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ASSESSING THE ACADEMIC WORK ENVIRONMENT FOR FACULTY OF COLOR IN SCIENCE AND ENGINEERING

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TABLE OF CONTENTS

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Assessing the Academic Work Environment for Faculty of Color in Science and Engineering

OVERVIEW

Examining Race-Ethnicity at the University of Michigan

The University of Michigan's commitment to racial-ethnic diversity is clear, as evidenced most publicly by its legal defense of its continuing efforts to maintain a diverse student body. It has also made continued efforts to develop and sustain a diverse faculty. According to an account in the *University Record* from 1995 (Lomax, Moore & Smith, April 17, 1995),

> When James J. Duderstadt became President of the University of Michigan in 1988, he committed himself, his administration and the University to the Michigan Mandate, a blueprint for fundamental change in the ethnic composition of the University community. One major objective of the Mandate was to increase by the year 2000 the representation of persons of color within the professoriate so that the proportion of such individuals would correspond more closely to their proportion in the population of the State of Michigan and the United States of America. At the beginning of the 1989-1990 academic year, Charles Vest, appointed by President Duderstadt to serve as Provost and Vice President for Academic Affairs, asked his faculty advisory committee, the Senate Assembly Academic Affairs Advisory Committee, to devise approaches to address the problem of underrepresentation of persons of color within faculty ranks.

Nearly a decade later, UM President Bollinger declared, "our mission and core expertise is to create the best educational environment we can. We do this in part through a diverse faculty and student body" [UM News Release, 10/14/97]. As recently as June 2003, University President Mary Sue Coleman reminded the campus, "We must look to the future and affirm our institutional commitment to diversity in every aspect of our community: our student body, our faculty, and our staff." Many faculty and administrators have worked long and hard to ensure that the University has a faculty that is excellent in every respect, including in its racial-ethnic diversity.

Despite the commitment to creating a diverse faculty (and student body), faculty of color at the University remain a small minority in most fields. This report examines the specific situation of instructional track faculty of color in the sciences and engineering on the UM campus.

The data analyzed for this report were originally collected to examine the situation of women science and engineering faculty at the University of Michigan. But we deliberately designed the data collection to include enough faculty of color to permit us also to examine race-ethnicity as well as gender. Many studies have shown that while race-ethnicity and gender are different in some ways, they also operate similarly in others (Valian, 2000; Clark & Corcoran, 1986; Menges & Exum, 1983); it is therefore always useful to be mindful of both when making efforts to create and maintain a diverse workforce.

One of the challenges in writing this report was choosing terminology. We recognize that there is no neutral language for describing an individual's race-ethnicity and that different communities and individuals find specific language to be more appropriate than others. Some challenge the use of color or place of origin language as unhelpful or misleading, while others find minority/majority terminology too dependent on context. Because we had to make a choice, and we are reporting on a hetereogeneous group in terms of race-ethnicity, we have adopted the term "of color" to refer to faculty who self-identify as a member of any racial-ethnic minority group. The contrasting (and also heterogeneous) group of faculty who self-identified as European American are referred to as "white."

The Status of Faculty of Color in Academic Science and Engineering

Among full-time doctoral scientists and engineers working in four-year colleges or universities, faculty of color (defined as those of Asian, black and Hispanic background) are less likely than white faculty to be at the rank of full professor, or to be tenured (NSF, 2000). In addition, black and Hispanic science and engineering faculty are paid less than white faculty in the same field, even after controlling for age and experience (NSF, 2000).

Moreover, in academic science and engineering, inequities exist across minority racial/ethnic groups, and between men and women within those groups. For example, Asian and Asian American Ph.D.s are more likely than African American or Hispanic Ph.D.s to be employed in larger research-focused universities (Research I or Doctoral I), while African American Ph.D.s are less likely than other groups to work at research-oriented universities (CAWMSET Report, 2000). In science and engineering professions, African Americans, Hispanics and Native Americans are defined as "underrepresented" minorities, because their numbers in the science and engineering academic workforce are smaller in comparison to their participation in the U.S. workforce at large. In 1991, underrepresented minorities constituted less than 3% of full or part-time faculty employed in science and engineering career fields (Brown, 2000). Those of Asian background, in contrast, were over-represented in science and engineering fields; by 1993 Asian Americans constituted about 4% of the total U.S. population, but held 13.5% of science and engineering doctorates and 11.9% of the overall science and engineering workforce (Cota-Robles, 2000).

Meanwhile, women of color with doctorates, across racial-ethnic groups, have fared worse than their male colleagues. Women of color in academic science and engineering have lower employment rates and salaries at four-year institutions, higher representation at two-year and less prestigious institutions (Brown, 2000), and they are less likely than men of any racial/ethnic group or white women to be at the rank of full professor (NSF, 2000).

The low representation of faculty of color in science and engineering fields is in part a "pipeline" problem (i.e., not enough students of color earning Ph.D.s). Among science and engineering doctorates awarded to U.S. citizens where

Figure 1a: Earned Doctorates in Science, Medicine and Engineering Fields by Race/Ethnicity

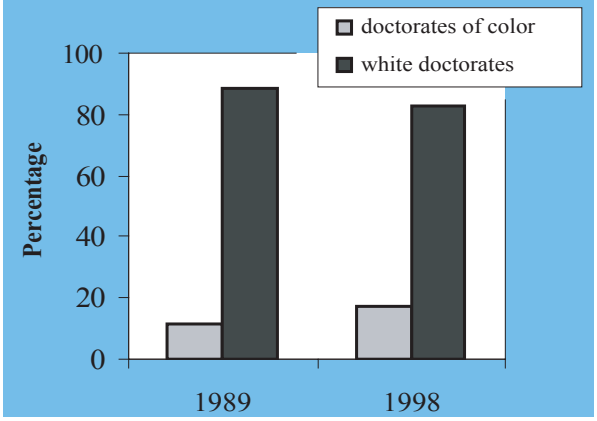
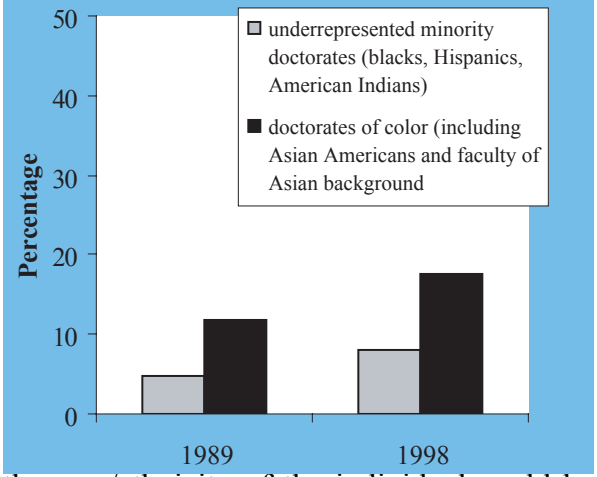
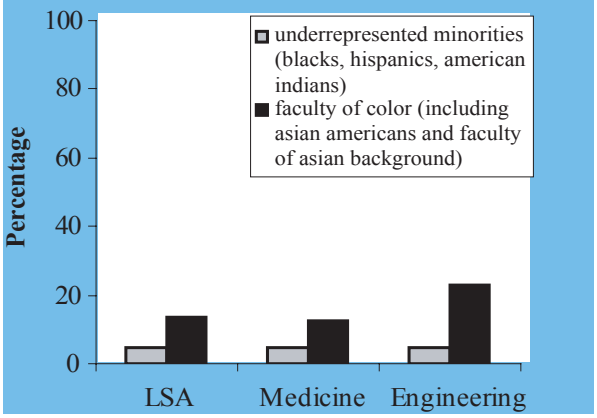


Figure 1b: Doctorates Earned by Faculty of Color in Science, Medicine and Engineering Fields by Race/Ethnicity Group



the race/ethnicity of the individual could be identified, minorities (including Asian-Americans) earned just over 11% in 1989 and 17% in 1998 (Figure 1a); meanwhile, underrepresented minorities earned just under 5% of the science and engineering doctorates in 1989 and 8% in 1998 (Figure 1b). In 2001, at the University of Michigan just over 14% of LS&A science faculty, 23% of Engineering faculty, and 12% of Medical faculty were persons of color (Figure 2). If we limit this analysis to underrepresented minorities in science and engineering fields, the percentages drop to 4% for LS&A science departments, just under 5% for Engineering, and 4% for Medicine (Figure 2).

Figure 2: Science, Medicine and Engineering Faculty of Color at the University of Michigan in 2001



The low representation of faculty of color on U.S. campuses is not limited to the "pipeline," though. Recent studies have shown that minorities who complete a Ph.D. in science or engineering and pursue an academic career often encounter more obstacles than their white counterparts. Among the obstacles reported by faculty of color are: social isolation due to the absence of other underrepresented minority faculty and students (Stein, 1994; Aguirre & Martinez, 1993); insufficient minority membership on faculty search committees; heavy teaching and service demands that are less likely to be rewarded during tenure or promotion review (Banks, 1984; Blackwell, 1996; Nakanishi, 1993, Menges & Exum, 1983; Stein, 1994); and a lack of mentoring (Boice, 1993).

Studies indicate that organizational and environmental factors, such as a hostile working environment, may limit the career attainment and satisfaction of faculty of color in science and engineering fields, as in academe more generally (Brown 2000; CAWMSET Report, 2000). Faculty of color report feeling like outsiders in the world of academic science, citing strained collegial relationships with white faculty, particularly when white faculty mistakenly believe that affirmative action policies have permitted the hiring of less qualified faculty. In response, faculty of color report feeling pressured to continually prove they have earned their positions (Johnsrud & Sadao, 1998; Menges & Exum, 1983; Reyes & Halcon, 1988).

Some faculty of color report that a number of the obstacles that limit their ability to reach professional goals in traditionally white institutions are the result of discrimination and racism (Brown, 2000). [Of course, other kinds of obstacles may limit faculty at historically black institutions.] In a recent national study, more than twice as many faculty of color as white faculty surveyed reported instances of subtle racism (i.e., lack of senstivity to issues of mi-

norities) on their campuses (Astin, 1997).

For purposes of analysis, scholars have found it helpful to distinguish overt from covert racism (Johnsrud & Sadao, 1998; Dube, 1985), and interpersonal from institutional racism (Johnsrud & Sadao, 1998; Haas,1992). Overt racism may include racially based harassment, ethnic slurs, or palpable racial tension on a university campus, while covert racism is subtler and can include tokenism or stereotyping.

Interpersonal racism occurs when a member of the majority group does something to maintain the subordination of another group, such as engaging in ethnic slurs or racial harassment. Institutional racism, in contrast, is structural in nature and often covert or unintended. In this case, as a consequence of organizational structure, university policy or practice, one group is favored and another disadvantaged. With institutional racism the discrimination may be unintentional, but the policies or practices of an institution result in disparate treatment, even if they are believed to be racially/ethnically (or gender) neutral.

It is noteworthy that while there is increasing research on the status of scientists and engineers of color as well as that of women scientists and engineers, the particular position of women faculty of color in academic science and engineering has remained largely unexplored (Hammonds, 1991). Garrison (1987) suggested that women of color are also overlooked in the government's bifurcated efforts to increase participation of minorities and women in scientific degree programs. Understanding their singular position, at the intersection of race and gender, is essential for addressing adequately the unique situation of women of color (Holvino, 2001; Olsen *et al*., 1995).

UM Survey of Academic Climate and Activities—Questionnaire Design

Given the problem nationally, it is important to examine the work situation for science and engineering faculty of color on the UM campus. This report, drawing on a larger study assessing the campus climate for women scientists and engineers, aims to do that. The original study was undertaken to establish a baseline that would enable us to evaluate the impact of NSF ADVANCE-supported efforts at institutional change.[1] In this report we focus on using that dataset to assess the academic work environment for instructional track science and engineering faculty of color at the University of Michigan. First we compare the responses of instructional track faculty of color to those of white faculty. We also explore gender differences among instructional faculty of color, comparing the experiences of female scientists and engineers of color to two key comparison groups: male scientists and engineers of color, and female social scientists of color.

It is important to note that the sample is small, so inferences can only be made with caution. However, given the paucity of systematic data on the experience of faculty of color in science and engineering, we felt it was critical to carry out these analyses and report on the results to the campus community.[2]

The initial data collection included a climate survey, the UM Survey of Academic Climate and Activities, administered by staff from the Institute for Research on Women and Gender during the fall of 2001 (a copy of the survey is

[1] See the full report on the results of this survey in Stewart, Stubbs & Malley (2002).

[2] We are grateful to the Evaluation Advisory Committee as well as a group of senior faculty of color, for advice on this point and the report as a whole.

included in Appendix A). This ten-page survey focused on institutional and unit/department climate, with additional sections on professional employment, teaching, resources, career satisfaction, recognition, productivity, personal life, and demographics (included to help us assess equivalence of faculty experiences). Where possible, we included questions from faculty surveys previously conducted at other universities. Many of the climate questions came from the University of Michigan Faculty Work-Life Study (1996) conducted by researchers from The Center for the Study of Higher and Postsecondary Education (CSHPE) and the Center for the Education of Women (CEW).[3] Other survey topics were suggested by UM women scientists and engineers during interviews conducted by Professor Abigail Stewart in 2000.

Approximately 20 scientists and engineers and social scientists completed a pilot version of the UM Survey of Academic Climate and Activities in August 2001.[4] Details about the construction of scales to assess various aspects of the climate are contained in the full report (Stewart *et al.*, 2002). Five faculty of color from the survey sample were interviewed after the survey data collection.[5] We include a few quotations from these interviews to illustrate points in this report.

Sample

The survey sample was drawn from faculty with paid appointments at the University of Michigan-Ann Arbor as of May 31, 2001. Because the number of faculty of color in science and engineering fields at the University of Michigan is small, the ADVANCE Evaluation Advisory Committee[6] recommended sampling more heavily the science and engineering faculty of color to yield numbers large enough to permit analysis by race/ethnicity, and to protect confidentiality. We therefore sampled nearly all faculty of color, including:

- All women scientists and engineers of color across tracks (N=93; of these 18 were on the instructional track) and women social scientists of color in colleges that also have science faculty (N=52; 12 on the instructional track).

