreement that decisions in their department are made with little regard for the opinions of staff members.
- URM staff were more likely to agree that decisions in their department are made with little regard for the opinions of staff members.
- Sexual/gender minority staff indicated more agreement that they often feel they do not know what is going on in their department. They less strongly agreed that their department demonstrates a commitment to workforce diversity, their department operates smoothly and efficiently, and they understand how their work contributes to their department's mission, vision, values, and goals.
- Staff from lower-income backgrounds reported more agreement with these items: decisions in the department are made with little regard for the opinions of staff members and I often feel I do not know what is going on in the department. They reported less agreement that there is effective communication in their department, there is a climate of trust in their department, department students treat staff members with respect, and they are treated with respect by their co-workers.
- Staff with disabilities indicated more agreement that they often feel they do not know what is going on in their department. They indicated less agreement that administration communicates well with staff and their department students treat staff members with respect.

Table 1a: Department Characteristics

	n	mean	sd
tolerant environment scale	409	4.09	0.82
positive environment scale	408	3.99	0.86

Table 1b: Department Characteristics

	1	2	3	4	5		n	mean	sd
hostile	1%	5%	13%	29%	53%	friendly	407	4.29	0.91
racist	1%	4%	9%	13%	72%	non-racist	408	4.51	0.91
homogeneous	5%	17%	27%	23%	28%	diverse	408	3.52	1.20
disrespectful	0%	6%	11%	35%	47%	respectful	408	4.23	0.91
contentious	2%	8%	20%	34%	36%	collegial	405	3.94	1.03
sexist	3%	11%	19%	24%	43%	non-sexist	409	3.94	1.15
individualistic	7%	9%	26%	30%	28%	collaborative	406	3.64	1.18
competitive	3%	10%	23%	34%	31%	cooperative	406	3.80	1.08
homophobic	1%	1%	19%	18%	62%	non-homophobic	406	4.39	0.88
not supportive	3%	8%	16%	31%	43%	supportive	407	4.03	1.07
alienating	4%	7%	13%	30%	46%	welcoming	409	4.08	1.10
snobbish	3%	9%	23%	29%	36%	down to earth	408	3.84	1.11

Table 2: Gender Egalitarianism

	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
gender egalitarian scale	412	--	--	--	--	--	3.69	0.89
Some department members have a condescending attitude toward women.	410	31%	26%	17%	17%	9%	2.46 †	1.31
Sexist remarks are heard in the department.	410	40%	28%	19%	9%	5%	2.11 †	1.17
There is equal access for both men and women to lab/research space.	406	4%	3%	35%	29%	30%	3.78	1.02
The environment promotes adequate collegial opportunities for women.	409	3%	9%	27%	34%	27%	3.74	1.05
Men receive preferential treatment in the areas of recruitment and promotion.	406	25%	23%	34%	14%	4%	2.49 †	1.13
Men are more likely than women to receive helpful career advice from colleagues.	406	25%	23%	40%	9%	2%	2.39 †	1.03
In meetings, people pay just as much attention when women speak as when men do.	410	5%	10%	23%	34%	29%	3.71	1.12
Women are appropriately represented in senior positions.	410	6%	21%	23%	26%	24%	3.40	1.23
Sex discrimination is a big problem in my department.	408	47%	26%	21%	5%	2%	1.89 †	1.01

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Note: The frequencies presented for an individual item sometimes sum to 99% or 101% due to rounding.

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Table 3: Environment for Groups

In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward men .	408	41%	37%	18%	3%	1%	1.86	0.88
the department environment is one in which men feel comfortable and are included.	406	1%	1%	14%	42%	43%	4.24	0.80
men voice their ideas in meetings as often as those not belonging to this group.	407	1%	3%	20%	36%	40%	4.10	0.91
department members expect more from men than from others.	404	26%	30%	38%	5%	0%	2.23	0.91
department members expect less from men than from others.	403	26%	34%	34%	5%	1%	2.22	0.92
the department strives to address any concerns about the status and treatment of men .	402	2%	8%	59%	18%	12%	3.29	0.87
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward women .	403	26%	28%	20%	19%	6%	2.51	1.24
the department environment is one in which women feel comfortable and are included.	402	2%	8%	24%	38%	27%	3.81	0.99
women voice their ideas in meetings as often as those not belonging to this group.	403	1%	9%	22%	40%	27%	3.81	0.98
department members expect more from women than from others.	400	21%	32%	35%	10%	2%	2.40	0.99
department members expect less from women than from others.	402	26%	37%	34%	3%	0%	2.16	0.86
the department strives to address any concerns about the status and treatment of women .	402	4%	10%	38%	31%	17%	3.47	1.01
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward underrepresented racial-ethnic minorities .	399	32%	34%	26%	7%	2%	2.12	0.98
the department environment is one in which underrepresented racial-ethnic minorities feel comfortable and are included.	399	1%	7%	31%	36%	26%	3.80	0.93
underrepresented racial-ethnic minorities voice their ideas in meetings as often as those not belonging to this group.	399	1%	5%	41%	31%	22%	3.68	0.90
department members expect more from underrepresented racial-ethnic minorities than from others.	398	23%	32%	43%	2%	0%	2.24	0.83
department members expect less from underrepresented racial-ethnic minorities than from others.	397	24%	32%	43%	2%	0%	2.22	0.82
the department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities .	400	2%	6%	48%	27%	18%	3.54	0.91
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward sexual/gender minorities (LGBTQ) .	402	29%	32%	31%	6%	1%	2.18	0.98
the department environment is one in which sexual/gender minorities (LGBTQ) feel comfortable and are included.	402	1%	4%	41%	28%	26%	3.73	0.93
sexual/gender minorities (LGBTQ) voice their ideas in meetings as often as those not belonging to this group.	402	0%	3%	49%	27%	22%	3.66	0.86
department members expect more from sexual/gender minorities (LGBTQ) than from others.	400	22%	28%	50%	1%	0%	2.29	0.81
department members expect less from sexual/gender minorities (LGBTQ) than from others.	400	22%	28%	50%	0%	0%	2.28	0.81
the department strives to address any concerns about the status and treatment of sexual/gender minorities (LGBTQ) .	403	1%	5%	54%	23%	17%	3.49	0.87
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those from other countries .	401	32%	40%	19%	7%	1%	2.05	0.96
the department environment is one in which those from other countries feel comfortable and are included.	401	1%	3%	25%	42%	29%	3.94	0.88
those from other countries voice their ideas in meetings as often as those not belonging to this group.	401	1%	3%	39%	34%	23%	3.75	0.88
department members expect more from those from other countries than from others.	400	22%	32%	44%	2%	0%	2.27	0.83
department members expect less from those from other countries than from others.	399	23%	33%	44%	1%	0%	2.23	0.81
the department strives to address any concerns about the status and treatment of those from other countries .	400	1%	3%	51%	26%	19%	3.58	0.86
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those with disabilities .	400	34%	34%	29%	3%	1%	2.05	0.93
the department environment is one in which those with disabilities feel comfortable and are included.	399	2%	3%	38%	32%	25%	3.75	0.93
those with disabilities voice their ideas in meetings as often as those not belonging to this group.	398	1%	2%	50%	25%	22%	3.65	0.87
department members expect more from those with disabilities than from others.	399	23%	28%	48%	1%	0%	2.28	0.82
department members expect less from those with disabilities than from others.	397	22%	28%	48%	2%	0%	2.28	0.83
the department strives to address any concerns about the status and treatment of those with disabilities .	401	2%	5%	51%	25%	17%	3.52	0.89
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those from a lower-income background/lower-socioeconomic status .	400	29%	30%	30%	10%	2%	2.24	1.02
the department environment is one in which those from a lower-income background/lower-socioeconomic status feel comfortable and are included.	399	2%	5%	38%	31%	24%	3.71	0.94
those a lower-income background/lower-socioeconomic status voice their ideas in meetings as often as those not belonging to this group.	394	1%	5%	47%	26%	21%	3.59	0.92
department members expect more from those from a lower-income background/lower-socioeconomic status than from others.	399	22%	31%	44%	3%	1%	2.28	0.86
department members expect less from those from lower-income backgrounds than from others.	399	23%	30%	45%	2%	1%	2.27	0.85
the department strives to address any concerns about the status and treatment of those from a lower-income background/lower-socioeconomic status .	399	3%	5%	55%	22%	15%	3.42	0.91

Note: The frequencies presented for an individual item sometimes sum to 99% or 101% due to rounding.

Table 4: Experiences of Bias or Exclusion

Have you experienced bias or exclusion due to your gender, race, or other personal characteristics by members of your department?	n	not at all	to some extent	to a large extent	mean	sd
by a faculty member	409	77%	19%	4%	1.27	0.53
by a staff member	410	85%	11%	4%	1.19	0.47
by a student	409	92%	8%	0%	1.08	0.29

Table 5: Satisfaction with Current Position

All things considered, how satisfied are you with your current position in your department?	n	very dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied	mean	sd
	405	3%	8%	8%	35%	46%	4.13	1.06

Table 6: Self-determination, Boundary Management, and Learning

Please indicate your level of agreement with each of the following items about your work experiences generally, as well as how you manage your work load in your department?	n	strongly disagree	tend to disagree	neutral	tend to agree	strongly agree	mean	sd
self-determination scale	416	--	--	--	--	--	4.23	0.86
I can decide on my own how to go about doing my work.	416	1%	3%	7%	41%	47%	4.29	0.85
I have significant autonomy in determining how I do my job.	414	2%	5%	9%	39%	46%	4.22	0.92
I have considerable opportunity for independence and freedom in how I do my job.	416	2%	5%	8%	39%	45%	4.19	0.96
boundary management scale	416	--	--	--	--	--	3.22	1.13
I allow work to interrupt me when I spend time with my family and friends.	415	13%	21%	19%	32%	16%	3.15 †	1.29
I regularly bring work home.	415	16%	26%	17%	26%	15%	2.99 †	1.33
I respond to work related communications during my personal time away from work.	416	7%	12%	10%	42%	28%	3.72 †	1.21
I work during my vacations.	414	20%	18%	17%	30%	15%	3.03 †	1.37
learning scale	416	--	--	--	--	--	4.02	0.78
I find myself learning often at work.	416	1%	8%	12%	51%	28%	3.97	0.89
At work, I continue to learn more and more as time goes by.	415	0%	6%	10%	53%	32%	4.10	0.82
I have developed a lot as a person at work.	415	2%	5%	18%	44%	32%	4.00	0.91

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Note: The frequencies presented for an individual item sometimes sum to 99% or 101% due to rounding.

Table 7: Satisfaction with Work Conditions

	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
My department is adequately staffed.	418	9%	26%	16%	39%	10%	3.17	1.18
My job makes good use of my skills and abilities.	419	3%	7%	11%	43%	35%	4.00	1.03
My job responsibilities are clear.	418	2%	8%	14%	46%	30%	3.94	0.97
My department provides adequate mentoring opportunities for employees.	416	9%	22%	29%	26%	14%	3.14	1.17
My ideas and suggestions are seriously considered.	418	5%	8%	16%	37%	35%	3.89	1.12
I am involved in decisions that affect my work.	417	5%	8%	11%	41%	34%	3.92	1.11
I get the training I need to do a good job.	418	4%	11%	27%	37%	21%	3.59	1.07
Staff have sufficient knowledge to provide good service.	418	2%	5%	16%	53%	25%	3.95	0.87
I have the resources I need to do my job.	419	3%	11%	15%	48%	24%	3.78	1.02
My working conditions are safe.	419	1%	3%	9%	40%	47%	4.29	0.83
Many of our rules and procedures make doing a good job difficult.	415	19%	42%	19%	13%	6%	2.45 †	1.13
I find I have to work harder at my job because of the incompetence of the people I work with.	414	29%	36%	18%	13%	4%	2.27 †	1.14
I have too much to do at work.	416	7%	23%	36%	26%	8%	3.04 †	1.04
I enjoy my co-workers.	418	1%	2%	12%	46%	39%	4.20	0.79
I feel free to report instances of misconduct within my department.	417	6%	11%	19%	38%	26%	3.65	1.16
When I have a problem I know who I can go to for help.	417	4%	9%	12%	45%	30%	3.88	1.05

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Table 8: Satisfaction with Relationship with Supervisor

	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
My supervisor cares about quality improvement.	417	4%	3%	13%	38%	42%	4.11	1.01
My supervisor encourages teamwork.	417	4%	5%	16%	35%	40%	4.03	1.05
My supervisor supports me in developing new skills.	415	4%	4%	17%	35%	40%	4.04	1.04
My supervisor supports me in balancing my work life and my personal life.	418	3%	6%	16%	30%	46%	4.12	1.03
I am satisfied with the recognition I receive from my supervisor for doing a good job.	415	6%	11%	15%	34%	33%	3.77	1.20
My supervisor has realistic expectations about what I can achieve.	418	3%	8%	11%	47%	32%	3.96	1.00
My supervisor shows too little interest in the feelings of supervisees.	415	34%	33%	18%	9%	6%	2.21 †	1.17
My supervisor treats me with respect.	417	2%	2%	13%	31%	51%	4.27	0.94
I respect my supervisor's abilities.	417	2%	3%	9%	35%	51%	4.31	0.89

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Note: The frequencies presented for an individual item sometimes sum to 99% or 101% due to rounding.

Table 9: Job Satisfaction and Recognition

	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
I like the work I do.	415	0%	1%	7%	45%	46%	4.36	0.68
I feel a sense of pride in doing my job.	412	0%	1%	7%	41%	51%	4.42	0.68
I am satisfied with the staff performance appraisal system in my department.	415	8%	13%	31%	31%	17%	3.35	1.15
I usually receive recognition when I have done a job well.	413	5%	15%	19%	38%	23%	3.60	1.15
I do not feel the work I do is appreciated.	415	29%	40%	16%	12%	4%	2.23 †	1.12
There are few rewards for people who work here.	415	14%	24%	27%	25%	10%	2.93 †	1.21
My pay is fair compared with similar positions at the University of Arizona.	415	8%	17%	29%	36%	10%	3.23	1.11
I am satisfied with my chances for promotion.	414	14%	22%	32%	25%	8%	2.91	1.15

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Table 10: Satisfaction with Department Communication

	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
The department conducts business in an ethical manner.	412	3%	4%	17%	44%	33%	4.01	0.94
I understand how my work contributes to my department's mission, vision, values, and goals.	416	0%	3%	9%	51%	37%	4.21	0.73
The department operates smoothly and efficiently.	414	5%	13%	26%	43%	13%	3.47	1.03
There is effective communication in the department.	416	8%	16%	26%	37%	13%	3.31	1.13
There is a climate of trust in the department.	415	6%	14%	22%	40%	19%	3.53	1.11
I have confidence in the department head's leadership.	413	3%	8%	15%	44%	29%	3.87	1.04
The department faculty treat staff members with respect.	414	3%	9%	19%	47%	22%	3.76	0.99
The department students treat staff members with respect.	411	0%	2%	20%	54%	24%	4.00	0.72
I am treated with respect by my co-workers.	416	1%	3%	7%	50%	39%	4.23	0.79
The department demonstrates a commitment to workforce diversity.	413	2%	7%	31%	39%	21%	3.70	0.94
Decisions in the department are made with little regard for the opinions of staff members.	411	15%	30%	29%	18%	7%	2.73 †	1.15
Administration communicates well with staff.	413	8%	12%	30%	37%	13%	3.37	1.09
I often feel I do not know what is going on in the department.	412	12%	32%	26%	22%	8%	2.82 †	1.15

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Note: The frequencies presented for an individual item sometimes sum to 99% or 101% due to rounding.

