UNIVERSITY OF MICHIGAN FACULTY WORK-LIFE STUDY REPORT

Conducted by Researchers from

THE CENTER FOR THE STUDY OF HIGHER AND POSTSECONDARY EDUCATION

AND

THE CENTER FOR THE EDUCATION OF WOMEN

With Support from the Office of the Provost

University of Michigan Faculty Work-Life Study Team

Principal Investigators

Robert T. Blackburn (deceased), Professor of Education, Center for the Study of Higher and Postsecondary Education (CSHPE)

Carol Hollenshead, Director, Center for the Education of Women (CEW)

Additional Researchers

Patrick Coen, Ph.D. Student, Center for the Study of Higher and Postsecondary Education

Gloria Thomas, Ph.D. Candidate, Center for the Study of Higher and Postsecondary Education

Jean Waltman, Ph.D. Candidate, Center for the Study of Higher and Postsecondary Education

Stacy Wenzel, Director of Fieldwork for Annenberg Research Project, University of Chicago's Consortium on Chicago School Research

Other Contributors

Michelle Bejian, Mark Byrd, Lisa Gubaci, Lisa McRipley, Chris Navia, Judith Stentzel, and Ethelene Whitmire

U-M FACULTY WORK-LIFE STUDY REPORT

Part I: Introduction

Background

Faculty members are a key strength of a university. Thus, any higher education institution aiming for excellence must foster a work environment in which faculty can perform well and prosper. As Blackburn and Lawrence (1995) explain, "Faculty will...be motivated by their perception of the environment--what it honors, values, and rewards" (p.106). At a research university like the University of Michigan, with institutional demands for research, teaching, and service, a supportive atmosphere is important at all ranks: for tenured and tenure-track faculty as well as faculty in nontenure-track positions.

For this reason, researchers from the Center for the Study of Higher and Postsecondary Education (CSHPE) and the Center for the Education of Women (CEW) sought to determine what conditions lead to satisfactory careers for instructional faculty at the University of Michigan. We hoped to discover the ways in which the University is helping faculty members succeed and to identify additional actions the University might take to enhance faculty satisfaction and professional development.

To answer these questions, we conducted the University of Michigan Faculty Work-Life Study. In January, 1996, we surveyed 2,624 individuals--all University of Michigan-Ann Arbor faculty who held at least half-time instructional appointments; who had been at U-M for at least one year; and who were either tenured, in tenure-track appointments, clinical II faculty or lecturers (nontenure track faculty). The number of overall respondents was 1,167, a response rate of 44%. Part III of this report contains a thorough description of the study's methodology.

Recognizing the importance of such an investigation, the Office of the Provost provided financial support for the Faculty Work-Life Study. The study itself, however, was designed, conducted, and analyzed entirely by a research team from CSHPE and CEW, with valuable suggestions from faculty members throughout the University community. A distinguished group of faculty advisors served as consultants. We are grateful for their involvement, which provided us with a breadth of insightful perspectives throughout all stages of the study's design and data analyses.[1]

In the pages that follow, we briefly describe the Faculty Work-Life Study's design. In Part II, we highlight some of the most interesting and relevant findings about faculty

[1] For a list of faculty advisors, see Appendix I of this report.

demographics, workload, productivity, career satisfaction and values, perceptions of the work environment, and balance between personal and professional life. In Part III, we present our methods and the study's findings, with figures or tables for nearly every item in the questionnaire.

Study Framework

Two perspectives have traditionally guided most studies of influences on faculty career attainment and satisfaction (Blackburn & Lawrence, 1995). One group of scholars looks at achievement as influenced primarily by an individual faculty member's personality, motivations and perceptions (Lawrence, Frank, Bieber, Blackburn, Bentley, & Trautvetter, 1989). Another group of researchers argues that the environments or contexts within which an individual works exert a stronger influence on career attainment (e.g., Frieze, 1978; Kanter, 1977; McElrath, 1992). The Faculty Work-Life Study focuses primarily on this second, environmental perspective as it is perceived by individual faculty members.

The key environmental contexts affecting faculty at universities like U-M are the department, the school/college within which it operates, and the university encompassing all of these. In addition, the larger disciplinary community shapes faculty experiences, as do family lives. Our study incorporates these various environments.

According to the environmental perspective, the extent to which university faculty persist in their careers, and are successful and satisfied, depends primarily on their work and life situations. In other words, satisfaction and retention are contingent not only on the faculty members' own actions but also on judgments and actions taken by their colleagues, their departments, and their institutions. Thus, the university is more than just formal policies and administrative hierarchies. It is a system of formal and informal interactions among faculty colleagues. Evidence suggests, for example, that some important facilitators of and barriers to faculty satisfaction and retention, particularly for women and faculty of color, are the ways that others react to gender and race/ethnicity.

In other words, environmental contexts are perceived in different ways and can have different impacts on various faculty subgroups, including faculty who are not tenured, faculty of color, and women of all races. Additionally, the academic disciplines have distinctive cultures, and members are quickly socialized into a discipline's values, expectations, rewards, and behaviors. Where significant, we highlight these differences in work life or satisfaction among various subgroups--tenured and nontenured faculty, men and women, faculty of color and white faculty, and disciplinary divisions.

To conduct analyses by discipline, we categorized faculty responses according to the University's four recognized disciplinary groups: 1) biological and health sciences, 2)

physical sciences and engineering, 3) social sciences, and 4) humanities and fine arts. For a list of the division within which a particular department is located, see Appendix II.