- All men scientists and engineers of color, with the exception of instructional track male scientists and engineers of Asian or Pacific Islander background. We drew a random sample of 50 (of 131) because the number of men in this category far exceeded the number of women of Asian or Pacific Islander background (N=25). This resulted in a

[3] In addition, we incorporated items from a University of Michigan Medical School faculty survey (1994), a Texas A&M University Campus Climate Survey (1998), The University of Arizona Faculty Advancement Survey (2000), and the University of California at Los Angeles Higher Education Research Institute (HERI) Faculty Survey. We adapted questions on gender equity from a Gender Fairness Environment Scale developed by the University of Virginia School of Medicine Committee on Women, and a scale to measure aspects of the working environment for female faculty developed by Riger, Stokes, Raja, and Sullivan (1997). Questions on sexual harassment were modified from items included in the U.S. Merit Systems Protection Board's survey of sexual harassment in the federal workplace (1994).

[4] Many of these individuals were UM faculty members serving on ADVANCE Committees; they were familiar with the faculty experience at UM, but excluded from the survey sample because of involvement with the project.

[5] See Stewart, Stubbs & Malley (2002) for details of the procedure for carrying out these interviews.

[6] Members of that committee included Mark Chesler (Sociology); Mary Corcoran (Political Science, Public Policy, Social Work and Women's Studies); Paul Courant (Economics, Public Policy); Richard Gonzalez (Psychology); Sylvia Hurtado (Education); Janet Lawrence (Education); Valerie Lee (Education); Ann Lin (Public Policy and Political Science); Yu Xie (Sociology).

total of 187 minority men in the sample, across ethnic groups, 24 of whom were on the instructional track.

The sample that responded and the larger survey pool were equivalent in terms of race-ethnicity, rank and college for the instructional track. However, across tracks, faculty of color responded at a lower rate (26%) than white faculty (40%), as is often the case with social science surveys (CSHPE & CEW, 1999). Faculty of color are often more skeptical about the potential use of the data, as well as about assurances that their responses will not be identifiable.

The sample data were statistically weighted to reflect the race and gender demographic characteristics of the UM faculty population surveyed, as well as the response rates by race and gender (weighting is a statistical procedure that adjusts the raw survey data to represent the population from which the sample is drawn). The weighted analyses also included controls to correct for differences among the three core groups compared in the instructional track analyses.

Our primary comparisons were between white instructional track science and engineering faculty (N=185) and instructional track science and engineering faculty of color (N=42). For the purposes of this report, "faculty of color" refers to respondents who self-identified as African-American, Asian American/Asian, Latina/o or Hispanic, Native American/American Indian, or mixed. Unfortunately, there were too few responding faculty of color to allow for analyses of differences among racial/ethnic groups of color. "White" faculty refers to respondents who self-identified as European American.

We did compare faculty of Asian and Asian American backgrounds with all other faculty of color wherever we found differences between faculty of color and white faculty. There were no differences between these two (small) minority groups of faculty, suggesting that while Asian and Asian American faculty may be overrepresented in science and engineering departments, their experiences are similar to those of other faculty of color.

We also explored gender differences among faculty of color with regard to climate and other work experiences. We compared the experiences of instructional track female scientists and engineers of color (N=18) to two comparison groups: male scientists and engineers of color (N=24) and female social scientists of color (N=12). We ran analyses of variance (ANOVA) on scales and items from the survey, comparing the mean scores of these three groups. When the ANOVA indicated an overall significant difference among the groups, we pursued planned comparisons in which female scientists and engineers of color were compared to the two other groups.

Frequency data were evaluated by chi-square tests. We report frequencies, percentages, means and standard deviations, as appropriate. In the results discussed below any references to significant differences or groups differences refer exclusively to differences found to be statistically significant at $p \leq .05$. Tables reporting results of analyses can be found beginning on page 25.

Analyses were attempted comparing faculty of color on the three tracks (instructional, research and clinical). Because these analyses only examined within race/ethnicity differences by track, and the numbers of respondents on the non-instructional tracks were small (9 and 19 for research and clinical respectively), we concluded that these analyses were not particularly helpful in clarifying the experiences of science and engineering faculty of color in comparison with white science and engineering faculty, so we did not include them in this report.

COMPARISONS: INSTRUCTIONAL FACULTY by RACE-ETHNICITY and GENDER

Overview

Like women scientists and engineers, science and engineering faculty of color reported a chilly work environment at UM, against a backdrop of equivalent professional backgrounds. Because there were so few other differences between faculty of color and their white peers, we believe the climate differences are attributable to experiences based on race-ethnicity (and gender). Compared to their white colleagues at the University of Michigan, science and engineering faculty of color reported less satisfaction with the distribution of unit resources and higher levels of what could be termed covert racism. They reported higher levels of tokenism and a higher frequency of racial and religious stereotyping than white faculty, a finding consistent with the marginalization of faculty of color reported in the literature. In addition, 25% of scientists and engineers of color reported having experienced racial discrimination at UM in the last five years.

Among instructional track faculty of color, female scientists and engineers were particularly at risk for experiencing a negative work environment. Compared to men, female scientists and engineers of color reported less career satisfaction, and a serious lack of mentoring. They also reported a more negative departmental climate than their male colleagues. Female scientists and engineers of color reported less felt influence over unit educational decisions, and rated their department chairs as less fair, less able to create a positive environment, and less committed to racial/ethnic diversity.

Results of Analyses

Professional Experience. Comparing science and engineering faculty of color with white scientists and engineers on the instructional track, we found very few significant differences in professional experience. There was no difference in age (average age of instructional track scientists and engineers of color was 47 compared to an average of 49 among white faculty) and there was no significant difference between the two groups in years since Ph.D. (Table 1).

Scientists and engineers of color, however, had been at UM for significantly fewer years, on average, than their white counterparts. This variable, years at UM, was used as a covariate when running analyses. For the group differences reported below, the control variable either had no effect, or the main effect for the group remained even if the years at UM variable produced an effect. Therefore, group differences cannot be explained by differences in length of career at UM.

Comparing female scientists and engineers to male scientists and engineers and to female social scientists among instructional track faculty of color, we found that women social scientists were younger, obtained their highest degree more recently, and had fewer years at UM than women scientists and engineers (Table 2). All women social scientists of color responding to the survey had been hired in the last ten years, compared to only 50% of male and 78% of female scientists and engineers of color.

There were also differences in rank: male scientists and engineers of color (46%) were more likely than their female counterparts (6%) to be at the full professor level. Although women social scientists of color had been at UM significantly fewer years than women scientists and engineers of color, there were no significant differences between these groups in rank. Over 90% of the female faculty of color reported being at the rank of associate or assistant professor. We used the variables age, rank, years experience, and years at UM as covariates when running ANOVAs.

Household Characteristics. There was one significant difference in household characteristics between scientists and engineers of color and white scientists and engineers: faculty of color were more likely to be single parents. More than three quarters of the faculty in both groups had both a partner and children, and about half of those partnered had a partner who works fulltime (Table 3).

There were differences in household composition among the three groups of instructional track faculty of color. Women social scientist faculty of color were more likely to be partnered without children—67% of women social scientists compared to 23% of women scientists and engineers and 10% of men scientists and engineers (Table 4). If partnered, men scientists of color were less likely to have a partner who works fulltime. All women scientists and engineers of color who were partnered, and 92% of women social scientists of color, reported having a partner engaged in fulltime employment, while only 36% of men scientists of color reported this household situation. These differences in household characteristics, while important for understanding the experiences of women scientists and engineers, do not account for the observed group differences reported below. [We used the household characteristics variables as covariates when running ANOVAs on the climate variables.]

Career Experiences and Satisfactions.

- We found no differences between science and engineering faculty of color and white faculty in the areas of productivity, recognition, specific career satisfactions, felt influence over unit educational decisions, and teaching load. There were minor differences in satisfaction with the distribution of unit resources.

- Female scientists and engineers of color reported lower levels of recognition, overall career satisfaction, and felt influence over unit educational decisions than their male peers; they reported receiving fewer items than female social scientists during initial contract negotiations and fewer items than their male colleagues in renegotiations.

Productivity. There were no group differences by race/ethnicity in faculty members' estimations of their own and their departments' views of their productivity. However, women scientists and engineers reported a lower mean perception of their departments' view of their productivity than their male counterparts (Tables 5 and 6).

Recognition. There were no significant differences between the percentages of scientists and engineers of color and white scientists and engineers in the area of recognition, including being nominated for awards in teaching, research, clinical work and service; being nominated for at least one award; or failing to be nominated for an award for which one was qualified. Fifty-five percent of scientists and engineers of color had been nominated for at least one award, compared to 58% of white faculty in the same disciplines (Table 7). In both groups, nearly one in five faculty members reported having been overlooked for an award for which they were qualified.

There were no significant group differences among female and male scientists and engineers of color and female social scientists of color in the percentages of each group who reported nomination for an award in teaching or service. However, a significantly lower percentage of women scientists and engineers than men scientists and engineers or women social scientists of color reported having been nominated for an award for research. While over 38% of male scientists and engineers of color and over 27%

of female social scientists of color reported having been nominated for a research award, none of the female scientists and engineers of color reported having been nominated for an award in this area. Significantly fewer of these women reported being nominated for at least one award (17%) than their male peers (67%; Table 8).

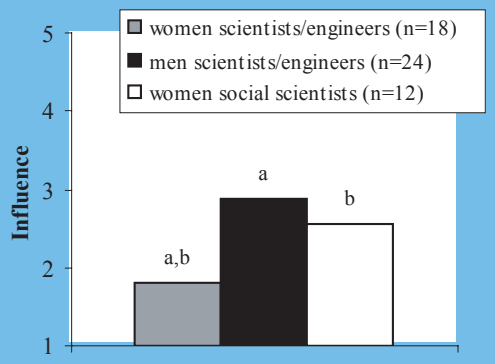
Career Satisfactions. There were no significant differences in satisfaction between scientists and engineers of color and white scientists and engineers based on a series of twelve aspects of career activity (Table 9). The top rated items for both groups were being valued as a mentor by students, being valued as a teacher by students, the opportunity to collaborate with other faculty, and the sense of contributing to the theoretical developments in one's discipline (Table 9).

However, among instructional track faculty of color, women scientists and engineers were significantly less satisfied than men scientists and engineers on a scale averaging ratings for the twelve career satisfactions (Table 10). Looking at the individual items comprising the scale, female scientists and engineers gave lower ratings than their male colleagues on all items except balance between work and family. These differences were statistically significant on two items: "opportunity to collaborate with other faculty" and "current salary in comparison with salaries of UM colleagues" (the mean for women scientists and engineers was also significantly lower than that of women social scientists on this item). Women scientists and engineers of color also reported significantly less satisfaction with the amount of social interaction with members of their unit/department than women social scientists of color.

Felt influence on educational matters and resources. There were no racial/ethnic differences in reported level of influence over educational decisions or unit resources (Table 11).

However, women scientists and engineers of color reported the lowest levels of felt influence over educational decisions, significantly lower than both male scientists and engineers and women social scientists of color (Figure 3, Table 12). Specifically, female scientists and engineers of color felt substantially less influence than both other groups on unit curriculum decisions and selecting new faculty members. Women scientists and engineers also felt less influence than male scientists and engineers of color on selecting graduate students and determining who gets tenure. They also reported a significantly lower mean rating of felt influence over unit resources (all items combined) than the men.

Figure 3: Influence on Unit Educational Decisions



[a] Matching symbols denote statistically significant differences ($p \leq .05$).

Resources—effort and satisfaction. There were no significant differences between instructional track scientists and engineers of color and their white colleagues in the amount of effort necessary to secure resources such as office space, research space, lab equipment, and service from vendors (Table 13). Scientists and engineers of color, however, reported significantly less satisfaction with resources than white faculty overall and specifically with the current allocation of research space and service from vendors.

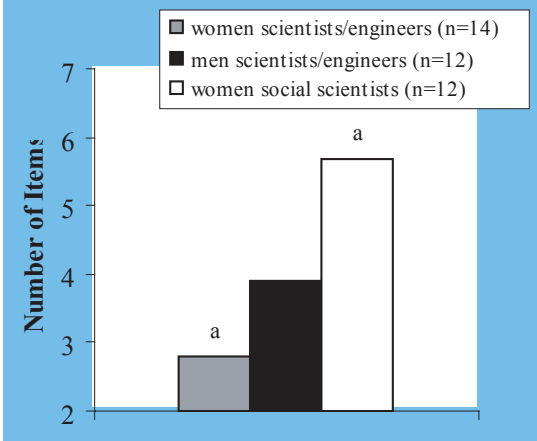
Among instructional track faculty of color, comparing female scientists and engineers to

male scientists and engineers and female social scientists, we found no significant differences in reported effort to secure resources or satisfaction with current allocation of resources.

Initial contract negotiation. All survey respondents who were hired within the past ten years were asked about fifteen key items that might be raised during contract negotiations, such as course release time, lab equipment and lab space, discretionary funds, etc. For this series of fifteen items, survey respondents were asked to indicate whether UM had offered the item during initial contract negotiation, whether they had bargained for the item, whether it was promised in the offer letter, and whether the item was received. There were no significant differences by race/ethnicity in the initial contract negotiation (Table 15).

Among instructional track faculty of color, there were no differences between female and male scientists and engineers in the number of items offered by UM, bargained for, or promised in the offer letter (Table 16). Female social scientists of color, however, reported a significantly higher number of items received during initial contract negotiation than women scientists and engineers of color (Figure 4). They reported receiving an average of three items during initial contract negotiation, compared to an average of nearly six items received by women social scientists of color.

Figure 4: Number of Items Received in Initial Contract Negotiation: Instructional Track Faculty of Color*



[a] Matching symbols denote statistically significant differences ($p \leq .05$).
*Faculty hired in last 10 years.

Contract renegotiation. The question on contract renegotiation asked about the same fifteen items listed under initial contract negotiation, and respondents were asked to indicate the items offered by UM, received through the terms of an award, or bargained for by them during any renegotiation of their original contract. The pattern of results for items received in contract renegotiation is similar to that found with initial contract negotiation. However, in this instance, women scientists and engineers of color reported a significantly lower mean of items received by terms of award in contract renegotiations than their male counterparts, rather than women social scientists (Tables 15 and 16).

Teaching. There were two significant differences between instructional track scientists and engineers of color and white science and engineering faculty in reported teaching load. On average, science and engineering faculty of color reported having developed more courses than their white colleagues and their typical teaching load of graduate courses was, on average, higher (Table 17).