**University of Arizona College of Science Climate Assessment
Report on Graduate Student Data
Prepared by the University of Michigan ADVANCE Program
February 2017**

INTRODUCTION

In the fall of 2016, the University of Michigan ADVANCE Program was asked by the dean of the University of Arizona College of Science (COS) to conduct a climate assessment of its workplace climate with all faculty, postdocs, staff, and graduate students. The surveys asked respondents to report on multiple dimensions of their departments' workplace climate including job satisfaction, professional resources and opportunities, and the environment for various groups. The surveys opened on September 19 and remained open through October 24, 2016. Following is a report of the findings from the survey for graduate students.

A total of 759 graduate students (at both the Masters and Ph.D. level) received the survey. Of these, 492 students responded to at least some parts of the survey (a 65% response rate).¹ Nearly half (45%) identified as male and 35% identified as female; the remaining did not respond to this question. One-quarter (24%) reported that they were from countries other than the United States (international), 11% self-identified as underrepresented racial-ethnic minority (URM) students, 6% self-identified as sexual/gender minority students, 12% self-identified as being from lower-income/lower socioeconomic backgrounds, and 3% self-identified as having a disability. Those who self-identified as underrepresented racial-ethnic minorities were also more likely to identify as lower-income and as having a disability.

About half of the graduate student respondents indicated that they have achieved candidate status (48%); 33% were pre-candidates and the remaining 19% did not respond to this question.

Analytic Strategy

We report frequencies, means, and standard deviations for close-ended items (i.e., items that prompted respondents to select from a limited number of response options). The mean provides a measure of central tendency, averaging across all responses. However, similar-looking averages can be derived from very different spreads or dispersions of responses (e.g., responses that cluster around the mean vs. a bi-modal response pattern with clusters of responses distributed at each end of the response scale). Thus, for many items the standard deviation (a measure of spread around the mean) and response frequencies are provided to convey additional information about the response patterns. Tables with standard deviations and frequencies are appended to this report.

When possible, we assessed differences between groups of students. Data from previous UM ADVANCE Program climate assessments suggest that certain aspects of the climate are experienced differently, on average, by certain groups (e.g., women, racial-ethnic minorities, sexual/gender minorities). We were able to make comparisons by gender, race-ethnicity, sexual orientation, socioeconomic status, international status, disability status and candidacy status.²

¹ Some questions were skipped by some respondents (the settings of the online survey did not 'force' participants to respond to any question). Due to these types of issues, the analyses presented below - and the accompanying tables - have varying sample sizes.

² Respondents were asked to select their status as a candidate or pre-candidate. This question is relevant to Ph.D. students only; however, we note that it was possible for master's students to respond to this question.

To assist with the interpretation of the group differences we identify in this report, we note in the table below the groups that were directly compared in our analyses.

<i>This Group...</i>	<i>Was <u>Only</u> Compared to</i>	<i>...This Group</i>
Female students	↔	Male students
Underrepresented racial/ethnic minority (URM) students	↔	Racial-ethnic majority students
Sexual/gender minority students	↔	Sexual/gender majority students
Students from lower-income backgrounds	↔	Students from higher-income backgrounds
International students	↔	Domestic students
Students with disabilities	↔	Students without disabilities
Pre-candidate students	↔	Candidate students

In the results reported below, all references to group differences refer to differences found to be statistically significant (i.e., $p \leq 0.05$). This includes all differences or effects that would emerge less than 5% of the time simply by chance, when there really was no difference or effect. This is a generally accepted standard of statistical significance in social science research. Please note that when differences are not reported, that simply means that the comparative analyses were not significantly different.

We begin with a summary of some key findings (not an exhaustive list of all findings). This is followed by a detailed description of findings by topic area.

SUMMARY

Department Climate

- On average, College of Science graduate students provided moderately positive ratings when asked about various characteristics of their department. The most positive characteristic ratings were for non-homophobic, non-racist, and friendly.
- Students provided lower ratings for the departmental characteristics diverse, down-to-earth, flexible, and collaborative.
- The majority of students reported no experiences of bias or exclusion from faculty, staff or other students in their department. About one-quarter reported these experiences to some extent from a faculty member or another student.
- Most respondents viewed their departmental climate as positive for men and agreed that men voice their ideas in meeting as often as others.
- About half of the respondents agreed that their department environment is one in which women, underrepresented racial-ethnic minorities, sexual/gender minorities, and international students feel comfortable and included.
- One-third agreed that some department members have a condescending attitude toward women and underrepresented racial-ethnic minorities.
- Fewer than half agreed that their department environment is one in which those with disabilities and those from lower-income backgrounds feel comfortable and included (most of the remaining responses were neutral).

- In open-ended responses, students noted that their most important concerns about their departments' climates were related to these issues: a negative climate, particularly for some groups; faculty who are unsupportive, unavailable and/or disrespectful; insufficient funding; and difficulties achieving work/life balance.

Group Differences on Ratings of the Department Climate

Women

- Women reported a less tolerant department environment and also described their departments as less homogenous and more sexist compared to their male colleagues.
- They also described their department environments as less respectful but more supportive.
- Women were more likely to report experiences of bias or exclusion from faculty, students, and staff.
- Women were also more likely to report that some students have a condescending attitude toward women and that faculty expect more from women.
- They were also less likely to agree that their department strives to address concerns about the status and treatment of women.

Underrepresented Racial-Ethnic Minorities

- URM students were more likely to report experiences of bias or exclusion from other students.
- They were also more likely to report that some students have a condescending attitude toward them.

Sexual/Gender Minorities

- Sexual/gender minority students described their departments as less tolerant as well as more racist and homogenous.

Lower-Income/Low SES Students

- Students from lower income backgrounds rated their departments as more racist, and less respectful, collegial, collaborative, cooperative, supportive, encouraging, and flexible.
- They were also more likely to agree that some graduate students are condescending toward them.

International Students

- International students reported a more tolerant department environment overall, and specifically rated their departments less homophobic, less sexist and more diverse. They also rated their departments more respectful, supportive, flexible, protective, and down-to-earth.
- International students were more likely to report experiences of bias from department staff.
- They also disagreed more strongly that some faculty expect less from them.

Pre-candidates

- Pre-candidates reported a more positive department climate on several of the dimensions addressed, including rating their department environments as more tolerant.

- They also described their departments as friendlier, more collegial, collaborative, supportive, flexible, protective, encouraging, inclusive, and down-to-earth as well as less sexist.

Graduate Student Experiences

- College of Science graduate students indicated that they were generally satisfied with their graduate programs.
- Two-thirds of respondents described their GTA workload as appropriate; one-third reported it was too heavy.
- Most respondents indicated that their course workloads were appropriate, and most students who served as a GRA reported workloads associated with this position were appropriate.
- When asked to rate the importance of various aspects of their graduate student experience, the highest importance ratings were given to: learning research techniques, developing and improving scientific writing and speaking, opportunities to present research, and attending professional conferences.
- Most students reported sufficient opportunities for conducting research and opportunities to present research; fewer reported the same for learning research techniques, developing and improving scientific writing and speaking, and attending professional conferences.
- Half or fewer reported sufficient opportunities for exploration of ethical issues in their discipline, interdisciplinary training, courses or training in pedagogy, internships or industrial experiences, and practice interviews and/or job market help.

Group Differences on Graduate Student Experiences

Women

- Women were less likely to indicate that they had sufficient opportunities for support groups and/or support organizations.

Underrepresented Racial-Ethnic Minorities

- URM students were more likely to rate their GRA workload as too heavy.
- They rated attending professional conferences, internships or industrial experiences, practice interviews and/or job market help, interdisciplinary training, learning how to mentor undergraduates, and exploration of disciplinary ethical issues as more important compared to their majority peers.
- They also reported more agreement that they had sufficient opportunities for elective courses, required courses, study groups, department lectures, talks or seminars, and receptions, parties, or other social events.

Sexual/Gender Minorities

- Sexual/gender minority students rated internships or industrial experiences, training in pedagogy, interdisciplinary training, and receptions, parties or other social events as less important to their graduate student experiences.

Lower-Income/Low SES Students

- Students from lower income backgrounds were more likely to identify elective courses, conducting research, interdisciplinary training, opportunities to participate in collaborative research, meeting outside speakers, and exploration of disciplinary ethical issues as more important.

- Fewer students from lower income backgrounds indicated that they had sufficient opportunities for required courses and to present their research.

International Students

- International students rated several graduate student experiences as more important than their domestic peers. These included: elective and required courses; prelim or qualifying written and oral exams; internships or industrial experiences; opportunities to present research; department lectures, talks, brown bags, or seminars; meeting outside speakers; study groups; and exploration of disciplinary ethical issues.

Students with Disabilities

- Students with disabilities rated two graduate student experiences as more important than their peers: conducting research and developing and improving scientific writing and speaking.
- They were less likely to indicate that they had sufficient opportunities for teaching or serving as a GTA, elective and required courses, and courses or training in pedagogy.

Pre-candidates

- Pre-candidates rated study groups more important and rated attending conferences and practice interview and job market help as less important.
- They were also less likely to report sufficient opportunities for teaching; oral or written prelim or qualifying exams; and to attend conferences.

Advising and Mentoring

- The majority of students indicated that the advice they receive from their primary advisor is adequate.
- Students generally reported positive relationships with their primary advisors. Most students agreed that their primary advisor is available to them when they need help with research, treats their ideas with respect, advocates for them with others, encourages them in their research interests and goals, assists them in writing presentations or publications, and generally respects the opinions of others in their department.
- By contrast, half of the students disagreed that their primary advisor instructs them in teaching methods and discusses with them the conflicting demands between academia and having a family. Similarly, one-quarter to one-third disagreed that their primary advisor provides information about career paths, provides emotional support, teaches them to write grants or research proposals, or advises about preparation for career advancement.
- Most students reported having at least one mentor who serves as a role model, advocates for them, advises about where to publish their research, advises about career advancement and departmental/national awards and fellowships, and promotes their career by encouraging contacts with other researchers. In contrast, one-third indicated that they do not have a mentor to advise them about balancing work and other interests.

Group Differences on Advising and Mentoring

Women

- Women reported having fewer mentors who advise them about career advancement (i.e., postdoctoral positions, jobs).

Underrepresented Racial-Ethnic Minorities

- URM students expressed more agreement that their primary advisors are available when they need help, encourage them in their research, would support them in any career path, provide emotional support, advocate for them, respect the opinions of other department members, treat them as a whole person, build their confidence, and are a resource for discussion of disciplinary ethical issues.

Sexual/gender Minorities

- Sexual/gender minority students agreed more strongly that their advisor would support them in any career path.

Lower-Income/Low SES Students

- Students from lower income backgrounds agreed less strongly that their advisors help them secure funding for their studies.
- They also reported having fewer mentors who advocate for them.

International Students

- International students rated their experiences with their advisor more positively on 15 of the 30 dimensions. These included: helps them securing funding for their studies; is available to talk about research and available to talk about other aspects of the program; helps them develop professional relationships; instructs them in teaching methods; advises about career preparation; advises about getting work published; advises about career paths; provides emotional support; is easy to discuss ideas with; inspires them intellectually; builds their confidence; and is a resource for discussion of disciplinary ethical issues.
- They reported having fewer mentors who promote their careers through encouraging contacts with other researchers, advise about career advancement, advise about where to publish their research, and advise about balancing work and other interests.

Students with Disabilities

- Students with disabilities agreed more strongly that their advisors respect the opinions of others in their department.

Pre-candidates

- Pre-candidates rated their advisors more positively on a number of dimensions. These included the following: teaches good research practices; is available when they need help with research and to talk about other aspects of their program; helps them develop professional relationships; encourages them in their research; would support them in any career path; advises about career preparation; treats their ideas with respect; provides emotional support; is easy to discuss ideas with; inspires them; builds their confidence; serves as a role model; and is a resource for discussion of disciplinary ethical issues.

Communication and Collegiality

- Most of the respondents agreed that the department staff is helpful, courteous, and respectful, that they know who to talk with in the department if they have a problem, and they find the interactions among students to be supportive and collegial.

- About two-thirds also agreed that: department faculty are readily available for discussions about my research; my department training is preparing me well for my future career; department faculty treat me as a colleague-in-training; the department does a good job at communicating expectations about degree and/or training requirements; I am satisfied with the advice I receive from those other than my research advisor; I am satisfied with the interactions between department faculty and graduate students; and I am satisfied with the interactions among faculty members.
- Similarly, half or more disagreed that they do not know the function and responsibilities of the department staff or that the department is not effective at communicating new policies and initiatives. However, nearly one-quarter agreed with the latter item.

Group Differences on Communication and Collegiality

Sexual/Gender Minorities

- Sexual/gender minority students expressed lower levels of satisfaction with the interactions among department faculty members.
- They also were less likely to agree that they know the function and responsibilities of the department staff.

Lower-Income/Low SES Students

- Students from lower income backgrounds agreed less strongly that department faculty are available for discussions about their research, they are satisfied with the interactions among faculty, the interactions among department graduate students are supportive and collegial, department faculty treat them as a colleague-in-training, and department training is preparing them well for their future careers.

International Students

- International students more strongly agreed that the department does a good job communicating expectations about requirements but less strongly agreed that the department staff are helpful, courteous, and respectful.

Pre-candidates

- Pre-candidates were more likely to agree that they are satisfied with the advice they receive from different sources at the University of Arizona; department faculty are available to discuss their research; they are satisfied with the interactions among faculty and between faculty and graduate students; the department does a good job communicating expectations; and the department training is preparing them well.

Career Goals

- The career goals viewed as most attractive by COS students were: both have children and be a successful academic; get a job in a non-profit or government agency, become a professor in a 4-year college, get a job in industry or the private sector, and become a professor in a top research university.
- Only half of the students rated working independently as attractive. Moreover, two-thirds described teaching in a 2-year college and becoming a faculty administrator as unattractive.
- Students generally reported a high level of advisor support for all of their career goals.

- Students reported the highest levels of confidence in three career outcomes: I am in the right field; my research interests are considered important; and I have received adequate training to be a good researcher.
- By contrast, more than one-quarter expressed no confidence in three different areas: I can become a professor in a top research university; I can become a faculty administrator; and I can become an administrator or manager in business.

Group Differences on Career Goals

Underrepresented Racial-Ethnic Minorities

- URM students reported more advisor support for becoming a faculty administrator and both having children and being a successful academic.

Sexual/Gender Minorities

- Sexual/gender minority students reported more advisor support for getting a job in industry or the private sector, becoming a professor in a 4-year college, and working independently.

International Students

- International students reported less advisor support for becoming a professor in a top research university or in a 4-year college.

Students with Disabilities

- Students with disabilities were more likely to agree that their advisors are supportive of them both having children and being a successful academic.

Pre-candidates

- Pre-candidates indicated higher advisor support for their working independently and getting a job in a non-profit or government agency.

Attrition

- Thirty-one percent of the respondents agreed that graduate students in some demographic groups have higher attrition rates than others in the College of Science.
- When asked for reasons why this might be the case, common responses included: lack of support for students, specific disadvantages that some students experience (e.g., women, international students); and particular stressors that some students face.
- When asked to describe the most important issue that needs to be addressed to improve overall retention, common suggestions were better mentoring and support for students and more welcoming and inclusive climates.

FINDINGS

Department Climate

Students were asked about the climate in their individual departments (e.g., department characteristics, experiences of bias or exclusion, and the environment for different groups).

Department Characteristics

Students rated their departments overall on 16 pairs of characteristics (e.g., friendly/hostile; non-racist/racist; diverse/homogeneous; flexible/rigid) on a five-point scale, with five representing the more positive characteristic; see Tables 1a and 1b.

The most positive mean ratings for individual items were for non-homophobic (4.26), non-racist (4.25), and friendly (4.21). The lowest ratings, but still above the midpoint, were for diverse (3.18), down-to-earth (3.56), flexible (3.61), and collaborative (3.61).