When examining differences among the four disciplinary groups, we analyzed the biological and health sciences without including data from the Medical School. We did so because the duties and academic culture of the Medical School are different enough from the other biological science disciplines to give a distorted representation of both—especially in the areas of teaching, teacher/student interaction, and workload. The Medical School personnel are included in all the other analyses—of the whole faculty and by rank, gender, and ethnicity—unless otherwise noted.

Ideally, we would have analyzed all faculty responses by unit/department, the primary environmental context. Unit/departmental analyses would have enabled us to compare, for example, perceptions of departmental support in engineering and English. Unfortunately, to do so would have created numbers too small to insure either confidentiality or reliable results.

We believe that this study provides reliable data for helping to make sound decisions concerning institutional practices and policies. With a clearer understanding of how faculty members experience the University of Michigan, University faculty and leaders will be better able to devise interventions and institutional change strategies to facilitate faculty satisfaction and retention. At the same time, the University's challenges are by no means unique to Michigan (see, for example, Johnsrud & Des Jarlais, 1994). These findings can benefit higher education institutions across the country.

Part II: Highlights Of The Study

In this section of the report, we summarize some of the study's more salient findings, beginning with information about lecturers and clinical II faculty (hereafter referred to as "clinical faculty"). These nontenured faculty members constitute 28% of the faculty (*Regular Instructional Staff Counts as of November 1, 1998*) and play an increasingly important role in U-M's instructional programs. The information we give about these two groups focuses on their demographic composition. However, because tenured and tenure-track faculty represent the majority, they are the focus of most of our analyses. We compare their demographic backgrounds to faculty at peer institutions. We also discuss findings about the work lives of tenured and tenure-track faculty--issues of workload, productivity, institutional and unit climate, career satisfaction, and family and work-life balance.

Nontenure-Track Faculty

Lecturers

Lecturers hold a number of different positions at the University. In Literature, Science, & the Arts (LS&A), lecturers are ranked from Lecturer I through Lecturer III. While Lecturers I and II are generally appointed for three or fewer years, the average length of employment at U-M for LS&A Lecturer IIIs was thirteen years. In areas outside LS&A (primarily the Medical School and other health science units), lecturers are not ranked. Among our respondents, the average length of employment for these unranked lecturers was approximately eight years. The unranked lecturers were as likely to have been at U-M for fewer than three years as they were to have been here for ten years or more.

Half of all the responding lecturers reported teaching twelve or fewer credit hours per year; the other half reported teaching more than twelve credit hours per year. (As noted earlier, we surveyed only those faculty with instructional appointments of 50% or greater.) The number of students the lecturers taught in a year ranged from twelve to nearly thirteen hundred. While the rank of lecturer is generally viewed as a teaching position, slightly more than three-quarters of the lecturers reported that they had published articles in professional journals over the span of their careers. Twenty-five percent reported having published a book or monograph as a sole author and 30% as a co-author.

In spite of their not having the job security that tenure provides, lecturers' mean level of satisfaction with their current positions was 4.6 on a scale of 1 (low) to 7 (high). Lecturers identified several items that were particularly important to their achieving career satisfaction:

enjoying their work and colleagues; sparking interest in students; receiving respect from their peers for their teaching; maintaining personal integrity; and achieving a good balance between career and personal life.

Some Demographic Highlights for Lecturer Respondents

- One hundred twenty-eight lecturers responded to this study; women comprised a 69% majority.
- Even though we surveyed only faculty with at least 50% instructional appointments, 23% of the responding lecturers held appointments of less than 100%.
- Eighty-four percent of the respondents were white; 10% were Asian/Asian-American; 3% were African-American; and 3% were Latino/a.
- Thirty-nine percent came from academic disciplines in the humanities.
- Twenty-one percent were from the Medical School and 21% from biological and health sciences.
- Fourteen percent were from the social sciences.
- The smallest proportion—5%—was located in physical sciences and engineering fields.
- Eighty-eight percent were U.S. citizens.
- The average age of the respondents was 44. They ranged in age from 28 to 66.
- The median year in which respondents obtained their highest degree was 1986. The range was 1957 to 1996.
- Thirty-six percent of the respondents had doctorates; 24% had professional degrees. An additional 38% had master's and 2% had bachelor's degrees.
- Forty-eight percent received their highest degrees from the University of Michigan; 20% from other top-fifty U.S. institutions; 24% from other U.S. institutions; and 8% from non-U.S. institutions.

<u>Clinical Faculty</u>

Clinical faculty, who work with students, clients, or patients in non-classroom settings, have distinct ranks, as instructors as well as assistant, associate, and full professors. Many of the clinical faculty have been employed at U-M for a number of years: the average length of employment for all clinical faculty was approximately eight years.

While the majority of their time was spent on clinical duties, 85% of the clinical faculty indicated that they had published articles in professional journals over the course of their careers, and 40% reported having published five or more articles. Clinical faculty members' mean level of career satisfaction with their current positions was 5.0 on a scale of 1 (low) to 7 (high). Clinical faculty identified several items that were particularly important to their achieving career satisfaction: enjoying their work and the people they worked with; maintaining personal integrity; achieving a balance between professional and personal life; and sparking interest in students.