Not surprisingly, among instructional track faculty of color, female social scientists reported a heavier teaching load than female scientists and engineers (Table 18). Comparing the teaching load of female and male scientists and engineers of color, we found that the women served as official advisors to significantly more undergraduate students, and significantly fewer graduate students.

Mentoring. The survey asked several questions regarding the mentoring received by the respondent, including whether the respondent

would benefit from mentoring at this point in his/her career, and how much mentoring the respondent receives. To ensure that individuals were employing similar definitions of mentoring, we asked about eight specific potential activities:

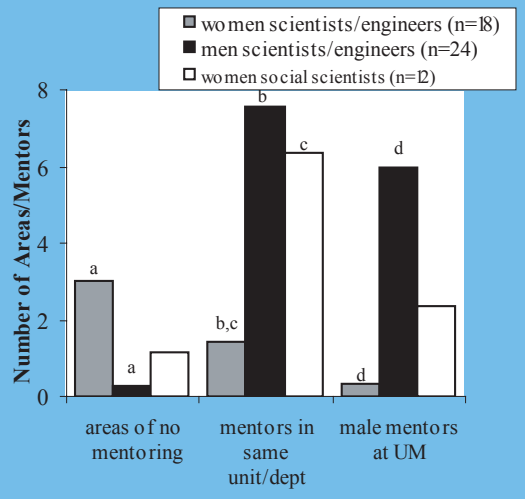
- role modelling
- advocacy
- promoting career through networking
- advising about preparation for advancement
- advising about getting work published
- advising about departmental politics
- advising about obtaining needed resources
- advising about work-family balance

Respondents also were asked to report the total number of male and female mentors they had, (in the same unit at UM, in a different unit at UM, at another institution, or outside academe), and the kind of support each provided.

Analyses of mentoring were limited to assistant professors, since large numbers of senior faculty viewed these questions as not applicable to them. There were no significant differences in received mentoring between white scientists and engineers and scientists and engineers of color (Tables 19a and 19b). Among junior faculty there may be a deficit of mentoring in certain areas regardless of race/ethnicity. Over 30% of white faculty and faculty of color in science and engineering fields at the junior level received no mentoring in the areas of networking, securing resources, advocacy and balancing work and family (Table 19b).

Among instructional track faculty of color, female scientists and engineers receive significantly less mentoring than their male counterparts, or female social scientists. Women scientists and engineers of color reported over three (of eight) areas in which they received no mentoring, compared to less than one area for

Figure 5: Mentoring: Assistant Professors, Instructional Track Faculty of Color



a,b,c,d Matching symbols denote statistically significant differences ($p \leq .05$).

the men (Figure 5, Table 20a). Over two-thirds of female scientists and engineers of color at the assistant professor level reported receiving no mentoring in 6 of 8 areas, including networking, publishing, department politics, resources, advocacy and balancing work and family (Table 20b).

In comparison with male scientists and engineers of color and female social scientists, female scientists and engineers reported significantly fewer mentors in the same department at UM, and fewer male mentors anywhere at UM. Female scientists and engineers of color had between one and two mentors in the same department, on average, while both male scientists and engineers and female social scientists of color had over six mentors in the same department. The average number of male mentors at UM was .23 for female scientists and engineers, six for male scientists and engineers, and between two and three for female social scientists. In an interview, one woman faculty member of color said:

> It would be nice to be actually mentored by a female scientist; a woman on campus who really understands

> what I do and what I'm going through. I….need a longer view on things from somebody who's been there. … [T]he smaller stuff I can talk to my colleagues here, but to get the larger perspective on how they proceeded in terms of career and research paths… it would be nice to get more guidance from this university. Maybe that's what some of the other faculty need as well: mentorship.

Service. On the climate survey, respondents were asked to note their involvement on department, college, and university level committees over the past five years. There were no significant differences in committee service between white science and engineering faculty and faculty of color. On average, both groups served on over three committees per year, chaired fewer than one committee per year, and believed having a college leadership appointment was moderately important (Table 21).

Among the instructional track faculty of color, there were also no significant group differences on these measures.

University Climate. The survey asked several questions regarding climate that were not limited to faculty experiences in their unit(s)/department(s). Questions regarding institutional climate included items assessing the level of gender and racial stereotyping, discrimination, and unwanted and uninvited sexual attention experienced by faculty on the UM campus.

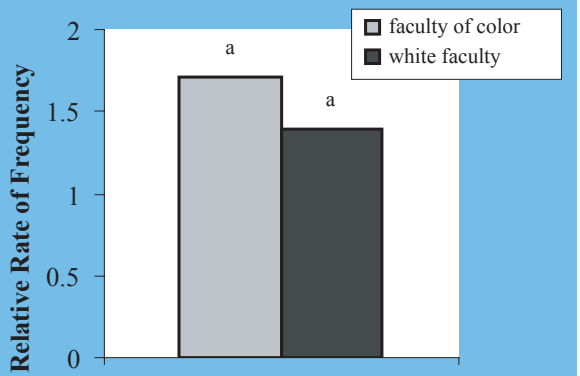
- There were no significant differences between white science and engineering faculty and faculty of color in reported levels of gender stereotyping, gender discrimination, or sexual harassment.

- Scientists and engineers of color reported higher levels of racial and religious stereotyping than white faculty.

- Over 25% of science and engineering faculty of color reported experiencing racial/ethnic discrimination at UM within the last five years. There were no significant differences in the percentage of female and male scientists and engineers of color reporting racial/ethnic discrimination.

Stereotyping. Survey respondents were asked to indicate how often within the last five years they heard faculty or students make insensitive or disparaging comments about women, men, members of racial/ethnic minorities, or members of a particular religious group, as "typical" of that group. These items were combined into two scales: a gender stereotyping scale rating the frequency of disparaging comments about men and women, and a racial/religious stereotyping scale rating insensitive comments about members of a racial/ethnic minority or particular religious group. Instructional track scientists and engineers of color reported a higher level of racial and religious stereotyping than white faculty, but there were no significant differences in the reported levels of gender stereotyping

Figure 6: Ethnic/Religious Stereotyping



[a] Matching symbols denote statistically significant differences ($p \leq .05$).

(Figure 6, Table 23a).

In the interviews, faculty of color described the

kinds of experiences in which they observed faculty members' stereotypes about groups. One said:

> There are little comments every once in a while by people who are sort of well-meaning, but I sometimes worry and get upset that, you know, I'm a minority female faculty …. A couple of people have made comments to me that just were culturally incredibly insensitive…. I kind of worry about what that means when they view me as a colleague or an individual; what do they see? I'm just not sure how to deal with that.

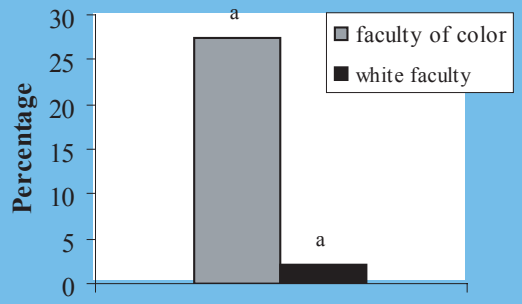
Another faculty member described being in a group of faculty watching a presentation and listening to members of the group snicker and make stereotyping remarks about a minority group represented in the presentation, unconscious of the fact that this person was also a member of that minority group.

> Nobody thought about it…. But that was a completely unconscious reaction on the part of the people [there]. …So that kind of thing is so hard to identify unless it happens to you. In that example…of ethnic or race bias…there is nothing I can do about that. There is no mechanism.

There were no significant group differences among instructional track faculty of color on gender and ethnic/religious stereotyping measures (Table 24a).

Discrimination. Survey respondents were asked to indicate any job-related discrimination they experienced at UM within the last five years, noting the basis for the discrimination (race/ethnicity, gender, sexual orientation, physical disability, religious affiliation), and

Figure 7: Reported Racial/Ethnic Discrimination at UM in Past 5 Years



[a] Matching symbols denote statistically significant differences ($p \leq .05$).

the areas in which the discriminatory behavior affected their career (hiring, promotion, salary, space or other resources, access to administrative staff, graduate student or resident/fellow assignments.) A significantly higher percentage of science and engineering faculty of color (27%) than white faculty (2%) reported experiencing racial discrimination (Figure 7, Table 23a). Others (e.g., Dey, 1994) have found that faculty of color are likely to experience these subtle forms of discrimination as stressful.

Looking at the areas in which faculty felt the racial discrimination had occurred, we found that over 7% of science and engineering faculty of color reported discrimination in how graduate student or resident/fellow assignments are made; over 9% reported experiencing racial discrimination in allocation of resources, and over 17% reported racial discrimination in access to administrative staff (Table 23b).

Similarly, a significantly higher percentage of female science and engineering faculty of color reported gender discrimination in assignments of graduate students or residents/fellows (Table 23c).

In an interview, one faculty member of color described the ways that commitments for space and resources made at the time of hiring were not actually met. The absence of avenues for

redress of these difficulties was noted, as was the fact that filing a lawsuit would likely simply ruin the reputation of the aggrieved faculty member.

Among instructional track faculty of color there were no group differences between female and male scientists and engineers or between female scientists and engineers and female social scientists in experiences of racial discrimination. A significantly higher percentage of women scientists and engineers (33%) reported gender discrimination than did the men scientists and engineers (8%), particularly in the areas of promotion and space/equipment and other resources (Tables 24a and 24b).

Sexual Harassment. The questions about unwanted and uninvited sexual attention,[7] produced no significant differences by race/ethnicity or gender.

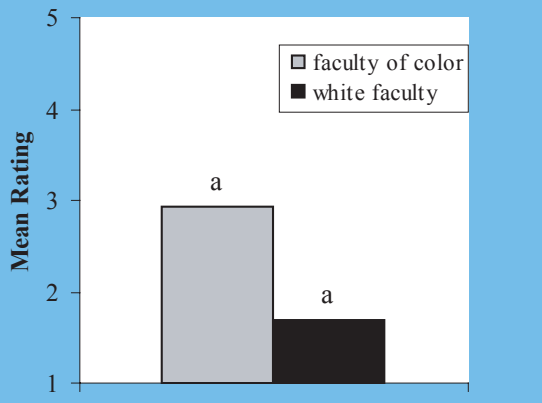
Department Climate.

- Instructional track science and engineering faculty of color reported experiencing higher levels of felt surveillance and tokenism than white faculty.

- Department climate was significantly worse for female scientists and engineers of color than it was for their male counterparts or for female social scientists of color, particularly with respect to the impact of the department chair.

Instructional track science and engineering faculty of color reported a more negative department climate at the University of Michigan, on two of several scales constructed to assess features of *department climate* (positive climate, tolerant climate, egalitarian atmosphere, scholarly isolation, felt surveillance, race/gender tokenism, chair as fair, chair as able to create positive environment, chair as committed to racial/ethnic diversity[8]; Table 25). Although there were no racial/ethnic differences in the combined measure summing all of the climate scales, science and engineering faculty of color did report higher levels of felt surveillance and tokenism, or being expected to represent the point of view of one's gender or race/ethnicity (Figure 8).

Figure 8: Tokenism by Race/Ethnicity



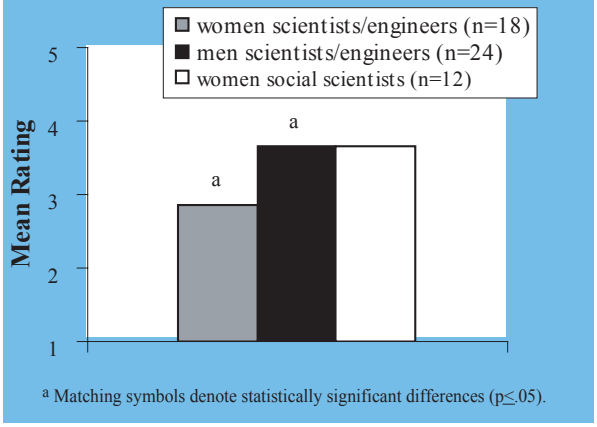
[a] Matching symbols denote statistically significant differences ($p \leq .05$).

In addition, among instructional track faculty of color, female scientists and engineers reported the most negative climate, particularly in terms of the impact of the department chair (Table 26). Compared to male scientists and engineers of color, women rated their departments as having a less positive climate, less gender egalitarianism (Figure 9) and reported more scholarly isolation. They also gave their department chairs significantly lower ratings on fairness, creating a positive environment, and

[7]The survey adapted (using the same wording with different format) the definition of unwanted and uninvited sexual attention used by the Merit Systems Survey of Federal Employees; including unwanted sexual teasing, jokes, remarks or questions; unwanted pressure for dates; unwanted letters, phone calls, email; unwanted touching, leaning over, cornering, pinching; unwanted pressure for sexual favors; stalking; rape or assault.

[8] See Stewart *et al.*, 2002 for a discussion of scale construction.

Figure 9: Gender Egalitarianism: Instructional Track Faculty of Color

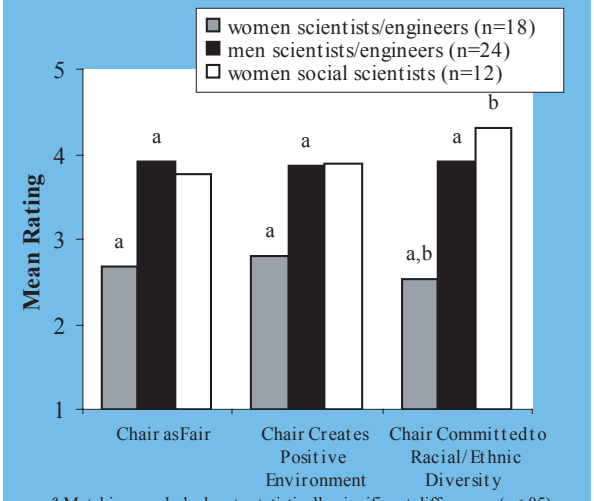


[a] Matching symbols denote statistically significant differences ($p \leq .05$).

commitment to ethnic/racial diversity (Figure 10). On this last item women scientists and engineers gave their chairs lower ratings than both men scientists and engineers and women social scientists.

Looking at the climate scales in the aggregate, we found that women scientists and engineers of color rated their departmental climate as significantly less positive than their male counterparts. On a scale from one (negative) to five (positive), female scientists and engineers of color on the instructional track rated the overall climate as averaging below three, while their male colleagues rated the overall climate on average just below four.