Two summary scales were created from ten of the individual items. The tolerant environment scale was comprised of four items (non-racist, non-sexist, non-homophobic, and diverse) and the positive environment scale was comprised of six items (friendly, respectful, collegial, collaborative, cooperative, and supportive). The mean scale scores were 3.88 for tolerant environment and 3.94 for positive environment.

Comparisons were made between demographic groups on the individual characteristics as well as the summary scales; the following mean group differences regarding department characteristic ratings were found:

- Pre-candidates reported a more positive department climate on several of the dimensions addressed, including rating their department environments as more tolerant. They also described their departments as more friendly, collegial, collaborative, supportive, flexible, protective, encouraging, inclusive, and down-to-earth as well as less sexist.
- Women reported a less tolerant department environment and also described their departments as less homogenous and more sexist compared to their male colleagues.
- Women also described their department environments as less respectful but more supportive.
- Sexual/gender minority students described their departments as less tolerant and specifically as more racist and homogenous compared to sexual/gender majority students.
- Students from lower income backgrounds rated their departments as more racist, and less respectful, collegial, collaborative, cooperative, supportive, encouraging, and flexible.
- International students reported a more tolerant department environment overall, and specifically rated their department as less homophobic, less sexist and more diverse.
- They also rated their departments more respectful supportive, flexible, protective and down-to-earth.

Experiences of Bias or Exclusion

Students were asked if they had experienced bias or exclusion from members of their department based on their gender, race, or other personal characteristics. Respondents provided their answers via a three-point scale ranging from 1 (not at all) to 3 (to a large extent); see Table 2.

Most reported no experiences of bias or exclusion from faculty, staff or other students. However, nearly one-quarter reported these experiences to some or a large extent from a faculty member (22%) or another student (24%). Fewer (8%) reported the same from a staff member.

The following mean group differences regarding experiences of bias or exclusion were found:

- Women students were more likely than men to report experiences of bias or exclusion from faculty, students and staff.
- URM students were more likely than racial-ethnic majority students to report experiences of bias or exclusion from other students.
- International students were more likely to report experiences of bias from department staff.

Environment for Different Groups in the Department

Students were asked to indicate their level of agreement with six items assessing the department environment for members of different groups (e.g., the department environment is one in which members of this group feel comfortable and are included, some faculty members have a condescending attitude toward members of this group). Responses were given on a four-point scale from a low of 'strongly disagree' to a high of 'strongly agree.' The groups asked about were men, women, underrepresented racial-ethnic minorities, sexual/gender minorities, those from countries other than the United States, those with disabilities, and those from lower-income backgrounds; see Table 3. We reiterate here that majority group members (e.g., whites vis a vis race, heterosexuals vis a vis sexuality, etc.) tend to view the climate for other groups as more positive than minority group members themselves. In the absence of many members of some groups, assessments of the climate for different under-represented groups may be more positive than they would be if the groups were more equally represented.

Environment for Men. Most of the respondents agreed or strongly agreed that the department environment is one in which men feel comfortable and included (82%) and three-quarters (77%) disagreed or strongly disagreed that some department members have a condescending attitude toward men. Similarly, one-half to two-thirds expressed some level of agreement that men voice their ideas as often as others (67%) and expressed some level of disagreement that department members expect less (63%) or more (59%) from men. Half (53%) were neutral on the following item: "the department strives to address any concerns about the status and treatment of men"; 22% disagreed or strongly disagreed.

Men were less likely than women to report that faculty expected less from men.

Environment for Women. About half of the respondents agreed or strongly agreed that the department environment is one in which women feel comfortable and included (58%) and women voice their ideas as often as others (50%); 17% and 26%, respectively, disagreed or strongly disagreed with these items. Similarly, approximately half disagreed or strongly disagreed that department members expect more (58%) or less (60%) from women; most of the remaining respondents were neutral on these items. Half (50%) also disagreed or strongly disagreed that some department members have a condescending attitude toward women; however, 32% expressed some level of agreement with this item. Finally, half (48%) agreed or strongly agreed that the department strives to address concerns about the status and treatment of women; 37% were neutral and 16% expressed disagreement.

- Women were more likely than men to report that some students have a condescending attitude toward women.
- They were also more likely to report that faculty expect more from women.
- Women were less likely than men to report that the department strives to address concerns about the status and treatment of women.

Environment for Underrepresented Racial-Ethnic Minorities. Only half or fewer of the respondents agreed or strongly agreed that the department environment is one in which underrepresented racial-ethnic minorities feel comfortable and included (50%) and voice their ideas in meetings as often as others (42%); most of the remaining respondents were neutral on these two items (35% and 39%, respectively). Similarly, half disagreed or strongly disagreed that department members expect more (56%) or less (53%) from underrepresented racial-ethnic minorities; again, most of the remaining respondents were neutral on these items (43% in both cases). Half (58%) also disagreed or strongly disagreed that some department members have condescending attitudes toward underrepresented racial-ethnic minorities; however, 16% expressed some level of agreement. Only one-third (37%) agreed or strongly agreed that the department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities; half (50%) were neutral.

- URM students were more likely than their racial-ethnic majority peers to report that some students have a condescending attitude toward them.

Environment for Sexual/Gender Minorities. Half of the respondents expressed some level of agreement that the department environment is one in which sexual/gender minorities feel comfortable and included (54%) and they voice their ideas as often as others (47%); most of the remaining students were neutral on these items (39% and 47%, respectively). Similarly, more than half (62%) expressed some level of disagreement that some department members have a condescending attitude toward sexual/gender minorities; 33% were neutral. Half also disagreed or strongly disagreed that department members expect more (52%) or less (53%) from sexual/gender minorities; 48% and 46%, respectively, were neutral. One-third (32%) agreed or strongly agreed that the department strives to address any concerns about the status and treatment of sexual/gender minorities; half (57%) were neutral.

Department Members from Countries other than U.S. Slightly more than half expressed some level of agreement that the department environment is one in which those from other countries feel comfortable and included (61%; 30% were neutral) and, conversely, disagreed that some department members have a condescending attitude toward those from other countries (60%; 19% agreed). Similarly, about half expressed some level of disagreement that department members expect more (55%) or less (58%) from those from other countries; 36%, in both cases, were neutral. Half (51%) also agreed or strongly agreed that those from other countries voice their ideas as often as others; however, 24% expressed some level of disagreement with this item. One third (36%) of the respondents agreed that the department strives to address concerns about the status and treatment of those from other countries; most of the remaining respondents were neutral (51%).

- International students, compared to their domestic peers, disagreed more strongly that some faculty expect less from them.

Department Members with Disabilities. Half (55%) of the students disagreed or strongly disagreed that some department members have a condescending attitude toward those with disabilities; 36% were neutral. Fewer agreed or strongly agreed that the department environment is one in which those with disabilities feel comfortable and included (46%) and voice their ideas as often as others (37%); most of the remaining students were neutral (43% and 53%, respectively). Approximately half expressed some level of disagreement that department members expect more (49%) or less (46%) from those with disabilities; most of the remaining respondents were neutral on these items (51% and 50%, respectively). Only one-third (35%) agreed or strongly agreed that the department strives to address concern about the status and treatment of those with disabilities; 55% were neutral.

Department Members from Lower-Income/Lower-Socioeconomic Status Backgrounds.

Approximately half (57%) disagreed or strongly disagreed that some department members have a condescending attitude toward those from lower-SES backgrounds; one-third (35%) were neutral. Fewer agreed or strongly agreed that the department environment is one in which those from lower-SES backgrounds feel comfortable and included (48%) and they voice their ideas as often as others (42%); nearly as many (42% and 49%, respectively) were neutral. Similarly, half disagreed or strongly disagreed that department members expect more or less from those from lower-SES backgrounds (49% in both cases); similar numbers were neutral on these questions (50% and 49%, respectively). Only 27% expressed some level of agreement that the department strives to address concerns about the status and treatment of those from lower-SES backgrounds; 16% expressed some level of disagreement on this items and the remaining 57% were neutral.

- Students from lower-income backgrounds were more likely to agree that some graduate students are condescending to them.

Open-ended Responses Regarding Department Climate

Students were asked, in an open-ended fashion, to describe their most important concern about the climate in their departments. One-quarter (26%) described a concern; in addition, 14 students either reported that they had no concerns or only described their departments in positive terms.

For the remaining comments, responses were categorized for ease of reporting. A thematic coding scheme was devised based on the responses. A subsample of responses was then coded by two ADVANCE staff members who obtained an acceptable inner-rater reliability of at least 0.85. One of the coders then coded the remaining responses. The following themes emerged from this process; please note that students could provide comments about more than one theme.

More than half of the respondents (57%, n=73) described some negative aspect of their departments' climate. Most (N=34) noted a concern about specific groups within their department (e.g., women, students of color, international students, student parents) and nearly as many (n=30) characterized their departments as homogenous or lacking in diversity. A few expressed concern about some in the department feeling isolated and worried that their departments don't do enough to address students' mental health issues. Separate from these comments about department climate, seven students noted divisions within their units and/or an inability to create or foster community.

Many students (30%, n=39) expressed concerns they had with the faculty in their departments. Of these, 15 noted specific difficulties with advisors or lack of support from them. Several

described faculty as generally unavailable or unhelpful with problems (n=14) and/or disrespectful toward students (n=11). A few wanted better career guidance, especially information on non-academic jobs, from faculty (n=7) and others expressed the wish that faculty were more effective at addressing climate issues in their departments, including wanting the faculty to be more inclusive themselves (n=7). A few (n=4) noted concerns about faculty interpersonal relationships within their departments.

Several students (n=13) mentioned an inability to balance work demands with other aspects of their lives; some of these students noted feelings of stress related to work overload. Others (n=7) expressed concerns about inadequate funding for graduate students.

A few (n=4) indicated a lack of rigorous standards for graduate students as a problem; others (n=5) noted experiences of reverse discrimination. Finally, five described poor communication (e.g., concerning students' requirements) and/or lack of administrative support.

Students were subsequently asked, in an open-ended format, if they had any additional information about the climate in their departments that they wanted to share. Fifty-five students responded. Many of these (n=14) had positive things to say about their departments' climate.

However, several (n=11) reiterated negative aspects about the climate in their departments. Comments included concerns about a hostile environment, sexism, lack of diversity and resistance to political correctness, and hyper-competitiveness. A similar number described unsupportive faculty and expressed a need for them to be more engaged (n=12). Students in this group mentioned insufficient mentoring or recognition of achievements of students and inflexibility and/or negativity in their interactions with them. In addition, several noted that students do a good deal of the work around diversity with little or no support from the faculty.

Slightly fewer called for more administrative oversight and support for students (n=7). A few noted the lack of emphasis on teaching (n=2), the poor physical work environment (n=2) and the quality of students (n=2). Some students had feedback about the survey (n=3). Finally, a few (n=5) felt that they didn't know enough or couldn't comment on the climate in their respective departments.

Graduate Student Experiences

Students provided information about many of their experiences as graduate students in COS, including teaching, workload, and curricular experiences and opportunities.

Teaching and Workload

Most of the responding students indicated that their course workload was appropriate (86%); a few reported that it was too heavy (11%) or too light (3%).

Most of the students (78%) also reported that they had taught or served as a GTA. Not surprisingly, candidates were more likely to report having this teaching experience. Most of those who had served as an instructor or GTA (63%) rated their teaching workload as appropriate; the remaining students (37%) reported that it was too heavy. Similarly, most students (86%) who had served as a GRA reported that the workload associated with this position was appropriate. A few rated it too heavy (11%) or too light (3%).

- URM students were more likely to rate this work load as heavier.

Overall Satisfaction with Graduate Program

Students were asked a single question that assessed overall satisfaction with their specific graduate program: “All things considered, how satisfied are you with your graduate program?” Respondents used a scale that ranged from 1 (very dissatisfied) to 5 (very satisfied); see Table 5.

Most of the responding students were either somewhat (42%) or very (36%) satisfied with their program. Only 12% expressed some level of dissatisfaction.

- Pre-candidates expressed higher satisfaction and students from lower income backgrounds expressed lower satisfaction compared to their respective peers.

Graduate Student Experiences

Students were asked to rate the importance of 23 experiences that are a normal part of a graduate program (e.g., learning research techniques, teaching or serving as a GTA, study groups). Students responded using a scale that ranged from 1 (not at all important) to 4 (extremely important). They were also asked to indicate, with yes or no responses, whether or not they had received sufficient opportunities for each experience; see Tables 6 and 7.

The three items with the highest mean importance rating were: conducting research (3.91); learning research techniques (3.82); and developing and improving scientific writing and speaking (3.78). Also highly rated were: opportunities to present research (3.53) and attending professional conferences (3.50). Most students reported sufficient opportunities for conducting research (92%) and opportunities to present research (88%). Fewer reported the same for learning research techniques (79%) and developing and improving scientific writing and speaking, and attending professional conferences (75% in both cases).

Most students also reported sufficient opportunities for required courses (95%), department lectures, talks, brown bags, or seminars (94%), meeting outside speakers (90%), and teaching or serving as a GTA (89%). About half or fewer reported sufficient opportunities for exploration of ethical issues in their discipline (56%), interdisciplinary training (55%), courses or training in pedagogy (51%), internships or industrial experiences (45%) or practice interviews and/or job market help (38%).

The items with the lowest average importance ratings were study groups (2.43); receptions, parties, and other social events (2.46); and support groups/support organizations (2.54).

The following mean group differences with regards to the importance of graduate student experiences were found:

- Compared to candidates, pre-candidates rated study groups more important and rated attending conferences and practice interview and job market help as less important.
- URM students rated attending professional conferences, internships or industrial experiences, practice interviews and/or job market help, interdisciplinary training, learning how to mentor undergraduates, and exploration of disciplinary ethical issues as more important compared to their majority peers.
- Sexual/gender minority students rated internships or industrial experiences, training in pedagogy, interdisciplinary training, and receptions, parties or other social events as less important to their graduate student experiences.
- Students from lower income backgrounds were more likely to identify elective courses, conducting research, interdisciplinary training, opportunities to participate in collaborative

research, meeting outside speakers, and exploration of disciplinary ethical issues as more important.

- International students rated several graduate student experiences as more important than their domestic peers. These included: elective and required courses; prelim or qualifying written and oral exams; internships or industrial experiences; opportunities to present research; department lectures, talks, brown bags, or seminars; meeting outside speakers; study groups; and exploration of disciplinary ethical issues.
- Students with disabilities rated two graduate student experiences as more important than their peers: conducting research and developing and improving scientific writing and speaking.

The following mean group differences regarding opportunities to participate in graduate student experiences were found:

- Pre-candidates were less likely to report sufficient opportunities for teaching; for oral or written prelim or qualifying exams; and to attend conferences.
- Women were less likely to indicate that they had sufficient opportunities for support groups and/or support organizations.
- URM students reported more agreement that they had sufficient opportunities for elective courses, required courses, study groups, department lectures, talks, or seminars, and receptions, parties, or other social events.
- Fewer students from lower income backgrounds indicated that they had sufficient opportunities for required courses and to present their research.
- Students with disabilities were less likely to indicate that they had sufficient opportunities for teaching or serving as a GTA, elective and required courses, and courses or training in pedagogy.

When asked to identify any additional opportunities not currently available that would further enhance their education, five students wanted support for non-academic job searches and four wanted grant writing workshops.

Advising and Mentoring

Students responded to several questions about their experiences with their primary advisors, as well as the adequacy of the advising they have received.

Primary Advisor

To assess students' relationships with their advisors along a range of dimensions, the students were asked to indicate their level of agreement with 30 statements (e.g., my advisor teaches me the details of good research practice, inspires me intellectually, serves as a role model), on a scale that ranged from 1 (strongly disagree) to 4 (strongly agree); see Table 8.