Some Demographic Highlights for Clinical Faculty Respondents

- Seventy-seven clinical faculty responded to the survey, 54% of them women.
- Twenty-three percent of clinical faculty respondents held less than full-time appointments.
- Forty-nine percent were Clinical Professors; 7% were Clinical Associate Professors; 8% were Clinical Assistant Professors; and 36% were Clinical Instructors.
- Unlike the lecturer ranks, where women predominated at every level, women respondents in the clinical ranks outnumbered men only at the Clinical Professor rank (58%) and at the Clinical Instructor rank (64%).
- Men respondents predominated at the Clinical Associate rank (60%) and at the Clinical Assistant rank (100%).
- Ninety-five percent of the respondents were white; 4% were Asian/Asian-American; 1% were from other ethnic minority groups.
- Seventy-one percent of the respondents were employed in the Medical School.
- Another 25% were located in the other biological and health sciences (i.e., Nursing and Dental Schools).
- A very small proportion (4%) was from social science units (i.e., Law School).
- Ninety-six percent were U.S. citizens.
- The average age of the respondents was 42. They ranged in age from 28 to 66.
- The median year in which respondents obtained their highest degrees was 1984. The range was 1953 to 1993.
- Ninety-five percent of the respondents had professional degrees; 3% had doctorates. An additional 3% had master's degrees.

- Forty percent received their highest degrees from the University of Michigan; 20% from other top-fifty U.S. institutions; 36% from other U.S. institutions; and 4% from non-U.S. institutions.

Tenured and Tenure-Track Faculty

Some Demographic Highlights for Tenured and Tenure-Track Respondents

- Forty-five percent of the tenured and tenure-track faculty responded to this survey; 26% of them were women.

- Forty-nine percent were professors; 25% were associate professors; and 26% were assistant professors.

- Twelve percent of the total respondents were female assistant professors; 8% were female associate professors; and 6% were female professors. Fourteen percent were male assistant professors, 17% were male associate professors, and 43% were male professors.

- White faculty comprised 90%; Asian/Asian-Americans, 5%; African-Americans, 3%; Latinos/as, 2%; and Native Americans, 0.5%.

- Ninety-two percent were U.S. citizens.

- The average age of the faculty respondents was 50. Seven percent were 65 or over, and 7% were 35 or under.

- The average respondent's career as a faculty member spanned 18 years, and the average time spent as a faculty member at U-M was 15 years.

- The median year in which respondents obtained their highest degrees was 1977. A large range existed, from 1946 to 1994.

- Sixty-seven percent had doctorates; 28% had professional degrees. An additional 4% had master's degrees, and less than 1% had either bachelor's, certificates, or no degrees.

- Twenty-one percent received their highest degrees from the University of Michigan; 55% from other top-fifty U.S. institutions; 17% from other U.S. institutions; and 7% from non-U.S. institutions.[2]

---

[2] At times, the general University practice has been not to hire its own graduates upon the completion of their Ph.Ds. To assess how this practice has changed over time, we compared data on current U-M Ph.D. faculty who have been at U-M for fewer and for more than 17 years (the median career age of all faculty respondents). Of the faculty who reported they have not held a faculty position at another institution, 24% received their Ph.D. degrees from U-M. Of those, 65% have been at U-M for more than 17 years, and 35% have been at U-M for fewer than 17 years.

- Fifty percent of the respondents had been a faculty member at another institution. Of these, the average number of years that they had worked elsewhere as a faculty member was seven years.

Comparisons with Peer Institutions on Measures of Faculty Diversity

Based on Fall, 1995 data from the Integrated Postsecondary Education Data System (IPEDS), the University of Michigan fares better than some, though not all, of its peer institutions in hiring and promoting women and faculty of color. For instance, for white women employed in tenure-track assistant professor positions during Fall 1995, most universities fall within a range of 17-34%. The University of Michigan reported 25%; MIT reported 17%, the lowest proportion of white women in tenure-track assistant professor positions of all the selected institutions. The University of Minnesota and the University of Washington tied with 34%, the highest proportion.

The proportion of women of color in tenured, full professor positions did not exceed 2% at any of the selected institutions. However, on this measure U-M again fell mid-range with a 0.8% proportion. UC Berkeley reported a high of 1.8%; MIT, a low of 0.2%.

Michigan's data for men of color ranked higher on the continuum with respect to hiring and promotion. For instance, at the tenured, associate professor rank, UC Berkeley reported a high of 11%, followed by U-M at 9.7%. At 5%, the University of Minnesota reported the lowest proportion of men of color in tenured, associate professor positions. Table A.2 provides an extensive demographic breakdown of comparable data for selected peer institutions.

Workload and Productivity of Tenured and Tenure-Track Faculty

Our findings showed that the U-M faculty is a dedicated and hard-working group. A majority of the faculty said the pace of their work at the University "seems to increase annually." Asked to estimate the number of hours they worked, U-M faculty (excluding the Medical School) responded that, on average, they spent approximately 57.2 hours per week. Women reported they worked 59.0 hours per week; men, 56.5 hours; faculty of color, 58.6 hours; and white faculty, 57.0 hours (Figure B.1b). Because the nature of work for many Medical School faculty varies so greatly (e.g., attending to patients in addition to their other, faculty duties), we analyzed their work hours separately. Their mean number of hours worked per week was 61.8 (Figure B.1a).

The proportion of time spent in teaching activities was very similar for all ranks. Assistant professors indicated that they spent, on average, 31% of their time per week performing teaching-related duties. Associate professors and full professors each

reported spending 29% of their time in teaching-related duties. Compared to associate and full professors, assistant professors reported spending a greater percentage of their time working on their scholarship and research, and a significantly greater percentage of their time advising students. At the same time, assistant professors spent significantly less time than the other two ranks on service activities (Table B.3a).

Women assistant professors reported significantly higher percentages of their time per week spent performing internal university service activities than did male assistant professors. Assistant professors of color reported spending significantly more time on research and creative work than did white assistant professors (Table B.3d). In addition, a higher percentage of female assistant and associate professors reported that, over a two-year period, they conferred and consulted with students on a daily or weekly basis. Often, these students were not in the women's classes, nor were they assigned to the women as advisees. Further, our data showed that such consultations were often about personal issues (Table B.6b).