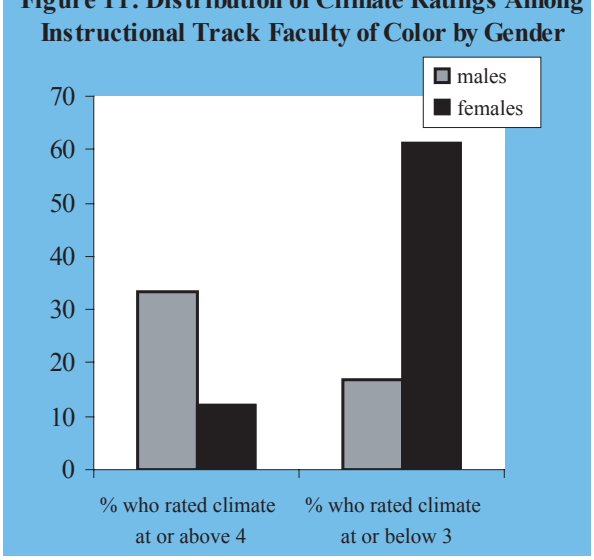
Figure 10: Attitudes Toward Department Chair: Instructional Track Faculty of Color



[a] Matching symbols denote statistically significant differences ($p \leq .05$).

One way to assess the magnitude of this difference is to look at the distribution of scores for men and women. Some women scientists and engineers of color rated the climate at or above four (12%), but almost three times as many men did (33%; Figure 11). Some men scientists and engineers rated the climate at or below three (about 17%), but over 60% of women scientists and engineers of color did.

Figure 11: Distribution of Climate Ratings Among Instructional Track Faculty of Color by Gender



One faculty member of color summed up the climate issue for faculty of color by saying, "their attitude— they try to belittle you all the time, and [give you] no respect. It's already predetermined." In discussing the difficulties of changing the climate, one faculty member of color said that too often departments were motivated only to think about numbers (of faculty or students of color) or financial benefits of diversity (e.g., being able to hire more faculty). This faculty member felt there was too often a focus on increasing numbers, without being concerned about the experience of faculty (or students) of color once they come to the University. This individual commented, "lack of interest in these issues is worse than straightforward racism. Most racists have better manners."

Faculty of color expressed concerns in the inter-

views about processes that were secret or hidden. For example, one faculty member said:

> I think the school needs to have some enforcement, in terms of all the processes. [The] tenure track process has to be public and cannot be secretive, cannot be closed-door ….the process has to be opened up…. It cannot be one person deciding. Everybody must follow the same procedure. Instead, oh, some people our chairman decided, they can pass, that's it. Even the chairman should have to go through the process. This kind of process is very important.

Does Climate Matter?

Do perceptions of climate, other department and academic experiences, or personal and position indicators, affect faculty satisfaction? We ran correlations between these variables and overall satisfaction with current position at UM for both the white science and engineering faculty, the faculty of color, and also women of color alone. We also ran correlations assessing the relationship between other campus experiences, personal and position indicators and overall job satisfaction. We found that the departmental climate ratings were most closely related to satisfaction for each of the three sub-groups of instructional track science and engineering faculty.

Institutional & Departmental Climate Ratings. We found that climate indicators were significantly correlated with overall satisfaction with position at UM (Table 27). For white scientists and engineers, with the exception of ethnic/religious and gender stereotyping, the institutional climate ratings (sexual harassment, gender discrimination) and departmental climate ratings (with the exception of scholarly isolation) were closely related to overall satisfaction with UM position.

The *institutional* climate ratings were not significantly correlated with overall satisfaction for either scientists and engineers of color as a group, or female scientists and engineers of color alone, but the *departmental* climate ratings were closely related to overall job satisfaction for both groups. These findings suggest that climate plays an important role in faculty satisfaction generally, and that the negative departmental climate reported by science and engineering faculty of color has clear consequences for satisfaction. We note, in turn, that satisfaction has been shown to be a key predictor of retention.

Departmental and Other Campus Academic Experiences. The correlations between indicators of departmental and campus academic experiences (career satisfactions, productivity, resources, felt influence, committee service and mentoring), and overall satisfaction with position at UM were also strong, underscoring the importance of a good working environment at the departmental level (Table 28).

For female scientists and engineers of color, science and engineering faculty of color as a whole, and their white colleagues, the following departmental experiences were significantly correlated with overall job satisfaction: career satisfactions; effort to obtain resources; satisfaction with the distribution of resources; and felt influence over unit educational matters and resources.

Personal and Position Indicators and Household Characteristics. In contrast to the climate and campus experiences indicators, virtually no personal and professional experience indicators, or household characteristics, were significantly correlated with overall satisfaction with position at UM (Table 29).

We have seen that university and department climate indicators and other academic expe-

riences relate to faculty satisfaction. This suggests that because scientists and engineers of color, and in particular female scientists and engineers of color, have more negative experiences with regard to university and departmental climate when compared to white science and engineering faculty, they are at a distinct professional disadvantage in terms of retention.

Do Bad Experiences Accumulate?

Findings from the survey data indicate that the scientists and engineers of color at the University of Michigan experience a more negative climate than do their white colleagues. To examine whether reports of gender discrimination or racial/ethnic discrimination—questions rated for "the past five years" on the survey—"predict" current satisfaction and climate ratings, we ran independent sample t-tests (Tables 30 and 31).[9] Among all instructional track scientists and engineers, scientists and engineers of color, and female scientists and engineers of color, those who had experienced gender discrimination or racial discrimination reported a more negative climate. This evidence suggests that bad experiences may accumulate. Thus, it would be in the best interest of faculty and the University to work to prevent the occurrence of negative incidents, and minimize their impact on faculty through implementation of clear policies and procedures to address rapidly the difficulties scientists and engineers of color experience.

[9] In the longer report focusing on gender, we also tested sexual harassment as a "predictor" of current job satisfaction. Because only 2 of 42 instructional track faculty of color reported experiencing sexual harassment at UM in the past five years, we dropped this variable from the race/ethnicity analyses.

CONCLUSIONS

Instructional Track Faculty of Color

Science and engineering faculty of color and white faculty at the University of Michigan reported few differences in professional experience, household characteristics, and career experiences and satisfactions. They reported important differences, however, in perceptions of the work environment. Findings from our survey indicate that scientists and engineers of color experience a significantly less positive climate than their white colleagues. One in four instructional track science and engineering faculty of color reported experiencing racial discrimination at UM within the past five years. These findings are consistent with other studies that find faculty of color face an unwelcoming environment (Allen et al., 2000; Laden & Hagedorn, 2000).

Furthermore, compared to white science and engineering faculty, scientists and engineers of color reported higher levels of tokenism, and a higher frequency of racial and religious stereotyping. Both tokenism and stereotyping are referred to as covert racism in the literature, and are linked to feelings of marginalization reported by faculty of color on university campuses (Johnsrud & Sadao, 1998). These results are consistent with other research that finds minority faculty are cut-off from full participation in their academic institutions, institutions that were initially established to serve an all white male faculty (Aguirre, 2000).

Women Instructional Track Faculty of Color

There is evidence that among faculty of color at UM, female scientists and engineers on the instructional track fared worse than male scientists and engineers or female social scientists. The findings discussed here largely parallel those observed among UM science and engineering faculty as a whole (Stewart

et al., 2002).

Compared to their male counterparts, women scientists and engineers of color reported: lower rates of recognition, less felt influence on unit educational decisions, less access to graduate students and lower career satisfaction. Compared to women social scientists, the start-up packages of women scientists and engineers were described as including fewer elements and their contract renegotiations contained fewer items than those of their male peers. Moreover, in comparison with both male scientists and engineers and women social scientists, female scientists and engineers of color faced a serious lack of mentoring: over two-thirds of the women reported receiving no mentoring in six of the eight targeted areas.

Women scientists and engineers of color also reported a significantly more negative department climate than either their male counterparts, or women social scientists of color. Our findings are consistent with others who report that women faculty of color experience more discrimination in the workplace than male faculty of color (Bronstein & Farnsworth 1998) and that their opportunities for advancement are more seriously hampered than their white female counterparts (Aguirre, 2000).

Compared to male scientists and engineers of color, women rated their departments as less gender egalitarian, and gave their department chairs significantly lower ratings on fairness and creating a positive environment. On commitment to racial/ethnic diversity women scientists and engineers gave their chairs lower ratings than both male peers and women social scientists. In addition, over one-third of the women also reported experiences of gender discrimination within the previous five years. These findings are especially important given other research (e.g., Rosch & Reich, 1996) that department climate and role of the chair are critical elements in integrating faculty into the institution.

Uses of the Findings

The findings discussed here highlight the importance of climate to overall job satisfaction (Tables 26 and 27) and also indicate that previous bad experiences, such as racial discrimination, can "predict" current climate ratings (Table 31). Our data support other findings that institutional support and department climate, as well as a sense of control over one's own career, are predictive of job satisfaction in faculty of color (Laden & Hagedorn, 2000; Olsen *et al*., 1995). Therefore, preventing or minimizing early experiences of disadvantage could provide long-term benefits to faculty morale.

We hope that the findings in this report will inspire further research on the particular challenges that face male and female faculty of color at the University of Michigan. In addition, we hope that, along with the findings from *Assessing the Academic Work Environment for Women Scientists and Engineers*, the findings reported here will be used to make policy recommendations and identify practices that might improve the work environment for faculty of color, and for all faculty, at the University of Michigan.

Inadequate institutional policies and practices, including lack of mentoring (Corcoran & Clark, 1984), unclear promotion policies (Austin & Rice, 1998), and discrimination (Menges & Exum, 1983), contribute to an inhospitable environment for faculty of color. Given the small number of faculty of color, and their experiences of the climate, the single most important remedy suggested by our findings is increasing the "critical mass" of science and engineering faculty of color by recruiting and retaining more racially/ethnically diverse scientists and engineers (Branch, 2001). The following remedies are also suggested by our findings:

Climate:

- chairs and senior faculty leaders play crucial roles in defining the climate for faculty; therefore it is important to provide them with adequate support and resources to provide excellent mentoring, problem-solving and conflict-resolution, and establish and maintain fair and judicious procedures and practices;
- encourage departments to make use of centrally provided resources and professional external evaluators to engage in systematic assessment of their own climates, that might lead to active steps to address their negative features;
- ensure that departments and colleges have clear and transparent policies and procedures in hiring, tenure, and other decision-making processes that minimize negative experiences.

Mentoring:

- increase commitment to and understanding of mentoring among chair and senior faculty leaders, as well as younger faculty;
- support on- and off-campus mentoring;
- create formal and informal mentoring programs for tenure track faculty.

Contracts and Resources:

- ensure that equitable offers, counter-offers, and contract agreements are made and monitored;
- ensure clear and transparent policies for allocation of resources.

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TABLES

Table 1: Professional Experience by Race/Ethnicity

	Faculty of Color (N=42)		White Faculty (N=185)	
	mean	sd	mean	sd
	46.80	10.09	49.39	10.79
Time since highest degree*	3.70	2.04	4.25	2.16
Time since first UM appointment*	3.34 [a]	1.45	3.30 [a]	2.13
	percentages		percentages	
Hired in last ten years	57		42	
Joint appointment	14		19	
Small college	31		15	
Full professor	36		55	
Associate professor	27		19	
Assistant professor	37		26	

*1=1995-2001; 2=1990-1994, 3=1985-1989; 4=1980-1984; 5=1975-1979; 6=1970-1974; 7=1965-1969; 8=1960-1964.

[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 2: Professional History: Instructional Track Faculty of Color

	women scientists/engineers (N=18)		men scientists/engineers (N=24)		women social scientists (N=12)	
	mean	sd	mean	sd	mean	sd
	43.56 [a]	7.76	47.87	10.67	36.58 [a]	7.35
Time since highest degree*	3.00 [a]	1.50	3.92	2.17	1.67 [a]	1.23
Time since first UM appointment*	2.06 [a]	1.43	2.43	1.56	1.08 [a]	.29
	percentage		percentage		percentage	
Hired in last ten years	78		50		100	
Joint appointment	17		13		42	
Small college	35		29		8	
Full professor rank	6 [a]		46 [a]		8	
Associate professor rank	44		21		25	
Assistant professor rank	50		33		67	

*1=1995-2001; 2=1990-1994, 3=1985-1989; 4=1980-1984; 5=1975-1979; 6=1970-1974; 7=1965-1969; 8=1960-1964.

[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 3: Household and Partner Employment Characteristics by Race/Ethnicity (Percentages)

	Faculty of Color	White Faculty
Household Composition:	(N=42)	(N=185)
Single (no partner nor children)	4	5
Children, no partner	6[a]	1[a]
Partner and children	78	83
Partner, no children	13	11
Partner Employment:	(N=38)	(N=158)
Partner works fulltime	51	48
Partner employed at UM	39	31
If partner employed at UM, employed as faculty	41	56
Considered leaving UM to improve partner's career	44	33

[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 4: Household and Partner Employment Characteristics (Percentages): Instructional Track Faculty of Color

	women scientists/ engineers	men scientists/ engineers	women social scientists
Household Composition:	(N=18)	(N=24)	(N=12)
Single (no partner nor children)	0	5	0
Children, no partner	8	5	0
Partner and children	69	80	33
Partner, no children	23[a]	10	67[a]
Partner Employment:	(N=16)	(N=22)	(N=12)
Partner works fulltime	100[a]	36[a]	92
If partner employed at UM (N=33), employed as faculty	63	33	50
Considered leaving UM to improve partner's career	47	43	64

[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 5: Productivity by Race/Ethnicity

	Faculty of Color (N=42)		White Faculty (N=185)	
	mean	sd	mean	sd
Perception of own productivity	7.42	1.73	7.09	1.71
Perception of department's view of own productivity	5.96	2.11	6.46	1.87

*Scores on all items ranged from 1 to10 (1=much less productive; 10=much more productive).
Controlling for years at UM

Table 6: Productivity: Instructional Track Faculty of Color

	women scientists/ engineers		male scientists/ engineers		women social scientists	
by Gender/Field Groups:	(N=18)		(N=24)		(N=12)	
	mean	sd	mean	sd	mean	sd
Perception of Own Productivity	7.36	1.55	7.44	1.83	6.68	1.79
Perception of Department's View of Own Productivity	4.94 [a]	2.49	6.39 [a]	1.96	5.68	1.93
	assistant professor		associate professor		full professor	
by Rank:	(N=26)		(N=16)		(N=13)	
	mean	sd	mean	sd	mean	sd
Perception of Own Productivity	7.25	1.59	7.32	1.91	7.34	1.93
Perception of Department's View of Own Productivity	6.15	2.25	6.11	2.10	5.73	2.07

*Scores on all items ranged from 1 to10 (1=much less productive; 10=much more productive).
Controlling for age, rank, years experience and years at UM

[a]*Matching symbols denote statistically significant differences at the level of $p \leq .05$*

Table 7: Recognition by Race/Ethnicity (Percentages)

	Faculty of Color (N=42)	White Faculty (N=185)
Nominated for teaching award	25	38
Nominated for research award	28	31
Nominated for clinical award	4	3
Nominated for service award	24	11
Nominated for at least one award	55	58
Failed to be nominated for award for which one is qualified	18	19

Controlling for years at UM

Table 8: Recognition: Instructional Track Faculty of Color

by Gender/Field Groups:	women scientists/ engineers (N=18)	male scientists/ engineers (N=24)	women social scientists (N=12)
	percentage	percentage	percentage
Nominated for teaching award	0	33	20
Nominated for research award	0 [ab]	38 [a]	27 [b]
Nominated for service award	17	26	27
Nominated for clinical award	0	0	0
Nominated for at least one award	17 [a]	67 [a]	42
Dept failed to nominate for appropriate award	18	17	0

Controlling for age, rank, years experience and years at UM.