Most students (90-92%) agreed or strongly agreed that their primary advisor is available to them when they need help with research, treats their ideas with respect, advocates for them with others, encourages them in their research interests and goals, assists them in writing presentations or publications, and generally respects the opinions of others in the departments. Nearly as many (85-89%) agreed or strongly agreed that the primary advisor encourages them to attend and present at professional meetings, treats them as a whole person, inspires them intellectually, is available to talk about different aspects of the program, would support them in any career path, helps them secure funding for their studies, and is easy to discuss ideas with.

By contrast, half of the students disagreed or strongly disagreed that their primary advisor instructs them in teaching methods (55%) or discusses the conflicting demands between academia and having a family with them (54%). Similarly, one-quarter to one-third disagreed or strongly disagreed that their primary advisor provides information about career paths (35%), provides emotional support (35%), teaches them to write grants or research proposals (33%), or advises about preparation for career advancement (26%).

The students were also asked to rate the adequacy of the advice given by their primary advisors on a four-point scale, from 1 (not at all adequate) to 4 (very adequate); see Table 9. The majority of students indicated that the advice they receive from their primary advisor is very (48%) or pretty (29%) adequate. Most of the remaining students rated the advice as somewhat adequate (18%); 5% rated it as not at all adequate. The mean adequacy rating for advice from primary advisors was 3.20.

The following mean differences regarding primary advisors were found:

- Pre-candidates, compared to candidates, rated their advisors more positively on a number of dimensions. These included: their primary advisor is available when they need help with research and to talk about other aspects of their program; teaches good research practices; helps them develop professional relationships; encourages them in their research; would support them in any career path; advises about career preparation; provides information about career paths, treats their ideas with respect; provides emotional support; is easy to discuss ideas with; treats them as a whole person; inspires them; builds their confidence; serves as a role model; and is a resource for discussion of disciplinary ethical issues.
- Compared to racial-ethnic majority students, URM students expressed more agreement that their primary advisors are available when they need help, encourage them in their research, would support them in any career path, provide emotional support, advocate for them, respect the opinions of other department members, treat them as a whole person, build their confidence, and are a resource for discussion of disciplinary ethical issues.
- Sexual/gender minority students agreed more strongly that their advisors would support them in any career path.
- Students from lower income backgrounds agreed less strongly that their advisors help them secure funding for their studies.
- International students rated their experiences with their advisor more positively on 15 of the 30 dimensions: helps them securing funding for their studies; is available to talk about research and other aspects of the program; helps them develop professional relationships; instructs them in teaching methods; advises about career preparation; advises about getting work published; advises about career paths; provides emotional support; is easy to discuss ideas with; respects the opinions of others in the department; treats them as a whole person; inspires them intellectually; builds their confidence; and is a resource for discussion of disciplinary ethical issues.
- Students with disabilities agreed more strongly that their advisors respect the opinions of others in their department.

Mentors

Students were also asked how many mentors they have within the department who provide different kinds of support (e.g., serving as role models, advocating for them). For each type of support, a respondent could indicate having 0, 1-3, or 4 or more mentors who provide the specific kind of support; see Table 10.

Most students reported having at least one mentor who serves as a role model (92%) and who advocates for them (90%). Eighty percent or more reported at least one mentor who provided the other kinds of support asked about with the exception of one item: one-third (32%) reported having no mentor who advises about balancing work and other interests.

The following mean group differences regarding mentorship were found:

- Women reported having fewer mentors who advise about career advancement (i.e., postdoctoral positions, jobs).
- Students from lower-income backgrounds reported having fewer mentors who advocate for them.
- International students reported having fewer mentors who promote their careers through encouraging contacts with other researchers and advise about career advancement, where to publish their research, and balancing work and other interests.

Communication and Collegiality

Students indicated their level of agreement with 12 items that addressed their experiences concerning communication, collegiality, and training in the department (e.g., I am satisfied with the interactions between department faculty members and graduate students, the department does a good job at communicating expectations about degree and/or training requirements). Responses were given on a five-point scale that ranged from 1 (strongly disagree) to 5 (strongly agree); see Table 11.

The vast majority of respondents (94%) agreed or strongly agreed that the department staff is helpful, courteous, and respectful. Similarly most agreed or strongly agreed that they know who to talk with in the department if they have a problem (87%), and they find the interactions among students to be supportive and collegial (84%). Only about two-thirds reported the same for these items: department faculty are readily available for discussions about my research (71%); my department training is preparing me well for my future career (68%); department faculty treat me as a colleague-in-training (68%); the department does a good job at communicating expectations about degree and/or training requirements (64%); I am satisfied with the advice I receive from those other than my research advisor (63%); I am satisfied with the interactions between department faculty and graduate students (62%); and I am satisfied with the interactions among faculty members (58%). Generally, one-quarter (21-27%) were neutral on these items and the remaining expressed disagreement.

Similarly, half or more disagreed or strongly disagreed that they do not know the function and responsibilities of the department staff (69%) or that the department is not effective at communicating new policies and initiatives (54%). However, nearly one-quarter (22%) agreed or strongly agreed with the latter item.

The following mean differences were found:

- Pre-candidates were more likely to agree that they are satisfied with the advice they receive from various sources at the University of Arizona; department faculty are available to discuss their research; they are satisfied with the interactions among faculty and between faculty and graduate students; the department does a good job communicating expectations; and the department training is preparing them well.
- Sexual/gender minority students expressed lower levels of satisfaction with the interactions among department faculty members. They also were less likely to agree that they know the function and responsibilities of the department staff.

- Students from lower income backgrounds agreed less strongly that department faculty are available for discussions about their research, they are satisfied with the interactions among faculty, the interactions among department graduate students are supportive and collegial, department faculty treat them as a colleague-in-training, and department training is preparing them well for their future careers.
- International students more strongly agreed that the department does a good job communicating expectations about requirements, but less strongly agreed that the department staff are helpful, courteous, and respectful.

Career Goals

Several questions addressed students' career aspirations, their advisor's support for these goals, and their confidence concerning specific career goals.

Attractiveness of Career Goals

Students rated the attractiveness of eight different career goals (e.g., become a professor in a top research university, become a faculty administrator, both have children and be a successful academic) on a four-point scale that ranged from 1 (very unattractive) to 4 (very attractive); see Table 12.

The most attractive career goal was to both have children and be a successful academic; 83% of the students rated this goal as attractive or very attractive. About three-quarters of the students also rated these career goals as attractive or very attractive: a job in a non-profit or government agency (76%), a professor in a 4-year college (74%); a job in industry or the private sector (73%) and a professor in a top research university (71%). Only half (52%) of the students rated working independently as attractive. Moreover, two-thirds described teaching in a 2-year college and becoming a faculty administrator as unattractive (68% and 64%, respectively).

The following mean group differences were found:

- Sexual/gender minority students reported that having children and being a successful academic was a less attractive career goal.
- International students, compared to their domestic peers, rated three career goals as more attractive: becoming a professor at a top research university; working in industry or the private sector; and becoming a faculty administrator. They rated two career goals as less attractive: becoming a professor in a 4-year college and working in a non-profit or government agency.

Support for Career Goals

Students were also asked to indicate the level of primary advisor support they received for the eight career goals discussed above. The students responded using a three-point scale that ranged from 1 (not at all supportive) to 3 (very supportive); see Table 13.

Students generally reported advisor support for these career goals. Most (82%) reported that their advisors were very supportive of their becoming a professor in a top research university. In addition, half or more rated their advisors as very supportive of these career goals: becoming a professor in a 4-year college (66%); both having children and being a successful academic (63%); becoming a faculty administrator (54%); getting a job in a non-profit or government agency (50%); and getting a job in industry or the private sector (50%).

Few students reported that their advisors were not at all supportive of any of the eight career goals.

The following mean group differences were found:

- Pre-candidates indicated more advisor support for their working independently and getting a job in a non-profit or government agency.
- URM students reported more advisor support for becoming a faculty administrator and both having children and being a successful academic.
- Sexual/gender minority students reported more advisor support for getting a job in industry or the private sector, becoming a professor in a 4-year college, and working independently.
- International students reported less advisor support for becoming a professor in a top research university or in a 4-year college.
- Students with disabilities reported more advisor support for them both having children and being a successful academic.

Confidence

Students rated their level of confidence with 19 statements about career outcomes (e.g., becoming a professor) and other goals (e.g., being successful in one's field), regardless of their actual goals. Students responded using a four-point scale that ranged from 1 (not at all true) to 4 (very true); see Table 14.

Students reported the highest levels of confidence in three career outcomes: I am in the right field (50% reported this was very true); my research interests are considered important (45); and I have received adequate training to be a good researcher (42%).

By contrast, more than one-quarter expressed no confidence in three different items: I can become a faculty administrator (33% reported that this was not at all true); I can become an administrator or manager in business (30%), and I can become a professor in a top research university (28%).

The following mean group differences were found:

- Pre-candidates reported more confidence that they are in the right field; they have received adequate training to be a good teachers; in their abilities as a teacher; and they can get an academic job in an appealing geographic location.
- URM students expressed less confidence that they can make it financially.
- Sexual/gender minority students expressed less confidence in their ability to balance their work and personal lives to their satisfaction.
- Students from lower income backgrounds were less confident that they can get a job in industry or the private sector; that they can make it financially; that their research interests are considered important, and in their ability to obtain funding as a researcher.
- International students reported less confidence that they can get a job in a non-profit or government agency, they can be self-employed, that they can make it financially, and that they are in the right field. They were more confident in their ability to obtain research funding.

Attrition

Students were asked whether or not they think graduate students in some groups (based on race-ethnicity, gender, family situation, etc.) have higher attrition rates than others in their departments. Nearly one-third of the sample (31%) agreed this was so. These students were then asked why they thought attrition rates may be different for some groups. Ninety-one students provided open-ended responses to this question.

Most of the students indicated that attrition was related to a lack of support (e.g., a “sink or swim” attitude, feelings of isolation) and/or role models for specific groups of students. Students often mentioned disadvantaged students generally, but some also identified specific groups of students. Most often cited in this category were women (n=36). Also mentioned were underrepresented racial-ethnic minority students (n=9), international students (n=7); and those with families (n=11). Several students also noted difficulties for students who were dealing with particular stressors, including family demands and personal problems, as well as those related to a broader social context.

Students were also asked to describe the most important issue that needs to be addressed to improve overall retention. One hundred and nine students provided responses to this open-ended question. The largest number of students (n=36) called for better student mentoring, including clearer expectations for students and improved communication between students and faculty. A few (n=6) also suggested that faculty provide students with broader information about career possibilities.

Several students' comments addressed the departments' climate. Most (n=24) argued for more welcoming and inclusive environments, including attention to specific groups (e.g., women, international students) and more diverse faculty and students. Similarly, 5 students specifically suggested that their department members show more respect toward one another.

Students also suggested the need for additional supports for students. These included better information about University health services, in particular mental health services, and safe places to bring up issues (n=8); better treatment of GTAs and student teachers (n=8); addressing work demands and work/life balance issues (n=14); better funding for students (n=15), curricular issues (n=7, e.g., more opportunities to engage in research, anonymous grading, changes to qualifying exams, and discipline specific curriculum suggestions), and more opportunities to collaborate with faculty and engage with research (n=9). A few students wanted more opportunities to socialize within the department.

Additional Comments

At the end of the survey, students were provided space to supply additional open-ended comments; 36 students responded. Most (n=15) reiterated the need for more student support including better mentoring and funding, decreased workloads, and information about alternative careers. A few (n=4) addressed curricular and education experiences and two more addressed climate issues. One was unhappy about the quality of their workspace.

A few comments (n=4) were about the survey itself and one was doubtful that any change would come as a result of the survey.

In contrast, six respondents indicated that they were very happy with their graduate student experiences.

Table 1a: Department Characteristics

	n	mean	sd
tolerant environment scale	402	3.88	0.83
positive environment scale	402	3.94	0.81

Table 1b: Department Characteristics

	1	2	3	4	5		n	mean	sd
alienating	3%	7%	12%	29%	49%	welcoming	402	4.14	1.06
hostile	1%	6%	12%	32%	49%	friendly	401	4.21	0.97
racist	2%	7%	12%	23%	56%	non-racist	402	4.25	1.03
homogeneous	9%	23%	26%	23%	18%	diverse	399	3.18	1.24
disrespectful	0%	5%	14%	39%	41%	respectful	402	4.15	0.88
contentious	2%	7%	21%	37%	34%	collegial	396	3.94	0.99
sexist	4%	16%	15%	26%	40%	non-sexist	400	3.83	1.21
individualistic	5%	15%	21%	33%	27%	collaborative	400	3.61	1.17
competitive	2%	11%	25%	36%	26%	cooperative	401	3.71	1.04
homophobic	1%	3%	20%	20%	56%	non-homophobic	398	4.26	0.95
not supportive	2%	8%	12%	39%	38%	supportive	401	4.03	1.01
rigid	4%	11%	28%	37%	21%	flexible	400	3.61	1.04
threatening	1%	4%	34%	36%	25%	protective	401	3.80	0.90
discouraging	3%	8%	16%	39%	35%	encouraging	400	3.93	1.05
snobbish	6%	13%	24%	33%	24%	down-to-earth	396	3.56	1.15
exclusionary	3%	10%	24%	36%	27%	inclusive	396	3.74	1.04

Table 2: Experiences of Bias or Exclusion

Have you experienced bias or exclusion due to your gender, race, or other personal characteristics by members of your department?	n	not at all	to some extent	to a large extent	mean	sd
by a faculty member	400	78%	18%	4%	1.26	0.52
by a staff member	401	92%	6%	2%	1.10	0.36
by a fellow student	400	77%	21%	3%	1.26	0.50

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Table 3: Environment for Groups