We then analyzed gender differences for faculty workload in the biological/health sciences and social sciences, the only two divisions where the number of respondents was large enough to make such comparisons. In those two divisions, women generally reported higher levels of service and advising activities over a two-year period. Compared to men, women frequently reported performing the following activities a higher mean number of times: chairing dissertation committees; sitting on departmental committees; serving on college or university committees (Tables B.5e and B.5f).

While these time differences between male and female professors—especially assistant professors who are striving to obtain tenure—may be small, such incremental differences can be significant when aggregated over a year's time. Service, student interaction, and teaching demands may make it harder for women to find adequate time and support for their research and publishing, thus having a potentially negative impact on their career advancements and rewards.

Divisional differences existed in almost all aspects of faculty workload. Interestingly, the only non-significant divisional difference was in the area of committee service outside of departments/units. In this case, faculty across all divisions served on college-wide and university committees at relatively similar rates (Table B.5a).

Our data also demonstrated that University of Michigan faculty are highly productive.

Research productivity of U-M faculty was comparable to the top academics at other nationally ranked institutions.[3] The data for recently published articles showed an extraordinarily high faculty output with no signs of waning among faculty at higher ranks. In fact, in three out of four of the divisions, full professors reported a similar or higher mean rate of refereed journal articles published in a two-year period than did assistant professors and associate professors (Table B.5c).

On average, over a two-year period, University of Michigan faculty members submitted six articles and published five articles in refereed journals. They reviewed eleven articles for professional journals, presented five conference papers, submitted three external grant proposals, chaired two dissertation committees, served on five additional dissertation committees, and served on four departmental/unit and two college/university committees (Table B.5a).

In general, the nature of faculty research productivity varies by discipline. For example, faculty in the physical sciences and engineering have traditionally published frequent, short articles in refereed journals. On the other hand, faculty in the humanities and fine arts are traditionally more likely to have published books. Our data supported these patterns. Over a two-year period, a typical physical science/engineering faculty member at U-M published eight articles in refereed journals. By comparison, over the same two-year period, faculty in biological/health sciences published six articles; faculty in the social sciences, four articles; and faculty in the humanities/fine arts, two articles (Table B.5a). When we analyzed book publication rates for these same divisions, 56% of the faculty in the humanities/fine arts published at least one book. By comparison, 38% of the faculty in the social sciences, 18% in physical sciences and engineering, and 12% in the biological/health sciences published at least one book (Table B.5b).

When analyzed by gender, the data showed no significant differences, over a two-year period, in refereed journal publication rates between men and women in the social sciences and the biological/health sciences—the only two divisions where the number of respondents was large enough to make comparisons by gender (Tables B.5e and B.5f). (Small numbers of faculty of color in all divisions precluded our analyzing these data by race altogether.) Our findings are similar to those of other, national studies (Blackburn & Lawrence, 1995; Creamer, 1998) where differences between men's and women's research productivity are generally quite small over a short period of time. Similar to other recent

[3] Studies document that the National Research Council's ratings of academic institutional units, schools, colleges, or departments nationwide are very highly correlated (most often $r \geq .9$) with national assessments of faculty at leading universities. This indicates that faculty research and productivity are important in determining the reputation of an individual academic unit.

findings (Astin & Cress, 1998; Shauman & Xie, 1998), our preliminary regression analyses, not reported in this document, also indicated that gender was not a significant predictor of previous two-year journal publication rates. On the other hand, rank, division, and time spent on research/creative work were significant predictors of journal publication.

Unit/Institutional Climate for Tenured and Tenure-Track Faculty

Faculty responded to several questions about how they interacted with colleagues from within and outside their units/departments, as well as how they perceived they were treated and respected by their colleagues. These interactions and perceptions of collegial relations are what we refer to as unit and institutional climate.

Descriptors of Unit/Departmental Climate

We presented faculty with nine sets of opposing adjectives to describe the climate of their units (i.e., *hostile* versus *friendly*; *worsening* versus *improving*). Between each pair of dichotomous adjectives was a scale from one to six. In general, the faculty rated the climate of their respective units/departments as midway between the two ends of the scales.

On all but one of the nine pairs of descriptors, faculty across all ranks responded similarly (Table E.1a). However, significant differences in ratings occurred more frequently by gender and race when controlled by rank. Female assistant professors reported their units to be significantly less friendly, less supportive, more competitive, and more elitist than did their male counterparts (Table E.1b). Female associate professors reported their units to be significantly less friendly, less supportive, and more competitive (Table E.1c). No significant differences emerged for women at the professor level. Nor did significant racial differences emerge at the assistant and full professor ranks. At the associate professor rank, however, faculty of color reported their units to be significantly less friendly, less respectful, and more indifferent than did their white counterparts (Table E.1c).

In order to assess the impact of the intersection of race and gender on perceptions of climate, we analyzed responses to the nine pairs of opposing adjectives by gender and racial/ethnic groups. We separated Asian/Asian-American responses from those of other faculty of color in this particular analysis in order to determine if any differences existed by both gender and race. This analysis revealed that Asian/Asian-American women's responses about the climate in their units were generally at the lowest end of the spectrum. The responses of other women of color generally ranked second lowest. The ratings for unit/departmental climate were in the middle range for Asian/Asian-American men, other men of color, and white women. On all but two of the nine items, ratings for white males

were at the highest end of the spectrum, suggesting their experiences in their units/departments were more positive than those of any other group (Table E.1f).