[a,b]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 9: Mean Scores of Career Satisfaction Item Ratings by Race/Ethnicity

	Faculty of Color (N=42)		White Faculty (N=185)	
	mean	sd	mean	sd
Scale:				
Satisfaction with unit/department	3.62	.96	3.70	.79
Individual items:*				
Sense of being valued as a mentor or advisor by students	4.27	1.06	4.40	.97
Sense of being valued as a teacher by students	4.01	1.19	4.13	1.09
Sense of contributing to theoretical developments in my discipline	3.76	1.09	3.97	1.08
Opportunity to collaborate with other faculty	4.01	1.31	3.89	1.28
Ability to attract students to work with	3.56	1.25	3.46	1.38
Level of funding for research or creative efforts	3.59	1.31	3.75	1.20
Sense of being valued for my teaching by members of unit/dept	3.66	1.51	3.48	1.29
Level of intellectual stimulation in day-to-day contacts with faculty colleagues	3.54	1.34	3.61	1.27
Amount of social interaction with members of unit/department	3.50	1.52	3.62	1.34
Sense of being valued for research, scholarship, or creativity by members of unit/department	3.27	1.53	3.57	1.32
Current salary in comparison with the salaries of UM colleagues	3.42	1.43	3.16	1.23
Balance between professional and personal life	3.19	1.42	3.20	1.24

*Scores on all items ranged from 1 to 5 (1=very dissatisfied; 5=very satisfied).
Controlling for years at UM.

Table 10: Career Satisfactions Scale and Item Ratings by Instructional Track Group: Faculty of Color

	women scientists/ engineers (N=18)		men scientists/ engineers (N=24)		women social scientists (N=12)	
	mean	sd	mean	sd	mean	sd
Career satisfactions (total scale)	3.32[a]	.85	3.81[a]	.89	3.84	.60
Individual items:						
Sense of being valued as a mentor or advisor by students	4.19	1.28	4.38	.92	4.08	.90
Sense of being valued as a teacher by students	3.81	1.33	4.19	.98	3.92	1.08
Sense of contributing to theoretical developments in my discipline	3.50	1.27	3.86	1.08	4.08	.67
Opportunity to collaborate with other faculty	3.75[a]	1.53	4.23[a]	1.19	4.08	1.17
Ability to attract students to work with	3.47	1.46	3.76	1.09	4.08	1.00
Level of funding for research or creative efforts	3.50	1.37	3.82	1.18	3.73	1.10
Sense of being valued for my teaching by members of unit/dept	3.06	1.56	3.96	1.36	3.67	.98
Level of intellectual stimulation in day-to-day contacts with faculty colleagues	3.29	1.76	3.64	1.26	3.73	1.62
Amount of social interaction with members of unit/department	3.00[a]	1.59	3.73	1.42	4.08[a]	1.24
Sense of being valued for research, scholarship, or creativity by members of unit/department	2.71	1.72	3.50	1.37	3.83	1.19
Current salary in comparison with the salaries of UM colleagues	2.94[ab]	.93	3.68[a]	1.49	3.67[b]	1.16
Balance between professional and personal life	3.53	1.38	3.23	1.41	3.64	1.21

*Scores on all items ranged from 1 to 5 (1=very dissatisfied; 5=very satisfied).
Controlling for age, rank, years experience, and years at UM.

[a,b]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 11: Influence over Educational Decisions and Unit Resources by Race/Ethnicity

	Faculty of Color (N=42)		White Faculty (N=185)	
	mean	sd	mean	sd
Scales:				
Unit educational decisions	2.59	.90	2.67	.95
Unit resources (salary, money for travel, facilities/equipment)	2.31	.92	2.37	.95
Individual items:*				
Unit curriculum decisions	2.83	1.24	2.71	1.25
Size of salary increases I receive	1.85	.99	1.79	.93
Obtaining money for travel to professional meetings	2.56	1.50	2.53	1.30
Securing the facilities or equipment I need for my research	2.82	1.16	3.01	1.14
Selecting new graduate students or residents/fellows	3.40	1.35	3.34	1.30
Selecting new faculty members to be hired	2.80	1.24	2.92	1.21
Determining who gets tenure	1.90	1.17	2.28	1.34
Selecting the next unit head	1.75	.99	2.12	1.12
Affecting the overall unit climate/culture	2.75	1.26	2.92	1.10

*Scores for all items range from 1 to 5 (1=no influence; 5=tremendous influence).
Controlling for years at UM.

Table 12: Influence over Educational Matters & Resources: Instructional Track Faculty of Color

	women scientists/ engineers (N=18)		men scientists/ engineers (N=24)		women social scientists (N=12)	
	mean	sd	mean	sd	mean	sd
Unit educational decisions (total scale)	1.81 [ab]	.79	2.88 [a]	.76	2.56 [b]	.72
Individual items:						
Unit curriculum decisions	1.64[ab]	.84	3.23 [a]	1.07	2.82 [b]	1.08
Selecting new graduate students or residents/fellows	2.53[a]	1.46	3.72[a]	1.23	3.42	1.17
Selecting new faculty members to be hired	1.81[ab]	.98	3.18[a]	1.10	2.92[b]	.67
Determining who gets tenure	1.15 [a]	.38	2.14 [a]	1.24	1.83	1.40
Selecting the next unit head	1.60	.99	1.84	1.02	1.82	.98
Affecting the overall unit climate/culture	2.18	1.09	2.39	.88	2.44	.66
Unit resources (total scale)	2.20 [a]	1.27	3.00 [a]	1.18	2.42	1.08
Individual items:						
Size of salary increases I receive	1.60	.99	1.91	1.02	1.64	.92
Obtaining money for travel to professional meetings	2.27	1.56	2.72	1.49	2.46	1.04
Securing the facilities or equipment I need for my research	2.47	1.41	3.00	1.06	3.17	.58

*Scores for all items range from 1 to 5 (1=no influence; 5=tremendous influence).
Controlling for age, rank, years experience, and years at UM.
[a,b]Matching symbols denote statistically significant differences at the level of $p \leq .05$

Table 13: Effort and Satisfaction with Resources by Race/Ethnicity

	Faculty of Color (N=42)		White Faculty (N=185)	
	mean	sd	mean	sd
Scales				
Mean effort	2.84	1.00	2.75	1.00
Mean satisfaction	3.09[a]	1.08	3.72[a]	1.02
Effort to secure the following resources*:				
office space	2.11	1.24	2.45	1.52
research space	3.59	1.46	3.32	1.42
computer equipment	2.51	1.35	2.46	1.12
lab equipment	3.38	1.39	3.38	1.22
service from vendors (repairs, supplies, upgrades)	3.21	1.21	2.73	1.03
Satisfaction with the following resources:**				
office space	3.56	1.50	3.86	1.39
research space	2.48[a]	1.30	3.48[a]	1.47
computer equipment	3.57	1.31	3.80	1.24
lab equipment	3.46	1.20	3.77	1.23
service from vendors (repairs, supplies, upgrades)	2.82[a]	1.08	3.43[a]	1.06

* Scores on all items range from 1 to5 (1=no effort; 5=tremendous effort).
** Scores on all items range from 1 to 5 (1=very dissatisfied; 5=very satisfied).
Controlling for years at UM.

[a]*Matching symbols denote statistically significant differences at the level of $p \leq .05$*

Table 14: Effort and Satisfaction with Resources: Instructional Track Faculty of Color

	women scientists/ engineers (N=18)		men scientists/ engineers (N=24)		women social scientists (N=12)	
	mean	sd	mean	sd	mean	sd
Efforts to secure the following resources*:	2.55	1.06	2.87	.97	2.48	.47
office space	1.93	1.33	2.30	1.26	1.45	.69
research space	3.20	1.52	3.60	1.55	3.10	1.10
computer equipment	2.50	1.34	2.53	1.31	2.91	.70
equipment	2.75	1.28	3.36	1.43	2.63	.74
service from vendors (repairs, supplies, upgrades)	2.80	1.32	3.32	1.17	2.75	.71
Satisfaction with the following resources:**	3.23	1.42	307	1.02	4.04	.50
office space	3.77	1.48	3.35	1.57	4.70	.67
research space	3.00	1.60	2.33	1.18	3.40	1.35
computer equipment	3.62	1.76	3.61	1.20	4.00	.94
lab equipment	3.38	1.41	3.50	1.24	4.00	.93
service from vendors (repairs, supplies, upgrades)	3.10	1.52	2.78	1.06	3.43	1.13

* Scores on all items range from 1 to5 (1=no effort; 5=tremendous effort).
** Scores on all items range from 1 to 5 (1=very dissatisfied; 5=very satisfied).

Controlling for age, rank, years experience, and years at UM.

Table 15: Number of Items in Contract Negotiation by Race/Ethnicity

	Faculty of Color (N=26)		White Faculty (N=86)	
	mean	sd	mean	sd
Initial Contract Negotiation (if hired in last 10 yrs)				
Number of items offered by UM	2.34	2.44	2.87	2.40
Number of items bargained for	2.32	2.14	2.70	2.89
Number of items promised in offer letter	2.20	2.38	2.97	2.80
Total number of items received	3.77	2.40	4.17	2.67
Contract Renegotiation	(N=37)		(N=161)	
Number of items offered by UM	1.43	2.02	1.68	2.00
Number of items bargained for	1.54	1.55	1.86	2.06
Number of items received by terms of award	1.14	1.77	.98	1.51
Total number of items received	4.10	4.01	4.52	3.84

Controlling for years at UM

Table 16: Number of Items in Contract Negotiation: Instructional Track Faculty of Color

	women scientists/ engineers (N=14)		men scientists/ engineers (N=12)		women social scientists (N=12)	
	mean	sd	mean	sd	mean	sd
Initial Contract Negotiation (for those hired in last 10						
Number of items offered by UM	1.86	2.07	2.55	2.77	3.50	1.68
Number of items bargained for	2.29	2.02	2.09	2.21	2.75	2.38
Number of items promised in offer letter	1.43	1.45	2.18	2.44	2.92	2.02
Total number of items received	2.79[a]	2.64	3.91	1.92	5.67[a]	1.72
Contract Renegotiation	(N=16)		(N=21)		(N=11)	
Number of items offered by UM	1.13	1.59	1.68	2.21	3.18	2.60
Number of items bargained for	1.44	1.67	1.53	1.58	2.00	1.48
Number of items received by terms of award	.38[a]	.62	1.53[a]	2.01	.82	1.54
Total number of items received	2.94	3.02	4.74	4.41	6.00	4.67

Controlling for age, rank, years experience, and years at UM.

[a]Matching symbols denote statistically significant differences at the level of p≤.05

Table 17: Teaching by Race/Ethnicity

	Faculty of Color (N=42)		White Faculty (N=185)	
	mean	sd	mean	sd
Typical yearly teach load in department				
Number of undergraduate courses	1.27	1.07	1.24	1.14
Number of graduate courses	1.74 [a]	1.15	1.25 [a]	.96
Number new courses developed in past 5 years	2.81[a]	3.23	1.36[a]	1.68
Number of courses released from teaching in past 5 yrs	1.90	3.13	1.48	2.32
Teaching load winter and fall Semesters 2001				
Number of undergraduate courses	1.02	1.74	.87	1.35
Number of graduate courses	1.15	1.44	.87	1.17
Number of non-lab courses	1.82	1.59	1.48	1.56
Number of lab courses	.34	.91	.25	.74
Number of undergraduate students	41.90	62.21	63.71	105.04
Number of graduate students	55.80	104.68	34.81	66.18
Official advising				
Number of undergraduates	.82	1.87	1.76	4.82
Number of graduate students (masters, PhD, medical)	4.91	5.15	3.00	3.52
Number of postdocs or residents/fellows	.96	1.18	1.50	2.74
Number of junior faculty	.21	.54	.22	.73

Controlling for years at UM

[a]*Matching symbols denote statistically significant differences at the level of $p \leq .05$*

Table 18: Teaching: Instructional Track Faculty of Color

	women scientists/ engineers (N=18)		men scientists/ engineers (N=24)		women social scientists (N=12)	
	mean	sd	mean	sd	mean	sd
Typical yearly teaching load in department						
Number of undergraduate courses	1.41	1.20	1.25	1.08	1.92	.51
Number of graduate courses	1.50	1.03	1.89	1.22	1.33	.49
Number new courses developed in past 5 years	1.73 [a]	1.95	3.00	3.52	3.92 [a]	1.56
Number of courses released from teaching in past five years	.50	.76	2.25	3.47	1.90	1.20
Teaching load winter and fall semesters 2001						
Number of undergraduate courses	1.08 [a]	1.32	1.10	1.92	2.75 [a]	1.96
Number of graduate courses	.85	.99	1.35	1.57	.63	.93
Number of non-lab courses	1.85	1.68	2.00	1.56	2.13	1.88
Number of lab courses	.08 [a]	.28	.45	1.05	1.25 [a]	2.14
Number of undergraduate students	67.54	68.73	39.05	61.61	81.33	118.40
Number of graduate students	56.46	140.60	59.20	99.70	7.50	8.75
Official advising						
Number of undergraduates	2.85 [a]	3.18	.32 [a]	.75	1.82	1.89
Number of graduate students (masters, PhD, medical)	2.39 [a]	2.40	5.32 [a]	5.10	2.46	1.44
Number of postdocs or residents/fellows	1.19 [a]	1.60	.82	1.07	.00 [a]	.00
Number of junior faculty	.15	.55	.25	.58	.09	.30

Controlling for age, rank, years experience, and years at UM.