In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward men .	398	51%	26%	15%	6%	2%	1.81	1.00
the department environment is one in which men feel comfortable and are included.	398	2%	3%	14%	34%	48%	4.24	0.91
men voice their ideas in meetings as often as those not belonging to this group.	395	4%	10%	19%	31%	36%	3.85	1.13
department members expect more from men than from others.	394	29%	30%	32%	8%	2%	2.24	1.01
department members expect less from men than from others.	394	31%	32%	31%	4%	2%	2.11	0.95
the department strives to address any concerns about the status and treatment of men .	394	9%	13%	53%	16%	9%	3.02	1.02
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward women .	391	28%	22%	18%	25%	7%	2.60	1.31
the department environment is one in which women feel comfortable and are included.	391	3%	14%	25%	38%	20%	3.58	1.06
women voice their ideas in meetings as often as those not belonging to this group.	390	5%	21%	24%	31%	19%	3.39	1.16
department members expect more from women than from others.	390	24%	34%	30%	9%	3%	2.32	1.02
department members expect less from women than from others.	390	26%	34%	32%	7%	1%	2.22	0.94
the department strives to address any concerns about the status and treatment of women .	388	3%	13%	37%	30%	18%	3.48	1.01
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward underrepresented racial-ethnic minorities .	375	31%	27%	25%	13%	3%	2.28	1.12
the department environment is one in which underrepresented racial-ethnic minorities feel comfortable and are included.	373	4%	12%	35%	33%	17%	3.46	1.03
underrepresented racial-ethnic minorities voice their ideas in meetings as often as those not belonging to this group.	373	5%	13%	39%	28%	14%	3.32	1.04
department members expect more from underrepresented racial-ethnic minorities than from others.	372	24%	32%	43%	2%	0%	2.23	0.84
department members expect less from underrepresented racial-ethnic minorities than from others.	373	23%	30%	43%	3%	1%	2.29	0.88
the department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities .	372	5%	8%	50%	25%	12%	3.30	0.95
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward sexual/gender minorities .	372	32%	30%	33%	4%	1%	2.12	0.94
the department environment is one in which sexual/gender minorities feel comfortable and are included.	372	2%	5%	39%	34%	20%	3.65	0.93
sexual/gender minorities voice their ideas in meetings as often as those not belonging to this group.	371	2%	5%	47%	32%	15%	3.53	0.88
department members expect more from sexual/gender minorities than from others.	371	26%	26%	48%	0%	0%	2.22	0.84
department members expect less from sexual/gender minorities than from others.	372	26%	27%	46%	0%	0%	2.20	0.83
the department strives to address any concerns about the status and treatment of sexual/gender minorities .	370	2%	8%	57%	20%	12%	3.32	0.87
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those from countries other than the U.S.	383	31%	29%	21%	16%	3%	2.31	1.16
the department environment is one in which those from countries other than the U.S. feel comfortable and are included.	383	2%	7%	30%	41%	20%	3.69	0.95
those from countries other than the U.S. voice their ideas in meetings as often as those not belonging to this group.	383	6%	16%	27%	34%	17%	3.39	1.12
department members expect more from those from countries other than the U.S. than from others.	383	23%	32%	36%	7%	1%	2.29	0.92
department members expect less from those from countries other than the U.S. than from others.	383	24%	34%	36%	6%	0%	2.23	0.88
the department strives to address any concerns about the status and treatment of those from countries other than the U.S.	383	3%	10%	51%	27%	9%	3.29	0.00
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those with disabilities .	375	30%	25%	36%	7%	1%	2.24	1.00
the department environment is one in which those with disabilities feel comfortable and are included.	373	3%	8%	43%	28%	18%	3.51	0.97
those with disabilities voice their ideas in meetings as often as those not belonging to this group.	372	3%	6%	53%	22%	15%	3.41	0.92
department members expect more from those with disabilities than from others.	373	25%	24%	51%	0%	0%	2.27	0.85
department members expect less from those with disabilities than from others.	371	23%	23%	50%	5%	0%	2.36	0.89
the department strives to address any concerns about the status and treatment of those with disabilities .	373	3%	7%	55%	22%	13%	3.35	0.91
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those from lower-income backgrounds .	372	30%	27%	35%	6%	2%	2.24	1.01
the department environment is one in which those from lower-income backgrounds feel comfortable and are included.	372	3%	7%	42%	31%	17%	3.54	0.95
those from lower-income backgrounds voice their ideas in meetings as often as those not belonging to this group.	373	2%	7%	49%	27%	15%	3.46	0.90
department members expect more from those from lower-income backgrounds than from others.	373	24%	25%	50%	1%	0%	2.28	0.84
department members expect less from those from lower-income backgrounds than from others.	370	24%	25%	49%	3%	0%	2.32	0.89
the department strives to address any concerns about the status and treatment of those from lower-income backgrounds .	371	5%	11%	57%	17%	10%	3.18	0.92

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Table 4: Workload

	n	too light	appropriate	too heavy	mean	sd
coursework	361	3%	86%	11%	2.08	0.37
GTA (if were a GTA)	296	0%	63%	37%	2.36	0.49
GRA (if were a GRA)	260	3%	86%	11%	2.08	0.37

Table 5: Satisfaction

	n	very dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied	mean	sd
All things considered, how satisfied are you with your graduate program?	448	3%	9%	10%	42%	36%	3.99	1.06

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Table 6: Importance of Graduate Student Experiences

	n	not at all important	somewhat important	quite important	extremely important	mean	sd
teaching or serving as a GTA	404	4%	27%	41%	28%	2.93	0.85
lab meetings	397	5%	23%	39%	33%	2.99	0.88
elective courses	428	3%	27%	40%	30%	2.96	0.84
prelim or qualifying oral exams	378	7%	27%	35%	31%	2.90	0.92
prelim or qualifying written exams	378	8%	26%	35%	30%	2.87	0.94
learning research techniques	430	0%	1%	16%	83%	3.82	0.41
conducting research	437	0%	1%	7%	92%	3.91	0.33
attending professional conferences	430	1%	8%	30%	60%	3.50	0.70
internships or industrial experiences	372	15%	25%	28%	32%	2.76	1.06
courses or training in pedagogy	387	10%	34%	37%	19%	2.66	0.90
opportunities to present your research	428	1%	6%	32%	61%	3.53	0.65
department lectures, talks, brown bags, or seminars	438	3%	21%	40%	36%	3.09	0.82
meeting outside speakers	437	2%	27%	44%	27%	2.96	0.78
practice interviews and/or job market help	403	5%	21%	40%	35%	3.05	0.86
interdisciplinary training	414	3%	19%	40%	38%	3.13	0.82
receptions, parties, and other social events	432	13%	41%	34%	12%	2.46	0.87
study groups	418	17%	37%	32%	14%	2.43	0.94
support groups/support organizations	418	11%	40%	30%	18%	2.54	0.91
opportunities to participate in group or collaborative research	429	1%	15%	39%	46%	3.30	0.74
required courses	435	3%	26%	41%	30%	2.97	0.83
developing and improving scientific writing and speaking	438	0%	3%	16%	81%	3.78	0.50
learning how to mentor undergraduates	404	6%	25%	40%	29%	2.92	0.88
exploration of ethical issues in your discipline	414	8%	28%	35%	29%	2.84	0.94

Table 7: Sufficient Opportunities for Graduate Student Experiences

	n	% with sufficient opportunity
teaching or serving as a GTA	396	89%
lab meetings	382	82%
elective courses	393	87%
prelim or qualifying oral exams	373	83%
prelim or qualifying written exams	370	84%
learning research techniques	394	79%
conducting research	398	92%
attending professional conferences	395	75%
internships or industrial experiences	369	45%
courses or training in pedagogy	376	51%
opportunities to present your research	391	88%
department lectures, talks, brown bags, or seminars	397	94%
meeting outside speakers	394	90%
practice interviews and/or job market help	375	38%
interdisciplinary training	382	55%
receptions, parties, and other social events	390	84%
study groups	379	69%
support groups/support organizations	381	59%
opportunities to participate in group or collaborative research	392	71%
required courses	394	95%
developing and improving scientific writing and speaking	397	75%
learning how to mentor undergraduates	397	68%
exploration of ethical issues in your discipline	391	56%

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Table 8: Primary Advisor

My primary advisor:	n	strongly disagree	disagree	agree	strongly agree	mean	sd
helps me secure funding for my graduate studies.	389	5%	9%	29%	57%	3.38	0.85
is available to me when I need help with my research.	411	2%	6%	34%	58%	3.47	0.72
is available to me when I need to talk about other aspects of my program.	401	3%	9%	38%	49%	3.33	0.79
teaches me the details of good research practice.	407	3%	15%	30%	51%	3.29	0.85
gives me regular and constructive feedback on my research.	404	5%	12%	30%	52%	3.29	0.88
helps me develop professional relationships with others in the field.	400	5%	17%	36%	42%	3.15	0.88
assists me in writing presentations or publications.	385	2%	8%	34%	56%	3.44	0.73
expects me to work so many hours that it is hard to have a personal life.	400	25%	54%	15%	7%	2.05 †	0.82
encourages me in my research interests and goals.	405	1%	7%	40%	51%	3.42	0.67
instructs me in teaching methods.	333	16%	39%	35%	10%	2.39	0.87
is often not available to me.	405	36%	43%	14%	7%	1.93 †	0.89
would support me in any career path I might choose.	385	3%	12%	51%	35%	3.18	0.73
advises about preparation for career advancement.	381	6%	20%	44%	30%	2.99	0.85
advises about getting my work published.	387	4%	11%	38%	48%	3.30	0.80
treats my ideas with respect.	406	2%	6%	38%	54%	3.45	0.69
provides information about career paths open to me.	386	8%	27%	45%	21%	2.78	0.86
sees me as a source of labor to advance his/her career.	395	33%	44%	17%	6%	1.96 †	0.87
teaches me to write grants/research proposals.	373	8%	25%	45%	23%	2.84	0.87
provides emotional support when I need it.	343	13%	22%	39%	25%	2.76	0.98
is easy to discuss ideas with.	406	4%	11%	38%	47%	3.28	0.80
treats me as a colleague.	401	4%	11%	45%	39%	3.19	0.81
talks with me about the conflicting demands between academia and starting/managing a family.	305	21%	33%	30%	15%	2.41	0.98
advocates for me with others when necessary.	364	2%	5%	47%	45%	3.35	0.70
generally respects opinions of others in department.	404	2%	7%	45%	46%	3.35	0.70
treats me as a whole person – not just as a scholar.	394	2%	10%	44%	44%	3.29	0.73
inspires me intellectually.	407	3%	10%	32%	55%	3.39	0.79
builds my confidence.	403	6%	13%	37%	44%	3.19	0.88
serves as a role model.	405	6%	11%	38%	45%	3.22	0.87
encourages me to attend and present at professional meetings.	395	3%	8%	32%	57%	3.44	0.75
is a resource for discussion of ethical issues related to my discipline	375	5%	12%	40%	43%	3.22	0.83

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Table 9: Primary Advisor

	n	not at all adequate	somewhat adequate	pretty adequate	very adequate	mean	sd
How adequate is the advice you are receiving from your primary advisor?	414	5%	18%	29%	48%	3.20	0.91

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Table 10: Number of Mentors who Provide Support Within the Department

	n	0	1-3	4+
serves as a role model	415	7%	72%	20%
promotes my career through encouraging contacts with other researchers	414	14%	76%	10%
advises about career advancement (i.e., postdoctoral positions, jobs)	414	19%	70%	11%
advises about where to publish my research	415	16%	77%	7%
advises about departmental/national awards and fellowships	414	19%	73%	8%
advocates for me	415	10%	79%	11%
advises about balancing work and other interests	413	32%	59%	9%

Table 11: Communication and Collegiality

	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
I am satisfied with the advice that I receive from sources at the University of Arizona other than my research advisor (including my thesis committee).	376	2%	7%	27%	44%	19%	3.72	0.92
Department faculty members (other than my doctoral/postdoctoral advisor) are readily available for discussions about my research.	383	3%	8%	18%	49%	22%	3.80	0.96
I am satisfied with the interactions between department faculty members and graduate students/postdoctoral fellows.	397	4%	13%	21%	43%	19%	3.60	1.06
I am satisfied with the interactions among department faculty members.	388	3%	10%	28%	39%	19%	3.62	1.01
I find the interactions among department graduate students/postdoctoral fellows to be supportive and collegial.	399	2%	4%	11%	49%	35%	4.12	0.86
Department faculty treat me as a colleague-in-training.	394	4%	6%	23%	45%	23%	3.77	0.99
The department does a good job at communicating expectations about degree and/or training requirements.	403	4%	11%	21%	39%	25%	3.69	1.09
In general, the department is not effective at communicating new policies and new initiatives.	396	13%	41%	24%	17%	5%	2.60 †	1.07
In general, I do not know the function and responsibilities of the department staff.	399	18%	51%	15%	14%	2%	2.31 †	1.00
If I need help solving a problem (such as problems with my paycheck, parking, training requirements), I know who to talk with in the department.	403	1%	4%	7%	50%	37%	4.18	0.84
The department staff are helpful, courteous, and respectful.	405	0%	2%	4%	36%	58%	4.50	0.69
My department training is preparing me well for my future career.	398	2%	6%	24%	42%	26%	3.84	0.93

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

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Table 12: Attractiveness of Career Goals

	n	very unattractive	unattractive	attractive	very attractive	mean	sd
become a professor in a top research university	399	11%	18%	27%	44%	3.04	1.03
get a job in industry or the private sector	402	7%	20%	45%	28%	2.95	0.87
become a professor in a 4-year college	399	8%	19%	45%	29%	2.95	0.88
teach in a 2-year college	399	22%	46%	27%	6%	2.18	0.84
work independently (e.g., consulting, writing)	397	15%	33%	39%	13%	2.50	0.90
get a job in a non-profit or government agency	403	5%	20%	50%	26%	2.96	0.80
become a faculty administrator (e.g., department chair, dean, etc.) in a college or university	402	25%	39%	26%	10%	2.21	0.94
both have children and be a successful academic	389	9%	8%	30%	53%	3.27	0.94

Table 13: Level of Advisor Support for Career Goals

	n	not at all supportive	somewhat supportive	very supportive	mean	sd
become a professor in a top research university	353	3%	15%	82%	2.78	0.48
get a job in industry or the private sector	330	10%	40%	50%	2.41	0.66
become a professor in a 4-year college	325	4%	30%	66%	2.63	0.56
teach in a 2-year college	274	16%	47%	37%	2.21	0.70
work independently (e.g., consulting, writing)	281	15%	44%	41%	2.26	0.70
get a job in a non-profit or government agency	309	10%	40%	50%	2.39	0.67
become a faculty administrator (e.g., department chair, dean, etc.) in a college or university	270	10%	36%	54%	2.44	0.67
both have children and be a successful academic	295	7%	29%	63%	2.56	0.63

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Table 14: Confidence in Career Goals

I am confident:	n	not at all true	a little true	somewhat true	very true	mean	sd
that I can become a professor in a top research university.	402	28%	28%	33%	11%	2.28	0.99
that I can get a job in industry or the private sector.	401	5%	22%	33%	39%	3.06	0.91
that I can become a professor in a 4-year college.	401	8%	25%	42%	25%	2.83	0.90
that I can get a job in a non-profit or government agency.	397	7%	22%	39%	32%	2.96	0.91
that I can become a faculty administrator (e.g., dept chair, dean) in a college/university.	398	33%	35%	24%	8%	2.07	0.94
that I can become an administrator/manager in business.	401	30%	32%	27%	11%	2.18	0.99
that I can be self-employed (e.g., consulting, writing).	401	22%	37%	28%	13%	2.32	0.96
that I can be successful in my field.	402	4%	15%	40%	40%	3.16	0.84
that I can balance work and personal life to my satisfaction.	401	7%	23%	42%	28%	2.91	0.88
that I can get a job as an academic in an appealing geographic location.	399	17%	37%	32%	14%	2.44	0.93
that I can both have children and be a successful academic.	395	15%	30%	37%	18%	2.58	0.95
that I can make it financially when I get out.	398	5%	22%	40%	33%	3.02	0.86
that I have received adequate training to be a good teacher.	399	15%	30%	35%	20%	2.61	0.97
that I have received adequate training to be a good researcher.	402	3%	13%	42%	42%	3.23	0.79
that I am in the right field.	402	3%	16%	31%	50%	3.27	0.85
that my research interests are considered important in my field.	402	4%	18%	34%	45%	3.19	0.87
in my ability to obtain funding as a researcher.	402	16%	36%	37%	11%	2.43	0.89
in my abilities as a teacher.	399	6%	25%	42%	27%	2.91	0.86

**University of Arizona College of Science Climate Assessment
Report on Postdoctoral Fellow Data
Prepared by the ADVANCE Program
February 2017**

INTRODUCTION

In the fall of 2016, the University of Michigan ADVANCE Program was asked by the dean of the University of Arizona College of Science (COS) to conduct an assessment of its workplace climate with all faculty, postdocs, staff, and graduate students. The surveys asked respondents to report on multiple dimensions of their departments' workplace climate including job satisfaction, professional resources and opportunities, and the environment for various groups. The surveys opened on September 19 and remained open through October 24, 2016. The following is a report of findings from the survey of postdoctoral fellows.