Relationships with Unit/Departmental Colleagues

On a second question dealing with unit/departmental climate issues, faculty indicated their levels of agreement with eleven different items concerning relationships with colleagues in their units. As a whole, the highest percentage of faculty members agreed with the following three items:

1) My research/creative interests are valued by my colleagues (73%).

2) My research/creative work is seen as valuable by my colleagues within my unit (68%).

3) My colleagues generally use appropriate criteria to assess my research/creative work (67%) (Table E.3a).

Further analyses of this eleven-item question showed that seven of the items elicited significantly different responses by rank. Most of these differences were not surprising. For instance, assistant professors were less likely than associate and full professors to report that their colleagues solicited their opinions about research ideas and problems. For a list of rank differences in response to this question, see Table E.3a.

Women at all ranks gave significantly different responses than did men to several items. Across the ranks, women were more likely to feel that they were constantly under scrutiny by their colleagues. Other gender differences occurred most frequently among assistant professors. At this rank, women were more likely to agree that "unwritten rules" existed concerning expectations for collegial interaction. Furthermore, they were less likely than men to agree that their work and interests were valued or that their opinions were solicited by colleagues in their units (Table E.3b).

Women associate professors were less likely than men at the same rank to believe their work interests were valued. They also believed that others found it easier than they did to "fit in." At the full professor rank, women were more likely to agree that "unwritten rules" existed concerning expectations for collegial interaction and that they had to work hard to be perceived as legitimate scholars (Table E.3b).

Perceptions about unit/departmental climate also differed on some items for white faculty and faculty of color when controlled by rank. Among assistant professors, faculty of color were significantly more likely than whites to believe that their colleagues had "lower expectations" of them, that they had to work hard to be perceived as legitimate scholars, and that others found it easier to "fit in." Among associate professors, faculty of

color were significantly less likely to believe that their colleagues solicited their opinions, valued their research work, or appropriately assessed their work. Among full professors, faculty of color were significantly more likely to believe that unwritten rules existed concerning interaction with colleagues and that others found it easier to "fit in" (Table E.3c).

Experiences with Discrimination and Harassment

Two other questions in the survey were important indicators of unit and institutional climate. One question explored the faculty members' experiences with discrimination; the other, their experiences with harassment. It is important to note that for this study the definitions of discrimination and harassment were not limited to sex or race, but also included sexual orientation, physical appearance, religion, age, and/or other characteristics.

Not all studies on discrimination and harassment define these terms as broadly. For example, one recent national survey (Dey, Korn, & Sax, 1996), defining harassment specifically as sexual, found that 15% of female faculty members reported some form of sexual harassment at their institutions. Another study documented that 34% of women faculty respondents, as compared to 18% of male faculty respondents, reported incidences of subtle, more narrowly defined discrimination as a source of stress for them in their academic careers (Astin & Cress, 1998). Given our broader definitions, it is not surprising that our findings, reported below, of discrimination and harassment among women and faculty of color are in keeping with or are more pronounced than in other studies.

Overall, women and faculty of color at all ranks were significantly more likely than their counterparts to respond that they had experienced both discrimination and harassment (Table E.6b). Across all ranks, between 24% and 36% of women reported experiencing discrimination in a two-year period, compared to 9% to 11% of men (Table E.6b). The types of discrimination the women cited in their open-ended replies included having heavier workloads; receiving lower pay; being accorded less respect from their peers and unit/department chairs; encountering negative reactions about their pregnancies from male colleagues; and having others take credit for their ideas. Across all ranks, approximately one fourth of women, but fewer than 10% of men, reported experiencing harassment (Table E.6b). Women cited such examples as being cursed at by a male student; being stalked by a male student; being stalked by a colleague; being subjected to sexual comments from male colleagues and chairs; and being pressured for

dates by male colleagues.

Across all ranks, faculty of color reported experiencing discrimination and harassment at significantly higher levels than did white faculty. With regard to discrimination, 28% of assistant professors of color, 43% of associate professors of color, and 32% of professors of color reported experiencing discrimination over a two-year period. In contrast, 11% to 14% of white faculty reported such experiences. Across all ranks, approximately one third of the faculty of color, as opposed to approximately one tenth of white faculty, reported experiencing harassment over a two-year period (Table E.6c).

Career Satisfaction of Tenured and Tenure-track Faculty

Universities that fully understand the nature of their faculty members' career satisfaction may be more likely to retain valued faculty. Thus, not only did we want to know how U-M faculty members described the climate in their departments and at the university as a whole, but we also wondered which of these factors were most important to their satisfaction. Our survey contained four questions designed to gauge various aspects of career satisfaction for U-M tenured and tenure-track faculty.

Overall Satisfaction with Position

Two of the four survey questions were single-item inquiries aimed at determining the faculty's overall satisfaction: "On a scale from 1 (low) to 6 (high), how satisfied are you with your position?" and "If you had to decide all over again whether to be a faculty member at U-M, what would you decide?"

The results indicated that, in general, tenured and tenure-track faculty at U-M were relatively satisfied. On a scale from 1 to 6, they rated their satisfaction at a mean level of 4.3. Significant differences did exist by rank--the higher the rank, the more satisfied the faculty (Figure F.1a). By race, only at the assistant professor rank were faculty of color significantly less satisfied than were white faculty (Figure F.1b). There were no significant gender differences in overall satisfaction.

In response to the second question, approximately two-thirds of the respondents stated that they would again choose to be faculty members at U-M. Slightly more than one-quarter indicated that they would have second thoughts, and only a small proportion (7%) said they would not choose Michigan again (Figure F.2a). Across ranks, higher proportions of faculty of color, as compared to whites, reported they would not again choose to be faculty members at U-M (Figures F.2b, F.2c, and F.2d). This difference was significantly higher at the assistant professor level--21% compared to 5% (Figure F.2b). There were no significant differences in responses by gender or division.