[a]Matching symbols denote statistically significant differences at the level of $p \leq .05$

Table 19a: Mentoring of Junior Faculty by Race/Ethnicity

	Faculty of Color (N=17)		White Faculty (N=51)	
	mean	sd	mean	sd
Number of areas of no mentoring by anyone anywhere	1.31	1.83	2.19	2.23
Number of mentors in same UM unit/department	5.80	3.83	4.00	3.76
Number of male mentors at UM	4.26	3.18	2.70	2.86

Controlling for years at UM

Table 19b: Percent With No Mentoring in Each Area Junior Faculty by Race/Ethnicity

	Faculty of Color (N=17)	White Faculty (N=151)
% receiving no mentoring in each area:		
role model	14.3	23.5
networking	33.5	30.7
advancement	19.2	27.8
publishing	38.4	24.7
department politics	25.1	47.3
resources	30.0	43.0
advocacy	30.0	38.7
balancing work/family	54.1	71.6

Table 20a: Mentoring: Assistant Professors, Instructional Track Faculty of Color

	women scientists/engineers (N=9)		men scientists/engineers (N=8)		women social scientists (N=8)	
	mean	sd	mean	sd	mean	sd
Number of areas of no mentoring from anyone	3.00[a]	2.12	.29[a]	.76	1.13	.99
Number of mentors in same UM unit/department	1.44[ab]	2.13	7.57[a]	2.44	6.38[b]	4.17
Number of male mentors at UM	.33[a]	.50	6.00[a]	2.00	2.37	2.22

* Controlling for age, rank, years experience, and years at UM.

[a,b]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 20b: Percentage of Faculty of Color With No Mentoring in Each Area, for Assistant Professors on Instructional Track Only

Percent who received no mentoring from anyone in- or outside UM in each of the following areas:	women scientists/ engineers	men scientists/ engineers	women social scientists
Assistant Professors only	(N=9)	(N=8)	(N=8)
role model	44.4[a]	0.0[a]	25.0
networking	77.8[a]	12.5[a]	50.0
advancement	33.3	12.5	25.0
publishing	66.7	25.0	25.0
department politics	77.8[a]	0.0[a]	37.5
resources	66.7[a]	12.5[a]	37.5
advocacy	66.7[a]	12.5[a]	25.0
balancing work/family	88.9[a]	37.5[a]	62.5

[a]*Matching symbols denote statistically significant differences at the level of $p \leq .05$*

Table 21: Service by Race/Ethnicity

	Faculty of Color (N=42)		White Faculty (N=185)	
	mean	sd	mean	sd
Average number of committees served on per year	3.05	1.88	3.23	2.63
Average number of committees chaired per year	.73	.88	.73	.86
Importance of having dept/college leadership position*	3.00	1.40	2.86	.140

*Rated on a scale from 1 to 5 (1=not important; 5=very important).
Controlling for years at UM.

Table 22: Service: Instructional Track Faculty of Color

	women scientists/engineers (N=18)		men scientists/engineers (N=24)		women social scientists (N=12)	
	mean	sd	mean	sd	mean	sd
Average number of committees served on per year	3.00	2.09	3.21	1.80	2.73	1.49
Average number of committees chaired per year	.69	1.01	.83	.86	.30	.48
Importance of having dept/college leadership position *	3.00	1.73	3.00	1.38	3.00	1.21

*Rated on a scale from 1 to 5 (1=not important; 5=very important).
Controlling for age, rank, years experience, and years at UM.

Table 23a: Stereotyping, Discrimination and Sexual Harassment Indicators by Race/Ethnicity

	Faculty of Color (N=42)		White Faculty (N=185)	
Stereotyping*	mean	sd	mean	sd
Gender stereotyping	1.74	.69	1.55	.69
Ethnic/religious stereotyping	1.71[a]	.89	1.30[a]	.53
Discrimination at UM in past 5 years	percentage		percentage	
Race/ethnicity	27.5[a]		2.2[a]	
Gender	14.4		9.0	
Sexual orientation	1.3		.3	
Physical disability	.0		.0	
Religious affiliation	.0		.0	
Sexual harassment at UM in past 5 years	percentage		percentage	
Individuals reporting sexual harassment	4.7		8.0	
Individuals reporting others reported sexual harassment	28.0		20.9	

*Scores range from 1(low) to 5 (high) on all variables.
Controlling for years at UM.

[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 23b: Racial/Ethnic Discrimination by Race/Ethnicity (Percentages)

	Faculty of Color (N=42)	White Faculty (N=185)
Experienced racial discrimination with past 5 years at UM in:		
Hiring	8.1	1.3
Promotion	6.8	1.3
Salary	11.5	2.7
Space/equipment, other resources	9.2[a]	1.3[a]
Access to administrative staff	17.2[a]	2.6[a]
Graduate student or resident/fellow assignments	7.5[a]	1.1[a]

[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 23c: Gender Discrimination by Race/Ethnicity (Percentages)

	Faculty of Color (N=42)	White Faculty (N=185)
Experienced gender discrimination at UM within past 5 years in:		
Hiring	2.6	2.2
Promotion	3.4	2.9
Salary	9.2	6.7
Space/equipment, other resources	3.4	4.6
Access to administrative staff	1.7	2.0
Graduate student or resident/fellow assignments	5.8 [a]	1.1 [a]

[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 24a: Stereotyping, Discrimination and Sexual Harassment Indicators

	women scientists/ engineers (N=18)		men scientists/ engineers (N=24)		women social scientists (N=12)	
Stereotyping*	mean	sd	mean	sd	mean	sd
Gender stereotyping	1.78	.67	1.73	.73	1.86	.82
Ethnic/religious stereotyping	1.71	.74	1.72	.96	1.48	.47
Discrimination at UM in past 5 years	percentage		percentage		percentage	
Gender	33.3 [a]		8.3 [a]		33.3	
Race/ethnicity	22.2		29.2		33.3	
Sexual orientation	5.6		0.0		0.0	
Physical disability	0.0		0.0		0.0	
Religious affiliation	0.0		0.0		0.0	
Sexual harassment at UM in past 5 years	percentage		percentage		percentage	
Individuals reporting sexual harassment	5.6		4.3		25.0	
Individuals reporting others reported sexual harassment	21.4		30.0		18.2	

*Scores range from 1(low) to 5 (high) on all variables.
Controlling for age, rank, years experience, and years at UM.
[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 24b: Gender Discrimination (Percentages)

	women scientists/ engineers (N=18)	men scientists/ engineers (N=24)	women social scientists (N=12)
Experienced gender discrimination at UM within past 5 years in:			
Hiring	0.0	0.0	0.0
Promotion	12.5 [a]	0.0 [a]	11.1
Salary	18.8	5.6	22.2
Space/equipment, other resources	12.5 [a]	0.0 [a]	11.1
Access to administrative staff	6.3	0.0	11.1
Graduate student or resident/fellow assignments	6.3	5.6	0.0

[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 25: Department Climate Scales* by Race/Ethnicity

	Faculty of Color (N=42)		White Faculty (N=185)	
	mean	sd	mean	sd
Positive environment	3.32	.97	3.44	.90
Tolerant environment	3.57	1.02	3.83	.72
Scholarly isolation	2.78	.49	2.65	.50
Felt surveillance	2.92 [a]	.96	2.40 [a]	.98
Egalitarian Atmosphere	3.48	1.04	3.81	.78
Tokenism	2.93 [a]	1.38	1.68 [a]	1.05
Chair as fair	3.53	1.17	3.58	.97
Chair as able to create a positive environment	3.49	1.20	3.42	1.03
Chair as committed to ethnic/racial diversity	3.62	1.29	3.78	1.00

*Scores range from 1(low) to 5 (high) on all items that make up the scales.
Controlling for years at UM.

[a]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 26: Departmental Climate Scales—Instructional Track Faculty of Color*

	women scientists/ engineers (N=18)		men scientists/ engineers (N=24)		women social scientists (N=12)	
	mean	sd	mean	sd	mean	sd
Positive climate	2.92 [a]	1.19	3.55 [a]	.78	3.50	1.11
Tolerant climate	3.03	1.05	3.79	.91	3.60	1.26
Gender egalitarian atmosphere	2.86 [a]	.95	3.65 [a]	.96	3.67	1.00
Scholarly isolation	2.97 [a]	.47	2.77 [a]	.46	2.99	.53
Felt surveillance	3.29	1.15	2.71	.85	2.53	.94
Tokenism	3.40	1.34	2.76	1.37	3.00	1.17
Department chair as fair	2.67 [a]	1.10	3.92 [a]	1.05	3.77	1.14
Department chair creates positive environment	2.80 [a]	1.26	3.86 [a]	1.02	3.90	1.08
Dept chair committed to ethnic/racial diversity	2.53 [ab]	1.30	3.91 [a]	1.13	4.30 [b]	1.49

*Scores range from 1(low) to 5 (high) on all items that make up the scales.
Controlling for age, rank, years experience, years at UM.
[a,b]*Matching symbols denote statistically significant differences at the level of p≤.05*

Table 27: Institutional and Departmental Climate Ratings—Correlations with Overall Satisfaction with Position and Productivity by Race and Gender

	Overall Satisfaction with UM Position		
	women scientists/ engineers of color (N=18)	scientists/engineers of color (N=42)	white scientists/ engineers (N=185)
Institutional Factors:			
Gender stereotyping	-.30	-.03	-.11
Ethnic/religious stereotyping	-.14	-.05	-.06
Gender discrimination	-.23	-.24	-.22 **
Unwanted sexual attention	-.42	-.07	-.25 ***
Departmental Factors:			
Positive climate	.58 *	.78 ***	.47 ***
Tolerant climate	.55 *	.37 *	.23 **
Gender egalitarian atmosphere	.76 ***	.44 **	.18 *
Scholarly isolation	.05	-.02	-.11
Felt surveillance	-.53 *	-.63 ***	-.25 ***
Race/gender tokenism	-.14	-.39 *	-.43 ***
Rating of dept. chair as fair	.62 **	.70 ***	.33 ***
Rating of depart. chair as able to create positive environment	.45	.69 ***	.36 ***

*p<.05, **p<.01, ***p<.001

Table 28: Departmental Experiences Indicators— Correlations with Overall Satisfaction with Position and Productivity by Race and Gender

	Overall Satisfaction with UM Position		
	women scientists/ engineers of color (N=18)	scientists/engineers of color (N=42)	white scientists/ engineers (N=185)
Career satisfactions	.77 ***	.85 ***	.61 ***
Influence over educational decisions	.34	.44 **	.29 ***
Influence over unit resources	.62 **	.37 *	.24 **
Effort to obtain resources	-.83 ***	-.42 *	-.24 **
Satisfaction with resources	.57 *	.44 **	.29 ***
N areas of non-mentoring	-.20	-.37 *	-.12
N mentors in same department	.27	.22	.03
N male mentors in same dept	.14	.24	-.03
Committee service	-.24	-.06	.14
Committee chair	.20	.13	.14
Failure to nominate for award	-.40	-.49 **	-.09
Productivity—self view	-.21	-.09	.18 *
Productivity—department view	.29	.47 **	.48 ***

*p<.05, **p<.01, ***p<.001

Table 29: Personal and Position Indicators and Household Characteristics— Correlations with Overall Satisfaction with Position and Productivity by Race & Gender

	Overall Satisfaction with UM Position		
	women scientists/ engineers of color (N=18)	scientists/engineers of color (N=42)	white scientists/ engineers (N=185)
	-.21	-.05	.14
Years at UM	-.03	.16	-.03
Years since Ph.D.	-.07	.06	.18 *
Joint appointment	-.02	-.09	.11
	.04	.07	.07
Small college	-.39	.03	-.09
Single, no children	na	.08	-.03
Partner and children	-.10	-.16	.03

*p<.05, **p<.01, ***p<.001

Table 30: Gender Discrimination by Gender and Race/Ethnicity– Relationship with Satisfaction and Climate Ratings

	women scientists/engineers of color (N=18)			scientists/ engineers of color (N=42)			white scientists/engineers (N=185)		
	experienced discrimination (N=6)	experienced no discrimination (N=12)		experienced discrimination (N=8)	experienced no discrimination (N=34)		experienced discrimination (N=47)	experienced no discrimination (N=138)	
	mean (sd)	mean (sd)	sig.	mean (sd)	mean (sd)	sig.	mean (sd)	mean (sd)	sig.
Satisfaction with	2.67 (1.21)	3.25 (1.22)	ns	2.81 (1.15)	3.64 (1.21)	ns	3.09 (1.14)	3.81 (.92)	**
Climate Scales									
Gender stereotyping	1.49 (.62)	1.95 (.67)	ns	1.66 (.51)	1.76 (.72)	ns	2.14 (.83)	1.50 (.65)	**
Racial stereotyping	1.50 (.77)	1.81 (.74)	ns	1.67 (.61)	1.72 (.93)	ns	1.44 (.55)	1.29 (.53)	ns
Positive climate	2.96 (1.10)	2.89 (1.27)	ns	2.98 (1.07)	3.38 (.95)	ns	3.10 (.93)	3.48 (.89)	*
Tolerant climate	2.64 (.68)	3.23 (1.17)	ns	3.35 (.94)	3.61 (1.03)	ns	3.49 (.73)	3.86 (.72)	*
Gender egalitarian atmosphere	2.23 (.71)	3.21 (.90)	**	2.64 (.77)	3.62 (1.02)	**	3.13 (1.11)	3.88 (.71)	*
Scholarly isolation	2.64 (.39)	3.14 (.43)	**	2.58 (.38)	2.82 (.50)	ns	2.76 (.50)	2.64 (.51)	ns
Felt surveillance	3.46 (1.14)	3.20 (1.19)	ns	3.09 (1.04)	2.89 (.96)	ns	3.43 (1.07)	2.29 (.91)	***
Tokenism	3.08 (1.63)	3.61 (1.17)	ns	2.72 (1.55)	2.97 (1.36)	ns	3.01 (1.18)	1.53 (.92)	***
Dept chair as fair	2.89 (1.68)	2.55 (1.10)	ns	2.64 (.90)	3.68 (1.15)	**	3.51 (1.20)	3.58 (.95)	ns
Dept chair creates positive environment	3.17 (1.26)	2.61 (1.27)	ns	3.02 (.94)	3.58 (1.23)	ns	3.37 (1.19)	3.43 (1.02)	ns