Seventy-one of the 127 postdoctoral fellows responded to the survey, a 56% response rate.¹ A majority of the respondents (69%) self-identified as male and 31% self-identified as female; three respondents did not indicate their gender. Forty-three percent indicated that they were from countries other than the U.S. and 15% self-identified as underrepresented racial-ethnic minorities; three respondents did not provide their international status or race-ethnicity. Few self-identified as sexual/gender minorities, being from lower-income backgrounds, or as having a disability.

Analytic Strategy

We report frequencies, means, and standard deviations for each close-ended item. The mean provides a measure of central tendency, averaging across all responses. However, similar averages can be produced from very different spreads or dispersions of responses (e.g., responses that cluster around the mean or a more bi-modal response pattern with clusters of responses distributed at each end of the response scale). The standard deviation (the measure of spread around the mean) and frequencies provide further information about the spread of responses around the mean (a larger standard deviation indicates more variability around the mean). Tables of these statistics are appended to the end of the report.

Data from previous ADVANCE Program climate assessments suggest that certain aspects of the climate are experienced differently, on average, by certain groups (e.g., women, underrepresented racial-ethnic minorities, and sexual/gender minorities). Moreover, majority group members tend to overestimate how positive the climate is for members of underrepresented groups. Small numbers of postdocs self-identified as sexual/gender minorities (LGBTQ), as being from lower socioeconomic backgrounds, and as having a disability. As such, comparisons for these groups were not possible (e.g., it was not possible to compare the responses of sexual/gender minority and sexual majority respondents). However, analyses were conducted by gender (i.e., comparing the responses of males and females), international status, and race/ethnicity (underrepresented racial-ethnic minority and majority postdocs).

To assist with the interpretation of the group differences we identify in this report, we note in the table below the groups that were directly compared in our analyses.

¹ Some questions were skipped by some respondents (the settings of the online survey did not 'force' participants to respond to any question). In other areas of the survey, some respondents did not receive all possible questions (e.g., participants were asked about the climate for women in the department only if they indicated that they themselves were women). As a result, the analyses presented in this report, and the accompanying tables, have varying sample sizes.

<i>This Group...</i>	<i>Was <u>Only</u> Compared to</i>	<i>...This Group</i>
Female postdocs	↔	Male postdocs
International postdocs	↔	Domestic postdocs
Underrepresented racial/ethnic minority (URM) postdocs	↔	Racial-ethnic majority postdocs

In the results reported below, references to group differences refer only to differences found to be statistically significant (i.e., $p \leq .05$). These are differences that would have emerged simply by chance (when there truly was no difference or effect) at or less than 5 percent of the time. This is a generally-accepted standard of statistical significance in social science research. Please note that when differences are not reported, it is simply because the mean for one group is not statistically different from the comparison group.

We begin with a brief summary of the findings across areas, highlighting key points. This is followed with a more detailed description of results by topic area for the postdocs.

SUMMARY

Department Climate

- Postdocs provided moderate ratings of the department climate on the tolerant environment scale (which includes the following items: non-racist, non-sexist, non-homophobic, and diverse) and the positive environment scale (which includes the following items: friendly, respectful, collegial, collaborative, cooperative, and supportive).
- The most positive individual department ratings were for non-racist, friendly, respectful, and welcoming; the lowest ratings, on average, were for collaborative and diverse.
- International postdocs rated the environment as friendlier and as less sexist than did their domestic peers.
- Women, compared to men, rated their departments as more sexist.
- In open-ended responses the postdocs expressed concerns about few experiences of kindness and social interaction in their departments; few opportunities for their mentoring, support, training, and professional development; and a lack of diversity or support for diversity. Some also noted that problematic faculty behavior and ethical issues in their departments should be addressed.

Environment for Groups

- A majority of the College of Science postdocs viewed their departmental climates as positive for men.
- Half of the postdocs viewed their departmental climates as positive for women and fewer agreed that women voice their ideas in meetings and classes as often as others. One-quarter indicated that some department members have a condescending attitude toward women and only one-third agreed that their departments strive to address concerns about the status and treatment of women.
- Female postdocs, compared to male postdocs, were more likely to agree that faculty members expect more from women than from men.
- Fewer than half agreed that their departments are places where underrepresented racial-ethnic minority postdocs and those from lower-income backgrounds feel comfortable and are included, and only one-quarter agreed that these postdocs voice their ideas in meetings and classes as often as others. Similarly, one-quarter of the

postdocs agreed that their departments strive to address concerns about the status and treatment of underrepresented racial-ethnic minorities and fewer agreed that this was true for those from lower-income backgrounds.

- Fewer than half of the respondents agreed that their departments are positive places for sexual/gender minorities and international postdocs, and only one-third agreed that these groups voice their ideas in meetings and classes as often as others. Few agreed that their departments strive to address concerns about the status and treatment of sexual/gender minorities or international postdocs; additionally, a few indicated that some department members have condescending attitudes toward international postdocs.
- Only one-third agreed that their departments are places where postdocs with disabilities feel comfortable and are included, and fewer agreed that their departments are places where those with disabilities voice their ideas in meetings and classes as often as others. Very few agreed that their departments strive to address concerns about the status and treatment of those with disabilities.
- Many respondents gave neutral ratings on these items, suggesting that they may not feel able to report on the experiences of those from groups different from their own or about their departments' efforts to address concerns about their status and treatment.

Job Satisfaction

- Most of the postdocs were somewhat or very satisfied with their current positions in their departments.
- They generally reported high levels of self-determination and learning in their current positions; however, they also reported quite permeable work-life boundaries.

Postdoctoral Fellow Experiences

- Postdocs rated conducting research, opportunities to present their research, attending professional conferences, writing grant proposals, and developing and improving scientific writing and speaking as the most important postdoctoral experiences.
- Three-quarters or more agreed that they had sufficient opportunities for conducting research, presenting their research, and attending professional conferences; however, fewer than half of the respondents reported sufficient opportunities for writing grant proposals or developing and improving scientific writing and speaking.
- International postdocs rated internships or industrial experiences as more important than did their domestic peers, and underrepresented racial-ethnic minority postdocs rated exploration of ethical issues in their disciplines as more important than did their majority peers.
- Men were more likely to agree that they had sufficient opportunities for courses or training in pedagogy, while women were more likely to agree that they had sufficient opportunities for receptions, parties, and other social events.
- When asked if there were additional opportunities that are not currently available that would further enhance their postdoctoral experience, some postdocs mentioned the following as desirable: receiving more professional development for the job market, having more opportunities for collaboration, celebrating national postdoc appreciation week, receiving a pension, having a more flexible vacation policy, and receiving fewer emails and surveys about career advancement.

Mentoring and Advising

- Postdocs reported generally positive relationships with their advisors.
- Most respondents rated their primary advisor's advice as pretty or very adequate.

- At the same time, only half agreed that their primary advisor discusses teaching methods with them or talks with them about the conflicting demands between academia and starting or managing a family, and one-quarter reported that their primary advisor sees them as sources of labor to advance their career.
- Men, compared to women, provided more positive ratings of their primary advisor on nine of the thirty items.
- Underrepresented racial-ethnic minority postdocs were less likely than their peers to agree that their primary advisor encourages them in their research interests and goals, would support them in any career path they might choose, treats their ideas with respect, treats them as colleagues, and talks about the conflicting demands between academia and starting or managing a family.
- Most respondents reported having at least one mentor in the department who serves as a role model, promotes their career through encouraging contacts with other researchers, advocates for them, and advises about career advancement.
- Men and international postdocs reported having more mentors who advise about where to publish their research and about balancing work and other interests. International postdocs also reported having more mentors who promote their careers through encouraging contacts with other researchers and who advocate for them.

Communication and Collegiality

- Most postdocs agreed that they know who to talk to within their departments if they need help solving a problem; their department staff are helpful, courteous, and respectful; and the interactions among department graduate students and postdoctoral fellows are supportive and collegial.
- International postdocs more strongly agreed that they know who to talk with in their departments if they need help solving a problem and that the department staff are helpful, courteous, and respectful. They were also more likely to agree that they are satisfied with the interactions between faculty members and graduate students and postdoctoral fellows and that their departments do a good job at communicating expectations about degree and/or training requirements. Similarly, they were less likely to agree that, in general, their departments are not effective at communicating new policies and new initiatives.
- Men were more likely than women to agree that their departments do a good job at communicating expectations about degree and/or training requirements.

Career Goals

- Postdocs rated the following career goals as most attractive (based on average ratings): becoming a professor in a top research university, both having children and being a successful academic, becoming a professor in a 4-year college, getting a research job in industry or the private sector, and getting a job in outreach or science communication. Postdocs reported high mean ratings of advisor support for each of these career goals, with the exception of getting a job in outreach or science communication, for which they reported moderate advisor support.
- Generally, postdocs reported moderately-high levels of confidence for career goals.
- They were most confident that they have received adequate training to be good researchers, they are in the right field, their research interests are considered important in their fields, and they can be successful in their fields; they were less confident that they could become faculty administrators in a college or university, administrators or managers in business, or be self-employed.

- Male postdocs, compared to female postdocs, reported more confidence that they can both have children and be a successful academic and that they can make it financially when they get out. Underrepresented racial-ethnic minority postdocs, compared to their peers, reported more confidence that they can become administrators or managers in business.

FINDINGS

Department Climate

The postdocs responded to several questions addressing their departmental climates generally, experiences of bias or exclusion, and the environment for particular groups.

Department Characteristics

Postdocs rated their departments on 16 pairs of characteristics (e.g., friendly/hostile; non-racist/racist; diverse/homogeneous; respectful/disrespectful) on a five-point scale (with five representing the more positive characteristic); see Table 1b. The most positive ratings, on average, were for non-racist (4.29), friendly (4.25), respectful (4.21), and welcoming (4.00). The least positive ratings were for collaborative (3.37) and diverse (2.90).

Two scales were created from ten of these individual items. The tolerant environment scale was computed as the mean of four items (non-racist, non-sexist, non-homophobic, and diverse) and the positive environment scale was computed as the mean of six items (friendly, respectful, collegial, collaborative, cooperative, and supportive). Mean scores were 3.75 for the tolerant environment scale and 3.89 for the positive environment scale (see Table 1a).

International postdocs, on average, rated their departments as significantly more respectful and less sexist compared to their domestic peers. Women, compared to men, rated their departments as more sexist.

Experiences of Bias or Exclusion

Postdocs were asked if they had experienced bias or exclusion due to their gender, race, or other personal characteristics by department members on a three-point scale that ranged from 'not at all' to 'to a large extent'; see Table 2. Seventeen percent of the postdocs reported experiencing bias or exclusion by a student or fellow postdoc at least to some extent. Fewer reported experiencing the same behavior by a faculty member (13%) or a staff member (10%) to any extent.

Environment for Different Groups

Postdocs were asked to indicate their level of agreement with six items assessing their department environment for members of different groups (e.g., the department environment is one in which members of this group feel comfortable and are included, some department members have a condescending attitude toward members of this group). Responses were given on a four-point scale with a low of 'strongly disagree' to a high of 'strongly agree.' The groups asked about were men, women, underrepresented racial-ethnic minorities, sexual/gender minorities, those from countries other than the United States, those with disabilities, and those from lower-income/lower socioeconomic backgrounds; see Table 3. We reiterate here that majority group members (e.g., whites vis a vis race, heterosexuals vis a vis sexuality, etc.) tend to view the climate for other groups as more positive than minority group members. In the absence of many members of some groups, assessments of the climate for different underrepresented groups may be more positive than they would be if the groups were more equally represented. We also assessed group differences between members of the demographic group

in question and their comparison group (e.g., responses from male postdocs compared to female postdocs about the environment for men), but found fewer differences than would be expected by chance.

Sixty-eight postdocs responded to questions about the environment for men in their departments. Three quarters of the respondents (78%) agreed that their department environment is one in which men feel comfortable and are included (2% disagreed) and two-thirds (63%) agreed that men voice their ideas in meetings and classes as often as others (13% disagreed). A few (7%) agreed that department members expect less from men than from others (56% disagreed). Most were neutral (69%) about whether or not their department strives to address any concerns about the status and treatment of men (10% agreed and 20% disagreed).

Sixty-seven postdocs responded to questions about the environment for women in their departments. Half (53%) indicated that their department environment is one in which women feel comfortable and are included (15% disagreed) and fewer (40%) agreed that women voice their ideas in meetings and classes as often as others (25% disagreed). One-quarter (23%) agreed that some department members have a condescending attitude toward women (44% disagreed), and seventeen percent indicated that department members expect more from women than from others (45% disagreed). One-third (31%) agreed that their department strives to address any concerns about the status and treatment of women (15% disagreed and 54% were neutral).

Sixty-six postdocs reported on the environment for underrepresented racial-ethnic minorities in their departments. Fewer than half (41%) agreed that the department environment is one in which underrepresented racial-ethnic minority postdocs feel comfortable and are included (16% disagreed) and one-quarter (26%) agreed that these postdocs voice their ideas in meetings and classes as often as others (21% disagreed). Few respondents (10%) endorsed the view that department members have a condescending attitude toward underrepresented racial-ethnic minorities (49% disagreed). One-quarter (23%) agreed that their department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities (13% disagreed and 65% were neutral).

Sixty-three postdocs reported on the environment for sexual/gender minorities (LGBTQ) in their departments. Fewer than half (46%) agreed that their department is a place where sexual/gender minorities feel comfortable and are included; a similar percentage (49%) were neutral on this item. More than half (57%) provided neutral ratings on whether or not sexual/gender minorities voice their ideas in meetings and classes as often as others (33% agreed). And most (79%) were neutral on whether or not their department strives to address any concerns about the status and treatment of sexual/gender minorities (14% agreed).

Sixty-five postdocs reported on their department environment for those from other countries. Nearly half (47%) agreed that their department is a place where international postdocs feel comfortable and are included (14% disagreed) and one-third (34%) agreed that their department is a place where international postdocs voice their ideas in meetings and classes as often as others (24% disagreed). Twelve percent indicated that some department members have a condescending attitude toward international postdocs (53% disagreed). Most (65%) were neutral concerning whether or not their department strives to address any concerns about the status and treatment of those from other countries (19% agreed and 17% disagreed).

Sixty-four postdocs reported on the environment for those with disabilities in their departments. One-third (37%) agreed that their department is a place where postdocs with disabilities feel comfortable and are included (56% were neutral) and one-quarter (27%) agreed that their department is a place where those with disabilities voice their ideas in meetings and classes as often as others (65% were neutral). Fifteen percent of the respondents reported that their department strives to address any concerns about the status and treatment of those with disabilities (77% were neutral).

Sixty-three postdocs reported on their department environment for those from lower-income/lower-socioeconomic backgrounds in their departments. Fewer than half (42%) of the postdocs viewed their department as a place where postdocs from lower-income backgrounds feel comfortable and are included (47% were neutral), and one-quarter (25%) agreed that they voice their ideas in meetings and classes as often as others (63% were neutral). Fifteen percent of the respondents agreed that their department strives to address any concerns about the status and treatment of those from lower-income backgrounds (73% were neutral).

Open-Ended Responses Related to Climate

Postdocs were also asked to respond to two open-ended questions regarding the climate in their departments. A thematic coding scheme was devised based on the responses. A subsample of responses was then coded by two ADVANCE staff members who obtained an acceptable inner-rater reliability of at least 0.85. One of the coders then coded the remaining responses. We note that it was possible for a single response to be coded into more than one category.

When asked to describe their most important concern about the climate in their departments, 18 postdocs responded. Three made positive comments about the climate in their departments. Five postdocs expressed concerns about the absence of warmth, collegiality, and social interaction in their departments. Six noted the lack of mentorship, support, collaboration, training, and/or professional development for postdocs. Four postdocs worried about lack of diversity and support for diversity within their departments. Three indicated that problematic faculty behavior and/or ethical issues in their departments should be addressed. A few expressed concerns about lack of communication about expectations and decisions in their departments, treatment of postdocs as less important than faculty and staff (including unfair employment policies for postdocs), and high levels of turnover in some departments.