Satisfaction with Dimensions of Professional Development

The third question about career satisfaction listed twenty-one dimensions of professional development. Faculty members rated how satisfied they were with each dimension. As a whole, the highest percentage of faculty members reported being most satisfied with the following four items:

1) Sense of being valued as a mentor or advisor by their students (86%)
2) Sense of being valued as a teacher by their students (82%)
3) Opportunity to mentor students (82%)
4) Freedom to decide what courses to teach (78%) (Table F.3a).

When analyzed by rank, faculty responses were significantly different on thirteen of the twenty-one dimensions of professional development. This is consistent with other findings in this study, which show that satisfaction with most facets of an academic career improves with increased rank. Table F.3a reports the findings in detail.

Differences in satisfaction with professional development emerged when we analyzed the data by gender and race while controlling for rank. At both the assistant and associate professor ranks, women and faculty of color reported that they were significantly less satisfied with their "level of intellectual stimulation in their day-to-day contact with faculty colleagues." In addition, women at the assistant and associate professor ranks, and faculty of color at the full professor rank, were significantly less satisfied than their counterparts with their "opportunity to collaborate with other faculty." Faculty of color at the associate and full professor ranks, and women at the associate professor rank, were significantly less satisfied with their sense of being valued by their colleagues for their research and scholarship (Tables F.3b and F.3c).

Important Aspects of Work-Life for Career Satisfaction

The fourth question related to career satisfaction asked faculty to rate how important it was for them to accomplish certain aspects of work-life in order to feel satisfied with their careers. The survey listed seventeen work-life items, such as obtaining tenure and promotion and receiving a competitive salary. A number of these items received high rankings from a large percentage of tenured and tenure-track faculty members. The following three items were the highest ranked:

1) Maintaining personal integrity (99%)
2) Enjoying their work (99%)
3) Working with intellectually stimulating colleagues (98%) (Table F.4a).

Some significant variations occurred by rank. Assistant professors rated "sparking interest in students" and "assisting students in achieving their goals" as somewhat less important to their career satisfaction than did their more senior colleagues. Full professors rated "acquiring a national/international reputation in [their] specialty" as more important to their career satisfaction than did faculty members in more junior ranks (Table F.4a).

Women assistant professors were more likely than their male counterparts to rate "receiving respect from [their] U-M colleagues for [their] research, scholarship, or art" as important to their career satisfaction. For women associate professors, "obtaining grant money" was a significantly more important aspect of work-life satisfaction than for male associate professors (Table F.4b).

When analyzed by race, two significant differences in variables for career satisfaction emerged at the full professor level. Full professor faculty of color were more likely than their white peers to value both "influencing theoretical developments in [their] field" and "improving the world for others" (Table F.4c).

Family/Work Life Issues

A few particularly interesting findings emerged with respect to gender differences in family/work-life issues. While 78% of the male faculty at the assistant professor level reported having children living at home with them, 59% of the women at this rank had children at home. The gap in the percentage of male and female academics who had children at home diminished as the academic ranks increased: 62% of women and 74% of men at the associate professor level, and 41% of men and 37% of women at the full professor level, had children living at home (Table G.3b).

Of the assistant professors who reported having children living at home, 67% of the women and 81% of the men said these children were six years old or younger. On the other hand, 33% of women and 19% of men at the assistant professor rank reported that the children living at home with them were between the ages of seven and eighteen (Table G.3b). These data suggest that women assistant professors were more likely than men either to have children prior to beginning their academic careers or to delay child bearing and rearing until after they receive tenure or until they are well established in their careers.

In 1990, U-M adopted a policy permitting faculty members to stop the tenure clock for one year for reasons related to childbirth or dependent care and, in 1992, another permitting faculty members who gave birth to take one term off from classroom teaching. Our findings showed that 4% of our respondents had attempted to use these provisions. Of this small proportion, 92% said they were granted their request to stop the tenure clock, and 100% said they were granted their request for modified duties (Table G.4).

To investigate the impact raising children has on academic careers, we conducted analyses comparing all faculty with children living at home to those without children living at home on measures of satisfaction with professional development. Our findings showed that, from a list of twenty items of satisfaction, faculty with and without children living at home differed significantly on only three items. Faculty without children living at home were more satisfied with the balance between their personal and professional lives and with their current levels of productivity. Faculty with children living at home were more satisfied with their opportunities to collaborate with other faculty (Table G.5).

We also analyzed the responses of all faculty on measures of journal publication rates over a two-year period. Only at the full professor rank did the findings show differences in journal submission and publication rates between faculty with and without children living at home (Table G.6a). Among male faculty, at the full professor rank, men with children living at home published more than those without children living at home. No significant differences in publication rates existed across the ranks among women with and without children living at home. In general, the findings suggest that having children living at home had little influence on the journal publications of men or women (Table G.6b and G.6c).

Other important family/work-life issues emerged from the data. Across all ranks, 37-41% of male faculty reported that their spouses/partners worked full time compared to 78-89% of female faculty who reported that their spouses/partners worked full time. Men at all ranks were more likely than women at all ranks to have spouses/partners who worked part-time or not at all, and a higher percentage of men reported that their spouses/partners preferred to be employed part-time or not at all (Table G.2b). These findings suggest that men were more likely than women to have spouses/partners who were available to perform

more of the household and child-rearing duties.

Additional gender differences emerged with respect to dual-academic careers. Women were more likely than men to have spouses/partners who were employed as instructional faculty at U-M (Table G.1b). Furthermore, women assistant professors were significantly more likely than men at the same rank to have taken time off (i.e., leave, sabbatical, visiting appointment) to improve their partners' career opportunities (Table G.2b).