*p<.05, **p<.01, ***p<.001

Table 31: Racial/Ethnic Discrimination by Gender and Race/Ethnicity– Relationship with Satisfaction and Climate Ratings

	women scientists/engineers of color (N=18)			scientists/engineers of color (N=42)			white scientists/engineers (N=185)		
	experienced discrimination (N=4)	experienced no discrimination (N=14)		experienced discrimination (N=11)	experienced no discrimination (N=31)		experienced discrimination (N=2)	experienced no discrimination (N=183)	
	mean (sd)	mean (sd)	sig.	mean (sd)	mean (sd)	sig.	mean (sd)	mean (sd)	sig.
Satisfaction with	2.25 (1.26)	3.29 (1.14)	ns	3.08 (1.28)	3.68 (1.18)	ns	3.50 (.71)	3.75 (.97)	ns
Climate Scales									
Gender stereotyping	1.92 (.80)	1.74 (.66)	ns	1.93 (.85)	1.67 (.62)	ns	1.38 (.18)	1.56 (.70)	ns
Racial stereotyping	2.13 (1.09)	1.59 (.62)	ns	2.02 (1.29)	1.59 (.67)	ns	1.25 (.00)	1.30 (.54)	ns
Positive climate	1.68 (.48)	3.27 (1.06)	***	2.88 (.90)	3.49 (.96)	*	2.75 (1.30)	3.46 (.89)	ns
Tolerant climate	2.19 (.43)	3.27 (1.06)	***	2.66 (.79)	3.92 (.88)	***	3.38 (.53)	3.84 (.73)	ns
Gender egalitarian atmosphere	2.19 (1.19)	3.01 (.87)	ns	2.81 (1.15)	3.71 (.90)	*	4.40 (.22)	3.80 (.78)	***
Scholarly isolation	3.18 (.62)	2.92 (.43)	ns	3.03 (.49)	2.69 (.46)	*	2.18 (.02)	2.66 (.51)	***
Felt surveillance	4.56 (.59)	2.89 (.98)	***	3.36 (.80)	2.75 (.98)	*	2.50 (2.12	2.39 (.96)	ns
Tokenism	3.63 (1.80)	3.32 (1.23)	ns	3.41 (1.53)	2.72 (1.28)	ns	2.50 (1.41)	1.66 (1.04)	ns
Dept chair as fair	1.67 (.82)	2.97 (1.00)	**	2.82 (1.36)	3.69 (1.10)	ns	3.33 (1.41)	3.58 (.97)	ns
Dept chair creates positive environment	2.08 (1.26)	3.03 (1.22)	ns	3.13 (1.30)	3.64 (1.15)	ns	2.83 (1.18)	3.43 (1.03)	ns

*p<.05, **p<.01, ***p<.001

Appendix A: UM Survey of Academic Climate and Activities

University of Michigan **Fall, 2001**

SURVEY OF ACADEMIC CLIMATE AND ACTIVITIES

Procedures for Completing the Survey

Thank you very much for taking the time to complete this survey. We know how busy you are and have tried to make the process as simple and efficient as possible. However, if you feel that there is any additional information about your experiences at the University of Michigan that was not asked in the survey, but that you think we should know, please feel free to add your written comments on an additional sheet of paper and return it with the survey. There are three options available to you for completing the survey: by hand; on the computer using a downloaded PDF file; or in an interview. In order to fully protect respondents' anonymity, we have decided against offering as alternatives either submission of the PDF version via the web, or a web survey.

1. **Completing the survey by hand**
   You can simply fill out the enclosed copy of the survey by hand and return it to us in the enclosed addressed and stamped envelope.

2. **Completing the survey on your computer**
   A PDF download is available on the Institute for Research on Women and Gender's website at http://www.umich.edu/~irwg/climatesurvey/ to permit you to complete the survey on a computer. Once you have completed the survey, please print it out and return it to us in the enclosed self-addressed stamped envelope. (Because of concerns about maintaining privacy, submission of the file via the web is not possible.) If you have trouble locating or downloading the PDF file, please contact Julie Stubbs (764-9537/ jstubbs@umich.edu).

3. **Completing the survey in an interview**
   If it would be easier for you to respond in an interview format, we will arrange for a project staff member to do the survey with you, either over the phone or face-to-face, and record your responses on a survey. If you prefer this option, please contact Julie Stubbs (764-9537/jstubbs@umich.edu).

To facilitate analyses and future planning, we hope to receive completed surveys no later than ***November 5, 2001****.*

Please note that the university's Behavioral Sciences Human Subjects Review Committee has approved this study. If you have any questions, please contact Kate M. Keever, Administrator, Human Subjects Protection Office (734/936-0933, IRB-Behavsci-Health@umich.edu).

University of Michigan Survey of Academic Climate and Activities

Throughout this survey, "faculty" refers to all tenured and tenure-track, primary research, and clinical track faculty.

PROFESSIONAL EMPLOYMENT

In the chart below, please check the appropriate boxes to indicate when you obtained your highest academic degree, your first UM appointment and started on a tenure track at UM (if applicable).

	1960-64	1965-69	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99	2000-01
year of highest degree									
year of 1st UM appointment									
year began tenure track at UM									

How would you classify the primary field of your UM appointment? *(check only one)* ____Social Science
____Science or Engineering
(basic, natural, clinical & applied science)

Please indicate in the following chart your budgeted appointment *for July 2000-June 2001* at UM, including the School or College in which you held the appointment, as well as the rank and fraction of time associated with that appointment. If you had multiple budgeted appointments, please list information for second, third and fourth budgeted appointments, where applicable, as well; *fraction amounts should not equal more than 100%.* To list your rank, please use the following codes. *Note that all ranks include adjunct appointments.*

Instructional Track:
1 lecturer
2 instructor
3 asst. professor
4 assoc. professor
5 professor

Primary Research Track:
6 research investigator
7 asst. research scientist
8 assoc. research scientist
9 senior assoc. research scientist
10 research scientist
11 senior research scientist

Clinical Track:
12 instructor
13 asst. professor
14 assoc. professor
15 professor

Administrative:
16 any administrative appointment

	school/ college	rank code	appointment fraction (e.g., 100%, 50%)
1st (only) budgeted appointment			
2nd budgeted appointment			
3rd budgeted appointment			
4th budgeted appointment			

Including up through this academic year (2001-02), how many years (including 0) have you held each of the following ranks at UM and at other academic institutions (please distinguish between part-time and full-time employment)?

	U of M		other academic institution	
	part time	full time	part time	full time
post-doctoral fellow				
lecturer				
instructor				
assistant professor/assistant research scientist				
associate professor/associate research scientist				
senior associate research scientist				
professor/research scientist				
senior research scientist				

How many years (including 0) were you *only* employed as a researcher in a non-academic setting? _____
Since receiving your final degree, for how many years (including 0) were you *not* employed at all? _____

Do you *currently* have one or more dry (unfunded) appointments? Yes No

Have you changed your fractional appointment *within the last five years*? Yes No
If yes, why and how did it change? _____
_____
_____

University of Michigan Survey of Academic Climate and Activities

Throughout this survey, "faculty" refers to all tenured and tenure-track, primary research, and clinical track faculty.

Were you hired at UM within the last 10 years? Yes No

If yes, please check which, if any, of the following were part of any aspect of your *initial contract negotiation*, and in what ways, according to the four categories listed below.

Please check all that apply.	offered by university	asked/bargained for by me	promised (in my offer letter)	received		offered by university	asked/bargained for by me	promised (in my offer letter)	received
course release time					signing bonus				
lab equipment					summer salary				
lab space					special timing of tenure clock				
renovation of lab space					moving expenses				
research assistant					housing subsidy				
clerical/admin. support					child care				
discretionary funds					partner/spouse position				
travel funding					other:				

TEACHING. If *not* teaching, please indicate N/A by checking here ; and then go to section labeled **SERVICE** (p. 3).

What is the *typical teaching load* each year in your primary unit? Number of undergraduate courses? _____
Number of graduate courses? _____

Number of student contact hours? _____
(Not covered by formal courses)

In the past 5 years, how many *new* courses (courses that you have not taught previously--do not include even major revisions of courses you have taught before) have you prepared for your primary unit? _____
Of these, how many did *you* propose? _____
How many were you *asked or required* to develop? _____

In the past 5 years, how many courses have you been released from teaching for the following reasons:
(Indicate how many next to each category.) _____with your own grant or fellowship funds?
_____by your department? for? *(check all that apply)*:
_____course development
_____administrative work
_____modified duties
_____routine leave (e.g., "nurturance leave"/leave after certain duties)
_____sabbatical
_____other: _____

For how many of each of the following types of individuals (including 0) do you currently serve as *official* advisor?

_____undergraduates _____medical students _____residents/fellows
_____MA students _____post-docs _____junior faculty
_____PhD students

On average, how many hours per month do you spend on *informal* mentoring activities
(e.g. advising, counseling, advocating for students or junior faculty who are not your advisees)? _____

University of Michigan Survey of Academic Climate and Activities

Throughout this survey, "faculty" refers to all tenured and tenure-track, primary research, and clinical track faculty.

Please answer the following questions about your teaching load, which may not include formal courses for medical faculty, for the *winter 2001*and *fall 2001* terms (calendar year 2001). If on sabbatical or leave either term, please indicate by checking on the appropriate line under the relevant term(s).

	winter 2001		fall 2001	
on sabbatical/leave of absence				
	undergrad	graduate	undergrad	graduate
non-lab courses*/number (N) and total credit hours (hrs)	N= hrs=	N= hrs=	N= hrs=	N= hrs=
lab courses*/number (N) and total credit hours (hrs)	N= hrs=	N= hrs=	N= hrs=	N= hrs=
total number of students taught/teaching				
total number of GSIs/graders across courses				
average number of contact hours/week with medical students				
average number of contact hours/week with residents/fellows				
average number of office hours/week				
average number of hours supervising student research/week				

*If appropriate, put in parentheses the number of these courses designated for non-majors.

SERVICE. We're interested in knowing your level of involvement in committee work at UM over the *past 5 years.* For *each* of the following levels, please choose 3-5 of the committees you consider important, *whether or not you have served on them* by checking the box to the left of the committee name. Then specify your level of participation on those selected by checking the appropriate boxes. (Please note: important committees are those which *you feel* address significant/ substantive issues and on which *you feel* you have/could play a meaningful role.)

	Please check all that apply for each committee you list.	no participation	volunteered	asked to serve	served	chaired
	Department level committees:					
	curriculum					
	department executive					
	faculty search					
	fellowship					
	graduate admissions					
	space					
	other (please list):					
	School/college level committees					
	college curriculum					
	college executive					
	department/unit head search					
	other (please list):					
	University level committees					
	Please list:					
	Please list:					
	Please list:					

In a typical year, how many committees do you serve on? _____ *In a typical year*, how many do you chair?_____

Please list any other committees you have served on *in the past 5 years.* _____ _____

Have you *ever* been asked to serve and/or served as department chair, department section/area/program chair or center/ lab/ institute/program director or administrator? asked to serve: Yes No
served: Yes No

How important to you is having a department or college leadership position? *Please circle the appropriate number.*
Not at all important 1 2 3 4 5 Very important

How willing are you to take on time-consuming service tasks (e.g., chairing an important committee)? *Please circle the appropriate number.* Not at all willing 1 2 3 4 5 Very willing

University of Michigan Survey of Academic Climate and Activities

Throughout this survey, "faculty" refers to all tenured and tenure-track, primary research, and clinical track faculty.

RESOURCES. In the chart below, please indicate how much effort (e.g., memos, meetings, phone calls, etc.) it takes for you to secure the following items, and your level of satisfaction with current allocations of these items. *Please indicate by checking one box for each item under "effort" and one box for each item under "satisfaction."*

	effort						**satisfaction**					
	no effort	some effort	moderate effort	substantial effort	tremendous effort	not applicable	very dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied	not applicable
office space												
research space												
computer equipment												
lab equipment												
service from vendors-repairs, supplies, upgrades												

If helpful, please elaborate on any resource allocation issues that concern you: _____

_____

_____

Have you received any of the following resources as a result of your own negotiations, the terms of an award, or offer by the university, since your initial contract at UM? *If so,* please check all that apply. *If not applicable*, please check here:

	asked/ bargained for by me	terms of an award	offered by university		asked/ bargained for by me	terms of an award	offered by university
course release time				special bonus			
lab equipment				summer salary			
lab space				special timing of tenure clock			
renovation of lab space				moving expenses			
research assistant				housing subsidy			
clerical/admin. support				child care			
discretionary funds				partner/spouse position			
travel funding				other :			

Have you *ever* had an outside offer while at UM? Yes No

If yes, has an outside offer ever resulted in a salary increase? Yes No

If no, why not _____

Many of the questions on the following pages ask you to rate conditions in your unit(s) or department(s). If you have multiple appointments, we would like to give you the opportunity to rate two units. Normally this would be the two units in which you spend the most time (regardless of percentage of budgeted appointment). However, we are most interested in learning about instructional units, so if one of these is a unit in which you have an administrative position, and you have an additional instructional appointment in another unit, please select the instructional unit. Please identify the unit(s) you will be rating in terms of the school/college in which each is located as well as your appointment in each by checking the appropriate boxes in the rows labeled Unit 1 and Unit 2, if applicable.

	School/College					**Appointment**		
	Engin.	Med.	LSA/Sci.	LSA/Soc. Sci.	Other	Instructional	Research	Clinical
Unit 1								
Unit 2								

University of Michigan Survey of Academic Climate and Activities

Throughout this survey, "faculty" refers to all tenured and tenure-track, primary research, and clinical track faculty.