When asked if there was any additional information about the climate in their departments they would like us to know, three postdocs responded. Two indicated concerns about negative interactions between department members, and about a lack of support, respect, and kindness for graduate students and postdocs. The other postdoc mentioned that UA should provide better benefits for postdocs in order to retain them in academia.

Job Satisfaction

Several questions addressed the postdocs' overall job satisfaction as well as the degree to which their positions provide them with opportunities for self-determination, boundary management, and learning.

Overall Satisfaction

Postdocs were asked to rate their overall satisfaction with their current position on a five-point scale that ranged from a low of 'very dissatisfied' to a high of 'very satisfied;' see Table 4. Most of the postdocs indicated that they were somewhat (46%) or very (35%) satisfied with their current position (mean of 4.07); eight percent were dissatisfied.

Self-determination, Boundary Management, and Learning

Postdocs then rated their level of agreement with ten items assessing the degree of self-determination, boundary management, and learning they have in their position (on a five-point scale that ranged from a low of 'strongly disagree' to a high of 'strongly agree'); see Table 5.

Three items addressed postdocs' experiences of self-determination in their jobs. Most respondents agreed that they have considerable opportunity for independence and freedom in how they do their jobs (88%), they have significant autonomy in determining how they do their jobs (83%), and they can decide on their own how to go about doing their work (81%). These three items were combined to create a high average self-determination scale score of 4.31.

Postdocs also responded to four items that assessed their ability to manage boundaries between their professional and personal lives (note: higher ratings on these items indicate more permeable boundaries between work and personal life). Nearly all agreed that they respond to work related communications during their personal time away from work (91%). Three-quarters indicated that they regularly bring work home (73%). Two-thirds agreed that they work during their vacations (69%), and more than half agreed that they allow work to interrupt them when they spend time with family and friends (57%). These four items were combined to create a boundary management scale score of 3.97, indicating permeable work-life boundaries.

Finally, three items assessed the postdocs' opportunities for professional development in their work. Most respondents reported that they find themselves learning often at work (88%) and that they continue to learn more and more at work as time goes by (88%). Three-quarters agreed that they have developed a lot as people at work (75%). These three items were combined to create a high average learning scale score of 4.34.

Postdoctoral Fellow Experiences

Postdocs also provided information about their program curricular experiences and opportunities.

Postdoctoral Fellow Experiences

Postdocs were asked to rate the importance of 19 experiences that are a normal part of a postdoctoral fellow program (e.g., lab meetings, courses or training in pedagogy, interdisciplinary training) on a four-point scale, from a low of 'not at all important' to a high of 'extremely important.' They were also asked to indicate whether or not they had received sufficient opportunities for each experience (see Tables 6 and 7). Based on mean ratings, respondents indicated that their most important experiences were conducting research (3.84), opportunities to present their research (3.61), attending professional conferences (3.56), writing grant proposals (3.46), and developing and improving scientific writing and speaking (3.35). Most respondents agreed that they had sufficient opportunities for conducting research (95%) and presenting their research (88%); three-quarters also reported sufficient opportunities for attending professional conferences (75%). Fewer than half reported sufficient opportunities for writing grant proposals (45%) or developing and improving scientific writing and speaking (30%).

Postdocs reported that their least important experiences, based on mean ratings, were exploration of ethical issues in their discipline (2.38); receptions, parties, and other social events (2.25); and internships or industrial experiences (2.02). Most (80%) reported sufficient opportunities to attend reception, parties, and other social events; half (49%) indicated sufficient

opportunities for the exploration of ethical issues in their discipline; and few (18%) reported sufficient opportunities for internships or industrial experiences.

International postdocs rated internships or industrial experiences as more important than did their domestic peers. Underrepresented racial-ethnic minority postdocs rated exploration of ethical issues in their discipline as more important than did racial-ethnic majority students. Additionally, men were more likely to agree that they had sufficient opportunities for courses or training in pedagogy, and women were more likely to agree that they had sufficient opportunities for receptions, parties, and other social events.

The postdocs were also asked, in open-ended format, if there were additional opportunities that are not currently available that would further enhance their postdoctoral experience; the following issues were mentioned:

- professional development for the job market;
- more opportunities for collaboration;
- receiving a pension;
- a more flexible vacation policy;
- national postdoc appreciation week;
- fewer emails and surveys about career advancement.

Advising and Mentoring

Postdocs responded to several questions about their experiences with their advisors and the kinds of mentoring and support they receive in their departments more generally.

Primary Advisor

To assess their relationships with their primary advisors, postdocs were asked to indicate their level of agreement with 30 statements about their primary advisor (e.g., advises me on the details of good research practice, inspires me intellectually, serves as a role model) on a four-point scale that ranged from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 8. Postdocs reported generally positive relationships with their primary advisors. Most agreed that their primary advisor generally respect the opinions of others in the department (97%), encourages them to attend and present at professional meetings (97%), treats their ideas with respect (95%), treats them as whole people (95%), treats them as colleagues (94%), is available to them when they need help with their research (94%), is available to them when they need to talk about other aspects of their programs (93%), inspires them intellectually (92%), encourages them in their research interests and goals (91%), would support them in any career path they might choose (91%), and advocates for them with others when necessary (91%).

At the same time, only half agreed that their primary advisor discusses teaching methods with them (51%) or talks with them about the conflicting demands between academia and starting or managing a family (48%). Additionally one-quarter (23%) reported that their primary advisor sees them as a source of labor to advance their career. Fewer agreed that their primary advisor is often not available to them (21%) or expects them to work so many hours that it is hard to have a personal life (18%).

Women, compared to men, were less likely to agree that their primary advisor gives them regular and constructive feedback on their research, encourages them in their research interests and goals, discusses teaching methods with them, would support them in any career path they might choose, provides information about career paths open to them, talks about the

conflicting demands between academia and starting or managing a family, and advises them about research practices, career advancement, and getting published.

Underrepresented racial-ethnic minority postdocs were less likely than their majority counterparts to agree that their primary advisor encourages them in their research interests and goals, would support them in any career path they might choose, treats their ideas with respect, treats them as colleagues, and talks about the conflicting demands between academia and starting or managing a family.

International postdocs, compared to their domestic peers, more strongly agreed that their primary advisor gives them regular and constructive feedback on their research and that their primary advisor is a resource for discussing ethical issues related to their discipline. They were also more likely to agree that their primary advisor talks about the conflicting demands between academia and starting or managing a family.

When asked how adequate they found the advice given to them by their primary advisor, a majority of respondents indicated that it was very (44%) or pretty (38%) adequate (on a four-point scale that ranged from a low of 'not at all adequate' to a high of 'very adequate'); see Table 9. Of the remaining respondents, 14% reported that it was somewhat adequate and 5% indicated that it was not at all adequate.

Mentors

The postdocs were also asked how many mentors they had within their department who provide different kinds of support (e.g., serve as role models, advocate for them); see Table 10. Most respondents reported having at least one mentor in their department who serves as a role model (94%), promotes their career through encouraging contacts with other researchers (93%), advocates for them (85%), and advises about career advancement (83%). Three-quarters had at least one mentor who advises them about where to publish their research (77%), and two-thirds reported having at least one mentor who advises them about balancing work and other interests (67%) and about departmental and national awards (63%).

Women, compared to men, were more likely to have no mentors who advocate for them or advise about where to publish their research.

Compared to their domestic peers, international postdocs reported having more mentors who promote their careers through encouraging contacts with other researchers. Domestic students were more likely than international students to have no mentors who advise about where to publish their research or about balancing work and other interests.

Communication and Collegiality

Postdocs indicated their level of agreement with 12 items that address their experiences concerning communication, collegiality, and training in their departments (e.g., I am satisfied with the interactions between faculty members and graduate students or post docs; the department does a good job at communicating expectations about training requirements) on a five-point scale that ranged from a low of 'strongly disagree' to a high of 'strongly agree'; see Table 11.

Most postdocs agreed that they know who to talk to within their department if they need help solving a problem (90%); their department staff are helpful, courteous, and respectful (89%); and that the interactions among department graduate students and postdoctoral fellows are supportive and collegial (79%). Few disagreed with these items. Two thirds also indicated that

department faculty treat them as colleagues-in-training (69%; 11% disagreed) and their department training is preparing them well for their future careers (60%; 22% disagreed).

More than half of the postdocs disagreed that they generally do not know the function and responsibilities of the department staff (60%) and that, in general, their departments are not effective at communicating new policies and new initiatives (57%).

Half of the postdocs agreed that they are satisfied with the advice that they receive from sources at UA other than their research advisor (56%; 15% disagreed), with the interactions between department faculty members and graduate students or postdoctoral fellows (56%; 31% disagreed), and with the interactions among department faculty members (50%; 20% disagreed). Half also agreed that department faculty members are readily available for discussions about their research (53%; 18% disagreed) and that their departments do a good job at communicating expectations about training requirements (49%; 29% disagreed).

International postdocs more strongly agreed that they know who to talk with in their departments if they need help solving a problem and that the department staff are helpful, courteous, and respectful. They were also more likely to agree that they are satisfied with the interactions between faculty members and graduate students and postdoctoral fellows and that their departments do a good job at communicating expectations about degree and/or training requirements. They were less likely to agree that, in general, their departments are *not* effective at communicating new policies and new initiatives.

Women were less likely than men to agree that their departments do a good job at communicating expectations about degree and/or training requirements.

Career Goals

Several questions addressed postdocs' career aspirations as well as their confidence concerning specific career goals.

Attractiveness of Career Goals

Postdocs rated the attractiveness of nine different career goals (e.g., become a professor in a top research university; work independently; both have children and be a successful academic) on a four-point scale that ranged from a low of 'very unattractive' to a high of 'very attractive'; see Table 12. The most attractive career goal (based on average ratings) was to become a professor in a top research university (3.21), followed by both have children and be a successful academic (3.15), become a professor in a 4-year college (2.90), get a research job in industry or the private sector (2.65), and get a job in outreach or science communication (2.58). Postdocs rated teaching in a two-year college as the least attractive career goal (1.97).

Compared to their majority peers, underrepresented racial-ethnic minority postdocs rated working independently as more attractive, and they rated getting a research job in industry or the private sector as less attractive.

Advisor Support for Career Goals

The postdocs were also asked to indicate the level of advisor support they received for each of these career goals (on a three-point scale that ranged from a low of 'not at all supportive' to a high of 'very supportive'); see Table 13. Postdocs reported the greatest levels of advisor support, based on mean ratings, for becoming a professor in a top research university (2.75), becoming a professor at a 4-year college (2.54), both having children and being a successful

academic (2.40), and getting a research job in industry or the private sector (2.31). They reported the least support for teaching in a two-year college (2.06).

International postdocs, on average, reported less advisor support for becoming a professor in a 4-year college, compared to their domestic peers.

Confidence

Postdocs rated their level of confidence related to 18 career options (e.g., that I can become a professor in a four-year college; that I can be successful in my field) regardless of their actual career goals. Generally, postdocs reported moderately-high levels of confidence (on a four-point scale that ranged from 'not at all true' to 'very true'); see Table 14. Postdocs, on average, were most confident that they have received adequate training to be good researchers (3.38), they are in the right field (3.34), their research interests are considered important in their field (3.32), and they can be successful in their field (3.09). They were least confident that they could become a faculty administrator in a college or university (1.97), an administrator or manager in business (1.91), and/or be self-employed (1.96).

Female postdocs, compared to male postdocs, reported less confidence that they can both have children and be a successful academic and that they can make if financially when they get out. Underrepresented racial-ethnic minority postdocs, compared to their majority peers, were more confident that they can become an administrator or manager in business.

Table 1a: Department Characteristics

	n	mean	sd
tolerant environment scale	68	3.75	0.80
positive environment scale	68	3.89	0.79

Table 1b: Department Characteristics

	1	2	3	4	5		n	mean	sd
alienating	3%	9%	16%	29%	43%	welcoming	68	4.00	1.11
hostile	0%	6%	13%	31%	50%	friendly	68	4.25	0.90
racist	1%	1%	19%	22%	56%	non-racist	68	4.29	0.93
homogeneous	19%	18%	26%	28%	9%	diverse	68	2.90	1.26
disrespectful	1%	4%	10%	40%	44%	respectful	68	4.21	0.91
contentious	3%	9%	22%	28%	37%	collegial	67	3.88	1.11
sexist	1%	15%	25%	16%	43%	non-sexist	68	3.84	1.18
individualistic	9%	10%	37%	24%	21%	collaborative	68	3.37	1.18
competitive	1%	15%	25%	35%	24%	cooperative	68	3.65	1.05
homophobic	4%	3%	30%	19%	43%	non-homophobic	67	3.94	1.13
not supportive	0%	7%	19%	43%	31%	supportive	68	3.97	0.90
rigid	1%	13%	25%	41%	19%	flexible	68	3.63	0.99
threatening	0%	3%	35%	44%	18%	protective	68	3.76	0.77
discouraging	0%	4%	29%	34%	32%	encouraging	68	3.94	0.90
snobbish	1%	19%	26%	25%	28%	down-to-earth	68	3.59	1.14
exclusionary	4%	13%	27%	31%	24%	inclusive	67	3.57	1.13

Table 2: Experiences of Bias or Exclusion

Have you experienced bias or exclusion due to your gender, race, or other personal characteristics by members of your department?	n	not at all	to some extent	to a large extent	mean	sd
by a faculty member	68	87%	10%	3%	1.16	0.44
by a staff member	68	90%	4%	6%	1.16	0.51
by a student/postdoc	68	82%	16%	1%	1.19	0.43

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Table 3: Environment for Groups