Faculty of color responded differently from whites on some questions regarding spouses/partners. For instance, compared to faculty of color, white faculty at all ranks more frequently reported that their spouses/partners were satisfied with their employment situations (Table G.2c).

Asked if they had ever sought help from U-M in finding appropriate employment opportunities for their spouses/partners who are employed, approximately one third of assistant professors reported that they had (Table G.2a). Assistant professors sought help at a higher rate than did the other two ranks. Of all faculty who had used U-M's help in locating employment for a spouse/partner, 29% reported they were satisfied with the assistance they received (Table G.2a).[4] Finally, assistant professors and women associate and full professors were significantly more likely than others to report that they had considered leaving U-M to improve career opportunities for their spouses/partners (Tables G.2a and G.2b).

Differences Among Associate Professors

As the preceding discussions indicate, rank is a key element in faculty members' assessments of their professional development, work environment, time allocation, and measures of productivity. At the associate professor level, however, we also found important differences within the rank, based on the length of time in rank at U-M. For the purpose of analysis, we defined two groups of associate professors: longer-time-in-rank (those who have been associate professors at U-M for more than seven years) and shorter-time-in-rank (those who have been associate professors at U-M for seven or fewer years).

[4] Since the time of this survey, changes have been made in U-M's programs of assistance for dual-career

We chose seven years as the dividing point since, within that time, associate professors are generally promoted to full professorships. With this dividing point, the number of shorter-time-in-rank associate professors was 163 (74%), and the number of longer-time-in-rank associate professors was 57 (26%). Many of the differences between these two groups centered around their teaching and research.

Longer-time-in-rank and shorter-time-in-rank associate professors differed little in their overall levels of satisfaction with their positions. However, the aspects of their careers from which they derived satisfaction did differ. When asked what aspects of their careers they felt were important for them to feel satisfied, longer-time-in-rank associate professors more often identified the following: assisting students in achieving their goals and having the respect of peers for their teaching. In contrast, shorter-time-in-rank associate professors more often indicated that acquiring a national/international reputation, publishing, and influencing theoretical developments in their fields were important for career satisfaction. When asked how satisfied they were with various dimensions of their professional development, shorter-time-in-rank associate professors were more likely than their counterparts to report being satisfied with their sense of contributing to theoretical developments in their disciplines.

Compared with longer-time-in-rank associate professors, shorter-time-in-rank associate professors reported spending more time conducting research/doing creative work and less time teaching. On measures of productivity over a two-year period, shorter-time-in-rank associate professors were more likely than their counterparts to have submitted articles to refereed journals; to have published a chapter in a book; to have had articles accepted or published by refereed journals; to have reviewed articles for a professional journal; to have served on an editorial board of a journal or press; to have presented a paper or helped to plan a session at a professional conference; to have submitted a grant to a private agency; and to have chaired or served on a dissertation committee. Consistent with these findings, shorter-time-in-rank associate professors were also more likely to have characterized themselves as faculty who obtain grants, publish, and commit themselves to research. Conversely, longer-time-in-rank associate professors reported having taught a greater number of credit hours and having taught a greater number of undergraduate students over the previous year. Longer-time-in-rank associate professors were also more likely to characterize themselves as faculty who are concerned about students.

The two groups had similar perceptions of their units' climates but, when asked about relationships with other colleagues in their units, shorter-time-in-rank associate professors were more likely to indicate that their research/creative work was valued by their colleagues

---

couples.

and that their work was seen as valuable. When asked if they had ever considered leaving the university, the two groups of associate professors responded similarly, although they gave different reasons for why they might leave. Shorter-time-in-rank associate professors were more likely to leave for opportunities at more prestigious universities. Longer-time-in-rank associate professors were more likely to consider leaving U-M to join more teaching-oriented institutions.

In general, then, the two groups of associate professors differed in how they spent their time and in what aspects of academic work they considered important for career satisfaction. Nonetheless, their overall levels of satisfaction with their places of work appeared to be quite similar.

Future Research

More extensive and complex examination of the study's data has already begun. In addition, we are currently conducting interviews with faculty members who have left the University since the questionnaire was administered. Our purpose for collecting these additional qualitative data is to help us understand the factors that influence retention. In addition, two dissertations that build on the study are in progress. One of them follows up on family-life issues by examining what impact academic spouses or partners, or other influential sponsors, have on the career success of academic women. The other dissertation addresses mentoring issues for female faculty. Members of the Faculty Work-Life Study are eager to meet with anyone wishing more information about this report or any of the related research projects.

Appendix I

Faculty Advisory Board

Frances Aparicio, Professor of Spanish and American Culture, Department of Romance Languages and Literatures, LS&A

A. Lorris Betz, former Dean, Medical School Administration, Professor of Pediatrics & Communicable Diseases, Professor of Pediatrics, Neurology and Professor of Surgery, Medical School (member, 1995-1996); Senior Vice President for Health Science and Dean of Medicine, University of Utah

Cleopatra Caldwell, Assistant Professor of Health Behavior and Health Education, School of Public Health; Faculty Associate, ISR

Taylor Cox, Jr., Associate Professor of Organizational Behavior and Human Resources Management, School of Business Administration

Sylvia Hurtado, Associate Professor of Education, School of Education

James Jackson, Director, Center for Afroamerican and African Studies; Professor of Psychology, LS&A; Professor of Health Behavior and Health Education, School of Public Health; Director and Research Scientist, ISR; Faculty Associate, Institute of Gerontology