CAREER SATISFACTION. How satisfied are you with the following dimensions of your professional development?

Unit 1							Unit 2					
very dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied	not applicable	*Check the box that best expresses your level of satisfaction.*	very dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied	not applicable
						opportunity to collaborate with other faculty						
						amount of social interaction with members of my unit/department						
						level of funding for my research or creative efforts						
						current salary in comparison to the salaries of my UM colleagues						
						ability to attract students to work with me						
						sense of being valued as a teacher by my students						
						sense of being valued as a mentor or advisor by my students						
						sense of being valued for my teaching by members of my unit/department						
						sense of being valued for my research, scholarship, or creativity by members of my unit/department						
						level of intellectual stimulation in my day-to-day contacts with faculty colleagues						
						sense of contributing to theoretical developments in my discipline						
						balance between professional and personal life						
						other, please specify:						

All things considered, how satisfied are you with your current position at UM? *Please circle the number on the scale that is closest to how you feel.* Very dissatisfied 1 2 3 4 5 Very satisfied

RECOGNITION

Has your department ever nominated you for an award in the following areas?

teaching	Yes	No
research	Yes	No
clinical	Yes	No
service	Yes	No

Has your department failed to nominate you for an award for which you were qualified? Yes No I don't know

If yes, please elaborate: _____

_____

PRODUCTIVITY

What are the most reliable and informative indicators of productivity in your area of research? *Please check up to five items.*

- ❑ number of external grant proposals (PI or co-PI)
- ❑ total dollar amount of external grants (PI or co-PI)
- ❑ number of external fellowships
- ❑ number of articles published in refereed academic or professional journals
- ❑ number of monographs written
- ❑ number of books edited
- ❑ number of book chapters
- ❑ number of dissertations chaired
- ❑ number of presentations at national/international conferences
- ❑ number of patents
- ❑ other *(please specify):* _____

_____

Using the criteria you checked above, how would you rate your overall level productivity compared to researchers in your area and at your rank nationwide? *Please circle the number that best corresponds to your rating.*

Much less productive 1 2 3 4 5 6 7 8 9 10 Much more productive

Using the same criteria, how do you think your department views your productivity, compared to the departmental average? *Please circle the number that best corresponds to your rating.*

Much less productive 1 2 3 4 5 6 7 8 9 10 Much more productive

University of Michigan Survey of Academic Climate and Activities

Throughout this survey, "faculty" refers to all tenured and tenure-track, primary research, and clinical track faculty.

INSTITUTIONAL AND UNIT/DEPARTMENT CLIMATE

In the chart below, please indicate the areas in which you would benefit from mentoring at this stage of your career by checking the relevant boxes in the column on the left. *Please check all that apply.* In the columns on the right, please indicate the level of mentoring you currently receive in each area listed, regardless of whether or not it is beneficial.

	My mentor(s)…	none	some	a lot	too much
	serves as a role model				
	promotes my career through networking				
	advises about preparation for advancement (e.g., promotion, leadership positions)				
	advises about getting my work published				
	advises about department politics				
	advises about obtaining the resources I need				
	advocates for me				
	advises about balancing work and family				
	other *(please specify):*				

Is there anyone whom you currently regard as a mentor—someone who gives advice and counsel on career issues and/or sponsors or advocates for you? Yes No

In the chart below please indicate in the space provided *how many* male and female mentors you have and the *kinds of support/advice they provide,* according to their institutional affiliation category. *Please answer separately for male and female mentors, as appropriate, and check all that apply*. If you feel this is not applicable to you, please leave blank and check here:

My mentor(s)…	male mentors (N=)				female mentors (N=)			
	UM same unit (1 or more)	UM different unit (1 or more)	at other institution (1 or more)	outside academe (1 or more)	UM same unit (1 or more)	UM different unit (1 or more)	at other institution (1 or more)	outside academe (1 or more)
serves as a role model								
promotes my career through networking								
advises about preparation for advancement (e.g. promotion/tenure, leadership positions)								
advises about getting my work published								
advises about department politics								
advises about obtaining the resources I need								
advocates for me								
advises about balancing work and family								
other:								

Please rate the climate of your unit(s)/department(s) on the following continuum by *circling/underlining the appropriate number*.

Unit 1

Friendly	1	2	3	4	5	Hostile
Racist	1	2	3	4	5	Non-racist
Homogeneous	1	2	3	4	5	Diverse
Disrespectful	1	2	3	4	5	Respectful
Collegial	1	2	3	4	5	Contentious
Non-sexist	1	2	3	4	5	Sexist
Collaborative	1	2	3	4	5	Individualistic
Cooperative	1	2	3	4	5	Competitive
Homophobic	1	2	3	4	5	Non-homophobic
Not supportive	1	2	3	4	5	Supportive

Unit 2

Friendly	1	2	3	4	5	Hostile
Racist	1	2	3	4	5	Non-racist
Homogeneous	1	2	3	4	5	Diverse
Disrespectful	1	2	3	4	5	Respectful
Collegial	1	2	3	4	5	Contentious
Non-sexist	1	2	3	4	5	Sexist
Collaborative	1	2	3	4	5	Individualistic
Cooperative	1	2	3	4	5	Competitive
Homophobic	1	2	3	4	5	Non-homophobic
Not supportive	1	2	3	4	5	Supportive

University of Michigan Survey of Academic Climate and Activities

Throughout this survey, "faculty" refers to all tenured and tenure-track, primary research, and clinical track faculty.

Please indicate your level of agreement with each of the following statements concerning conditions in your unit(s)/ department(s), and your relationships with your unit/department colleagues by *checking the appropriate box*.

Unit 1							Unit 2					
strongly disagree	tend to disagree	neutral	tend to agree	strongly agree	not applicable		strongly disagree	tend to disagree	neutral	tend to agree	strongly agree	not applicable
						My research interests are valued by my colleagues.						
						I feel pressured to change my research agenda in order to fit in.						
						I feel/felt pressured to change my research agenda to make tenure/be promoted .						
						I am comfortable asking questions about performance expectations.						
						I am/was reluctant to bring up issues that concern me for fear that it will/would affect my promotion/tenure.						
						My colleagues expect me to represent "the point of view" of my gender.						
						My colleagues expect me to represent "the point of view" of my race/ethnicity.						
						My colleagues solicit my opinions about their research ideas and problems.						
						My colleagues have lower expectations of me than of other faculty.						
						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.						
						There are many unwritten rules concerning how one is expected to interact with unit colleagues.						
						Others seem to find it easier than I to "fit in."						

How would you rate your unit(s)/department(s)'s executive leader (chair or director) in each of the following areas*? Check the appropriate box for each item.*

Unit 1						**Unit 2**					
poor	below average	average	above average	superior	The chair/director of my unit/department…	poor	below average	average	above average	superior
					maintains high academic standards					
					is open to constructive criticism					
					is an effective administrator					
					shows interest in faculty					
					encourages and empowers faculty					
					treats faculty in an even-handed way					
					helps me obtain resources I need					
					gives me useful feedback about my performance					
					articulates a clear vision					
					articulates clear criteria for promotion/tenure					
					honors agreements					
					handles disputes/problems effectively					
					communicates consistently with faculty					
					creates a cooperative and supportive environment					
					shows commitment to racial-ethnic diversity					

University of Michigan Survey of Academic Climate and Activities

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For each item, please *check the box* that best corresponds to how much influence you feel you have over the following matters in your unit(s)/department(s):

Unit 1							Unit 2					
really no influence	minor influence	some influence	substantial influence	tremendous influence	not applicable		really no influence	minor influence	some influence	substantial influence	tremendous influence	not applicable
						unit curriculum decisions						
						size of salary increases I receive						
						obtaining money for travel to professional meetings						
						securing the facilities or equipment I need for my research						
						selecting new graduate students or residents/fellows						
						selecting new faculty members to be hired						
						determining who gets tenure						
						selecting the next unit head						
						affecting the overall unit climate/culture						

Please indicate in the chart below any job-related discrimination you have experienced *at UM within the last five years*, noting the basis for the discrimination (race/ethnicity, gender, sexual orientation, etc.) and the areas in which the discriminatory behavior has affected your career at UM. *Please check all that apply.*

	not applicable	race/ ethnicity	gender	sexual orientation	physical disability	religious affiliation	other:
hiring							
promotion							
salary							
space/equipment, other resources							
access to administrative staff							
graduate student or resident/fellow assignments							
other *(please specify)*:							

Please indicate your level of agreement with each of the following statements concerning the atmosphere in your unit(s)/department(s) by *checking the appropriate box*:

Unit 1						Unit 2					
strongly disagree	disagree	neutral	agree	strongly agree		strongly disagree	disagree	neutral	agree	strongly agree
					Some faculty have a condescending attitude toward women.					
					Sexist remarks are heard in the classroom.					
					There is equal access for both men and women to lab/research space.					
					The environment promotes adequate collegial opportunities for 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.					
					In meetings, people pay just as much attention when women speak as when men do.					
					Women are appropriately represented in senior positions.					
					Sex discrimination is a big problem in my department.					

University of Michigan Survey of Academic Climate and Activities

Throughout this survey, "faculty" refers to all tenured and tenure-track, primary research, and clinical track faculty.

How often within the last five years at UM have you overheard insensitive or disparaging comments about the following types of people in general, or about particular people as a member of that group, made by faculty or students? [*This does not refer to comments about an individual as an individual.] Please check once for each row. Check "never" if not applicable.*

		never	once or twice/ year	couple of times/ term	more than once/ month	weekly
about women in general, or about particular women as "typical" of women	faculty					
	students					
about men in general, or about particular men as "typical" of men	faculty					
	students					
about racial/ethnic minorities, or about particular persons of color as "typical" of a racial/ethnic group	faculty					
	students					
about a religious group or about particular persons as "typical" of a religious group	faculty					
	students					

Within the past 5 years, have you experienced any unwanted and uninvited sexual attention (defined as including unwanted sexual teasing, jokes, remarks or questions; unwanted pressure for dates; unwanted letters, phone calls, email; unwanted touching, leaning over, cornering, pinching; unwanted pressure for sexual favors; stalking; rape or assault)?

Yes No

If yes, did you make an official report of it to anyone? Yes No

Why/why not? _____

_____

_____

If applicable, please indicate which of the following actions you took in response to the unwanted sexual attention by indicating the effect that this action had. *Please check all that apply. If you did not take the action please check N/A.*

	I felt better	I felt worse	behavior decreased	behavior increased	made no difference	N/A
ignored behavior						
avoided the person(s)						
curtailed time in that unit						
asked/told the person(s) to stop						
reported behavior to unit/department head						
reported behavior to other UM official						
made a joke of the behavior						
went along with the behavior						
other; please explain:						

In your unit(s)/department(s), how prevalent are instances of unwanted and uninvited sexual attention? *Please circle the appropriate number for each applicable unit.*

Unit 1: Not at all prevalent 1 2 3 4 5 Very prevalent

Unit 2: Not at all prevalent 1 2 3 4 5 Very prevalent

Within the past five years, how many individuals from UM have come to you concerned about behavior they experienced that either *you or they* would define as uninvited and unwanted sexual attention? _____

Are you now, or *in the past five years* have you ever been, the officially designated person to whom people report incidences of unwanted sexual attention? Yes No

University of Michigan Survey of Academic Climate and Activities

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PERSONAL LIFE

Do you have a spouse or partner? Yes No
(*If no,* please go to the section labeled **DEMOGRAPHICS**, below)

What, if any, is your spouse's/partner's employment or career field? _____

What is your spouse's/partner's employment status? Full time Part time Not employed

What is your spouse's/partner's *preferred* employment status at this time? Full time Part time Not employed

If your partner is employed at UM, what type of appointment does he or she have? *Check all that apply.*

faculty member	administrative/professional staff	office or support staff
primary research appointment	technical	health field
post-doctoral or fellowship	librarian/curator	other, specify_____

Have you ever sought help from UM in attempting to find appropriate employment for your spouse or partner? Yes No

If yes, how satisfied were you with UM's help in locating appropriate opportunities for your spouse or partner? *Please circle the appropriate number.*

Very dissatisfied 1 2 3 4 5 Very satisfied

Have you ever considered leaving UM to improve career opportunities for your spouse/partner? Yes No

DEMOGRAPHICS

Age: _____ (years) Sex: Male Female US citizen?: Yes No

Racial/Ethnic Identification *(Check one):*
___African American
___Asian American
___Euro American
___Latina/o or Hispanic American
___Native American/American Indian
___Mixed (pleased describe):_____
___Other (please describe): _____

Number of children for whom you do, or have, provide(d) care: _____
Age of youngest: _____
Age of oldest: _____

If you are a tenured or tenure-track faculty member:
Is it possible to stop or extend the tenure clock in your unit(s)/department(s)? Yes No I don't know

If yes, and if you were ever an assistant professor at UM, did you stop or extend the tenure clock for any of the following reasons? *Check all that apply.*

Yes, as part of my start-up package.
Yes, because of a professional opportunity.
Yes, because of childbirth/other dependent care duties.
Yes, for health/medical reasons.
Yes, for other reasons; please specify _____

Did you choose *not* to stop the tenure clock even though you were entitled to? Yes No
If yes, why? _____

If you have chosen to stop the tenure clock for any reason, how supportive was/were your unit(s)/department(s) in facilitating this choice? *Please circle the appropriate number for each applicable unit.*

Unit 1:	Not at all supportive	1	2	3	4	5	Very supportive
Unit 2:	Not at all supportive	1	2	3	4	5	Very supportive

SURVEY FOLLOWUP

Because the survey responses are anonymous, we have no way of knowing who completed them. Therefore, we ask you to please fill out and return, under separate cover, the enclosed stamped and addressed postcard. The postcard asks you to provide the following information:

1. that you have completed and returned (or decline to complete) the survey. This information will be used to re-contact non-respondents in an effort to increase response rate. *If you return the postcard you will not be re-contacted about the survey;*

2. whether or not you would like a copy of the report of the findings;

3. whether or not you would be interested in participating in a follow-up interview. Sometimes respondents are willing to be interviewed in order to discuss further issues raised briefly in a survey. If you think you might be interested in an interview, please indicate this by checking the appropriate box on the reply postcard. Information provided in an interview, while not anonymous, will be confidential. Regrettably, we may not be able to interview all those who express interest.

Thank you very much for taking the time to complete and return the survey.