In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward men .	68	38%	37%	22%	1%	1%	1.91	0.89
the department environment is one in which men feel comfortable and are included.	68	1%	1%	19%	37%	41%	4.15	0.89
men voice their ideas in meetings and classes as often as those not belonging to this group.	67	3%	10%	24%	30%	33%	3.79	1.11
faculty members expect more from men than from others.	68	15%	50%	34%	1%	0%	2.22	0.71
faculty members expect less from men than from others.	68	12%	44%	37%	7%	0%	2.40	0.79
the department strives to address any concerns about the status and treatment of men .	67	1%	19%	69%	10%	0%	2.88	0.59
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward women .	67	19%	25%	31%	22%	1%	2.61	1.09
the department environment is one in which women feel comfortable and are included.	67	0%	15%	31%	40%	13%	3.52	0.91
women voice their ideas in meetings and classes as often as those not belonging to this group.	67	6%	19%	34%	31%	9%	3.18	1.04
faculty members expect more from women than from others.	66	9%	36%	38%	15%	2%	2.64	0.91
faculty members expect less from women than from others.	67	10%	45%	40%	3%	1%	2.40	0.78
the department strives to address any concerns about the status and treatment of women .	67	3%	12%	54%	28%	3%	3.16	0.79
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward underrepresented racial-ethnic minorities .	66	20%	29%	42%	8%	2%	2.42	0.95
the department environment is one in which underrepresented racial-ethnic minorities feel comfortable and are included.	66	5%	11%	44%	27%	14%	3.35	1.00
underrepresented racial-ethnic minorities voice their ideas in meetings and classes as often as those not belonging to this group.	64	8%	13%	53%	20%	6%	3.05	0.95
faculty members expect more from underrepresented racial-ethnic minorities than from others.	65	11%	31%	57%	2%	0%	2.49	0.71
faculty members expect less from underrepresented racial-ethnic minorities than from others.	65	9%	29%	62%	0%	0%	2.52	0.66
the department strives to address any concerns about the status and treatment of underrepresented racial-ethnic minorities .	66	5%	8%	65%	21%	2%	3.08	0.73
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward sexual/gender minorities .	63	16%	30%	52%	2%	0%	2.40	0.77
the department environment is one in which sexual/gender minorities feel comfortable and are included.	63	2%	3%	49%	32%	14%	3.54	0.84
sexual/gender minorities voice their ideas in meetings as often as those not belonging to this group.	63	5%	8%	57%	22%	8%	3.21	0.88
department members expect more from sexual/gender minorities than from others.	63	10%	32%	57%	0%	2%	2.52	0.74
department members expect less from sexual/gender minorities than from others.	63	10%	32%	56%	2%	2%	2.54	0.76
the department strives to address any concerns about the status and treatment of sexual/gender minorities .	62	2%	5%	79%	11%	3%	3.10	0.59
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those from countries other than the U.S.	65	18%	35%	34%	9%	3%	2.43	1.00
the department environment is one in which those from countries other than the U.S. feel comfortable and are included.	65	3%	11%	38%	35%	12%	3.43	0.95
those from countries other than the U.S. voice their ideas in meetings as often as those not belonging to this group.	65	9%	15%	42%	28%	6%	3.06	1.03
department members expect more from those from countries other than the U.S. than from others.	65	12%	32%	49%	6%	0%	2.49	0.79
department members expect less from those from countries other than the U.S. than from others.	65	12%	38%	49%	0%	0%	2.37	0.70
the department strives to address any concerns about the status and treatment of those from countries other than the U.S.	65	3%	14%	65%	17%	2%	3.00	0.00
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those with disabilities .	64	17%	28%	52%	3%	0%	2.41	0.81
the department environment is one in which those with disabilities feel comfortable and are included.	63	0%	8%	56%	24%	13%	3.41	0.82
those with disabilities voice their ideas in meetings as often as those not belonging to this group.	63	3%	5%	65%	19%	8%	3.24	0.80
department members expect more from those with disabilities than from others.	63	11%	25%	62%	2%	0%	2.54	0.71
department members expect less from those with disabilities than from others.	63	11%	25%	60%	3%	0%	2.56	0.74
the department strives to address any concerns about the status and treatment of those with disabilities .	64	3%	6%	77%	13%	2%	3.03	0.62
In my department:	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
some department members have a condescending attitude toward those from lower-income backgrounds .	63	19%	24%	51%	6%	0%	2.44	0.88
the department environment is one in which those from lower-income backgrounds feel comfortable and are included.	62	0%	11%	47%	26%	16%	3.47	0.90
those from lower-income backgrounds voice their ideas in meetings as often as those not belonging to this group.	63	3%	8%	63%	17%	8%	3.19	0.82
department members expect more from those from lower-income backgrounds than from others.	62	11%	24%	65%	0%	0%	2.53	0.69
department members expect less from those from lower-income backgrounds than from others.	63	11%	29%	59%	2%	0%	2.51	0.74
the department strives to address any concerns about the status and treatment of those from lower-income backgrounds .	63	2%	11%	73%	13%	2%	3.02	0.61

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Table 4: Satisfaction

	n	very dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied	mean	sd
All things considered, how satisfied are you with your current position?	71	1%	7%	10%	46%	35%	4.07	0.93

Table 5: Self-determination, Boundary Management, and Learning

	n	strongly disagree	tend to disagree	neutral	tend to agree	strongly agree	mean	sd
self-determination scale	68	--	--	--	--	--	4.31	1.04
I can decide on my own how to go about doing my work.	68	4%	4%	10%	13%	68%	4.35	1.12
I have significant autonomy in determining how I do my job.	67	6%	3%	7%	25%	58%	4.27	1.12
I have considerable opportunity for independence and freedom in how I do my job.	67	6%	3%	3%	31%	57%	4.30	1.09
boundary management scale	67	--	--	--	--	--	3.97	0.87
I allow work to interrupt me when I spend time with my family and friends.	67	1%	19%	22%	33%	24%	3.58 †	1.10
I regularly bring work home.	67	4%	13%	9%	27%	46%	3.97 †	1.23
I respond to work related communications during my personal time away from work.	67	1%	1%	6%	33%	58%	4.45 †	0.80
I work during my vacations.	66	5%	6%	20%	33%	36%	3.91 †	1.11
learning scale	68	--	--	--	--	--	4.34	0.76
I find myself learning often at work.	68	0%	3%	9%	29%	59%	4.44	0.78
At work, I continue to learn more and more as time goes by.	68	0%	6%	6%	26%	62%	4.44	0.85
I have developed a lot as a person at work.	68	1%	6%	18%	26%	49%	4.15	1.01

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Table 6: Importance of Postdoctoral Experiences

	n	not at all important	somewhat important	quite important	extremely important	mean	sd
lab meetings	52	10%	25%	42%	23%	2.79	0.91
conducting research	70	1%	1%	9%	89%	3.84	0.50
attending professional conferences	68	0%	4%	35%	60%	3.56	0.58
internships or industrial experiences	49	35%	39%	16%	10%	2.02	0.97
courses or training in pedagogy	63	8%	49%	24%	19%	2.54	0.89
teaching	63	8%	37%	37%	19%	2.67	0.88
learning how to mentor students	68	0%	18%	50%	32%	3.15	0.70
opportunities to present your research	70	1%	1%	31%	66%	3.61	0.60
writing grant proposals	68	0%	12%	31%	57%	3.46	0.70
reviewing scholarly work	68	0%	21%	49%	31%	3.10	0.72
developing and improving scientific writing and speaking	68	1%	12%	37%	50%	3.35	0.75
department lectures, talks, brown bags, or seminars	69	1%	19%	51%	29%	3.07	0.73
meeting outside speakers	69	1%	19%	45%	35%	3.13	0.77
practice interviews and/or job market help	65	5%	15%	42%	38%	3.14	0.85
exploration of ethical issues in your discipline	66	18%	39%	29%	14%	2.38	0.94
interdisciplinary training	64	11%	44%	33%	13%	2.47	0.85
receptions, parties, and other social events	67	19%	45%	27%	9%	2.25	0.88
support groups/support organizations	64	13%	42%	30%	16%	2.48	0.91
opportunities to participate in group or collaborative research	67	4%	9%	43%	43%	3.25	0.80

Table 7: Sufficient Opportunities for Postdoctoral Experiences

	n	% with
lab meetings	58	83%
conducting research	66	95%
attending professional conferences	64	75%
internships or industrial experiences	49	18%
courses or training in pedagogy	61	36%
teaching	62	52%
learning how to mentor students	65	49%
opportunities to present your research	65	88%
writing grant proposals	64	45%
reviewing scholarly work	63	33%
developing and improving scientific writing and speaking	63	30%
department lectures, talks, brown bags, or seminars	65	92%
meeting outside speakers	65	78%
practice interviews and/or job market help	60	38%
exploration of ethical issues in your discipline	59	49%
interdisciplinary training	58	55%
receptions, parties, and other social events	61	80%
support groups/support organizations	58	47%
opportunities to participate in group or collaborative research	62	79%

Table 8: Primary Advisor

My primary advisor:	n	strongly disagree	disagree	agree	strongly agree	mean	sd
helps me secure funding.	59	8%	12%	20%	59%	3.31	0.99
is available to me when I need help with my research.	64	3%	3%	31%	63%	3.53	0.71
is available to me when I need to talk about other aspects of my program.	66	3%	5%	32%	61%	3.50	0.73
advises me on the details of good research practice.	65	6%	6%	45%	43%	3.25	0.83
gives me regular and constructive feedback on my research.	64	8%	8%	33%	52%	3.28	0.92
helps me develop professional relationships with others in the field.	63	6%	16%	41%	37%	3.08	0.89
assists me in writing presentations or publications.	60	7%	8%	45%	40%	3.18	0.85
expects me to work so many hours that it is hard to have a personal life.	64	34%	48%	16%	2%	1.84 †	0.74
encourages me in my research interests and goals.	67	1%	7%	36%	55%	3.45	0.70
discusses teaching methods with me.	54	13%	35%	31%	20%	2.59	0.96
is often not available to me.	66	38%	41%	15%	6%	1.89 †	0.88
would support me in any career path I might choose.	64	2%	8%	44%	47%	3.36	0.70
advises about preparation for career advancement.	66	9%	9%	41%	41%	3.14	0.93
advises about getting my work published.	64	3%	11%	38%	48%	3.31	0.79
treats my ideas with respect.	66	0%	5%	36%	59%	3.55	0.59
provides information about career paths open to me.	62	11%	18%	42%	29%	2.89	0.96
sees me as a source of labor to advance his/her career.	64	36%	41%	14%	9%	1.97 †	0.94
advises me on writing grants/research proposals.	60	8%	22%	40%	30%	2.92	0.93
provides emotional support when I need it.	53	11%	13%	47%	28%	2.92	0.94
is easy to discuss ideas with.	65	3%	9%	32%	55%	3.40	0.79
treats me as a colleague.	64	3%	3%	39%	55%	3.45	0.71
talks with me about the conflicting demands between academia and starting/managing a family.	52	17%	35%	35%	13%	2.44	0.94
advocates for me with others when necessary.	55	5%	4%	44%	47%	3.33	0.79
generally respects opinions of others in department.	65	0%	3%	48%	49%	3.46	0.56
treats me as a whole person – not just as a scholar.	66	2%	3%	42%	53%	3.47	0.64
inspires me intellectually.	64	2%	6%	36%	56%	3.47	0.69
builds my confidence.	64	5%	9%	34%	52%	3.33	0.84
serves as a role model.	64	2%	9%	39%	50%	3.38	0.72
encourages me to attend and present at professional meetings.	63	2%	2%	38%	59%	3.54	0.62
is a resource for discussion of ethical issues related to my discipline.	56	13%	11%	50%	27%	2.91	0.94

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Table 9: Primary Advisor

	n	not at all	somewhat	pretty	very	mean	sd
How adequate is the advice you are receiving from your primary advisor?	66	5%	14%	38%	44%	3.21	0.85

Table 10: Number of Mentors who Provide Support Within the Department

	n	0	1-3	4+
serves as a role model	68	6%	85%	9%
promotes my career through encouraging contacts with other researchers	68	7%	84%	9%
advises about career advancement (i.e., postdoctoral positions, jobs)	68	16%	76%	7%
advises about where to publish my research	68	24%	68%	9%
advises about departmental/national awards and fellowships	68	37%	57%	6%
advocates for me	68	15%	75%	10%
advises about balancing work and other interests	68	32%	60%	7%

Table 11: Communication and Collegiality

	n	strongly disagree	disagree	neutral	agree	strongly agree	mean	sd
I am satisfied with the advice that I receive from sources at the University of Arizona other than my research advisor.	66	3%	12%	29%	38%	18%	3.56	1.02
Department faculty members (other than my postdoctoral advisor) are readily available for discussions about my research.	68	6%	12%	29%	35%	18%	3.47	1.10
I am satisfied with the interactions between department faculty members and graduate students/postdoctoral fellows.	68	12%	19%	13%	32%	24%	3.37	1.35
I am satisfied with the interactions among department faculty members.	66	3%	17%	30%	32%	18%	3.45	1.07
I find the interactions among department graduate students/postdoctoral fellows to be supportive and collegial.	68	0%	4%	16%	54%	25%	4.00	0.77
Department faculty treat me as a colleague-in-training.	65	2%	9%	20%	38%	31%	3.88	1.01
The department does a good job at communicating expectations about training requirements.	65	6%	23%	22%	26%	23%	3.37	1.24
In general, the department is not effective at communicating new policies and new initiatives.	66	12%	45%	27%	12%	3%	2.48 †	0.96
In general, I do not know the function and responsibilities of the department staff.	68	13%	47%	21%	16%	3%	2.49 †	1.01
If I need help solving a problem (such as problems with my paycheck, parking, training requirements), I know who to talk with in the department.	68	1%	4%	4%	50%	40%	4.22	0.84
The department staff are helpful, courteous, and respectful.	68	3%	3%	4%	29%	60%	4.41	0.93
My department training is preparing me well for my future career.	66	2%	20%	18%	33%	27%	3.65	1.13

† Denotes items worded in a negative direction; for these items, a lower mean indicates a stronger disagreement with the item.

Table 12: Attractiveness of Career Goals

	n	very unattractive	unattractive	attractive	very attractive	mean	sd
become a professor in a top research university	68	10%	10%	28%	51%	3.21	1.00
get a research job in industry or the private sector	68	12%	32%	35%	21%	2.65	0.94
become a professor in a 4-year college	68	4%	26%	44%	25%	2.90	0.83
teach in a 2-year college	68	29%	46%	24%	1%	1.97	0.77
work independently (e.g., consulting, writing)	68	18%	47%	29%	6%	2.24	0.81
get a job in a non-profit or government agency	68	10%	37%	46%	7%	2.50	0.78
become a faculty administrator (e.g., department chair, dean, etc.) in a college or university	68	19%	47%	28%	6%	2.21	0.82
both have children and be a successful academic	68	12%	7%	35%	46%	3.15	1.00
get a job in outreach or science communication	67	6%	43%	37%	13%	2.58	0.80

Table 13: Level of Advisor Support for Career Goals

	n	not at all supportive	somewhat supportive	very supportive	mean	sd
become a professor in a top research university	68	1%	22%	76%	2.75	0.47
get a research job in industry or the private sector	65	14%	42%	45%	2.31	0.71
become a professor in a 4-year college	67	4%	37%	58%	2.54	0.59
teach in a 2-year college	63	21%	52%	27%	2.06	0.69
work independently (e.g., consulting, writing)	61	16%	54%	30%	2.13	0.67
get a job in a non-profit or government agency	62	18%	47%	35%	2.18	0.71
become a faculty administrator (e.g., department chair, dean, etc.) in a college or university	63	17%	46%	37%	2.19	0.72
both have children and be a successful academic	65	6%	48%	46%	2.40	0.61
get a job in outreach or science communication	61	16%	51%	33%	2.16	0.69

Table 14: Confidence in Career Goals

I am confident:	n	not at all true	a little true	somewhat true	very true	mean	sd
that I can become a professor in a top research university.	68	28%	31%	28%	13%	2.26	1.02
that I can get a research job in industry or the private sector.	68	16%	19%	38%	26%	2.75	1.03
that I can become a professor in a 4-year college.	67	9%	27%	46%	18%	2.73	0.86
that I can get a job in a non-profit or government agency.	68	13%	28%	40%	19%	2.65	0.94
that I can become a faculty administrator (e.g., dept chair, dean) in a college/university.	67	37%	33%	25%	4%	1.97	0.90
that I can become an administrator/manager in business.	67	43%	28%	22%	6%	1.91	0.95
that I can be self-employed (e.g., consulting, writing).	67	37%	37%	18%	7%	1.96	0.93
that I can be successful in my field.	68	4%	21%	37%	38%	3.09	0.88
that I can balance work and personal life to my satisfaction.	67	12%	22%	39%	27%	2.81	0.97
that I can get a job as an academic in an appealing geographic location.	68	19%	32%	37%	12%	2.41	0.93
that I can both have children and be a successful academic.	67	16%	27%	33%	24%	2.64	1.03
that I can make it financially when I get out.	67	12%	18%	45%	25%	2.84	0.95
that I have received adequate training to be a good teacher.	68	15%	34%	32%	19%	2.56	0.97
that I have received adequate training to be a good researcher.	68	1%	9%	40%	50%	3.38	0.71
that I am in the right field.	68	0%	18%	31%	51%	3.34	0.77
that my research interests are considered important in my field.	68	3%	10%	38%	49%	3.32	0.78
in my ability to obtain funding as a researcher.	67	16%	27%	33%	24%	2.64	1.03
in my abilities as a teacher.	68	7%	34%	26%	32%	2.84	0.97