Janet Lawrence, Associate Professor of Education; Director, Center for the Study of Higher and Postsecondary Education, School of Education

William Martin, Professor of Nuclear Engineering and Radiological Science, School of Engineering

Terrence McDonald, Associate Dean for Academic Appointments; Professor of History, LS&A

Beth Reed, Associate Professor of Social Work and Women's Studies, School of Social Work

Abigail Stewart, Director, Institute for Research on Women and Gender; Professor of Psychology and Women's Studies, LS&A; Faculty Associate, ISR

Jayne Thorson, Assistant Dean for Faculty Affairs, Medical School

Warren Whatley, Professor of Economics and Afroamerican and African Studies

Appendix II

Division Guide of Departments/Units or Interdepartmental Programs (IDP) as designated by the Horace H. Rackham School of Graduate Studies

Division I - Biological and Health Sciences

Anatomy and Cell Biology
Biological Chemistry
Biology
Biostatistics
Cellular and Molecular Biology (IDP)
Clinical Research Design and Statistical Analysis (IDP)
Community Health Nursing
Dentistry, School of
Environmental and Industrial Health
Epidemiology
Gerontological Nursing
Health Behavior and Health Education
Health Services Organization and Policy (IDP)
Human Genetics
Kinesiology, Division of
Medical School
Medical Scientist Training Program
Medical-Surgical Nursing
Medicinal Chemistry (IDP)
Medicine, Clinical Ophthalmology
Microbiology and Immunology
Natural Resources Economics (IDP)
Natural Resources and Environment, School of
Neuroscience
Nursing, School of
Nursing Systems
Parent Child Nursing
Pathology
Pharmacology
Pharmacy, College of
Physiology
Population Planning and International Health
Psychiatric-Mental Health Nursing
Public Health Genetics (IDP)

Division II - Physical Sciences and Engineering

Aerospace Engineering
Applied Physics
Astronomy
Atmospheric, Oceanic and Space Sciences
Automotive Engineering
Biomedical Engineering
Biophysics (IDP)
Chemical Engineering
Chemistry
Civil and Environmental Engineering
Complex Systems (IDP)
Computer and Information Science
Electrical and Computer Engineering
Electrical Engineering and Atmospheric, Oceanic and Space Sciences (IDP)
Electrical Engineering and Computer Sciences
Engineering Management
Geological Sciences
Health Services Management and Industrial Engineering (IDP)
Industrial and Operations Engineering
Industrial and Systems Engineering
Intelligent Transportation Systems
Macromolecular Science and Engineering (IDP)
Manufacturing Systems Engineering (IDP)
Materials Science and Engineering
Mathematics
Mechanical Engineering
Mechanical Engineering and Applied Mechanics
Naval Architecture and Marine Engineering
Nuclear Engineering and Radiological Sciences
Physics
Scientific Computing
Space and Planetary Physics (IDP)
Statistics

Division III - Social Sciences

Anthropology
Anthropology and History (IDP)
Asian Studies, Centers for (IDP)
Business Administration, School of
Communication Studies
Communication (IDP)
Culture and Cognition (IDP)
Economics
Education
Education and Psychology (IDP)
Gaming/Simulation Studies (IDP)
History
Modern Middle Eastern & North African Studies (IDP)
*****Law School
Political Science
Psychology
Psychology and Women's Studies (IDP)
Public Administration (IDP)
Public Policy Studies, School of
Russian and East European Studies, Center for (IDP)
Social Work and Social Science (IDP)
Sociology
Urban and Regional Planning

Division IV - Humanities and the Arts

American Culture (IDP)
Architecture and Urban Planning, College of
Art and Design, School of
Asian Languages and Cultures
Classical Art and Archaeology (IDP)
Classical Studies
Comparative Literature (IDP)
Dance
English and Education (IDP)
English Language and Literature
English and Women's Studies (IDP)
Film and Video Studies
Asian Studies, Centers for (IDP)
Germanic Languages and Literatures
History of Art
Information, School of
Liberal Studies
Linguistics
Medical and Biological Illustration
Museum Practice (IDP)
Music, School of
Near Eastern Studies
Philosophy
Romance Languages and Literatures
Slavic Languages and Literatures
Theatre and Drama
Women's Studies (IDP)

*****Although the Law School is not officially designated by the Rackham School of Graduate Studies as a part of the Social Sciences Division, for the purposes of this study we have assigned it to that group based upon its common links and disciplinary similarities with other fields assigned to that division.

References

Astin, H.S., & Cress, C.M. (1998). A national profile of academic women in research universities. A paper presented at the Women at Research Universities Conference, Boston.

Blackburn, R.T., & Lawrence, J.H. (1989). Faculty at work: Final report of the national survey. Ann Arbor: University of Michigan, NCRIPTAL.

Blackburn, R.T., & Lawrence, J.H. (1995). Faculty at work. Baltimore, MD: The Johns Hopkins University Press.

Creamer, E. G. (1998). Assessing faculty publication productivity: Issues of Equity. ASHE-ERIC Higher Education Report, Volume 26, Number 2. Washington, DC: The George Washington University, Graduate School of Education and Human Development.

Dey, E.L., Sax, L.J., & Korn, J. (1996). Betrayed by the academy: The sexual harassment of women college faculty. Journal of Higher Education, 67, 149-173.

Frieze, I.H. (1978). Women and sex roles: A social psychological perspective. New York: Norton.

Johnsrud, L.K. & Des Jarlais, C. (1994). Barriers to tenure for women and minorities. The Review of Higher Education, 17(4), 335-353.

Kanter, R. M. (1977). Men and women of the corporation. New York: Basic Books.

Lawrence, J.H., Frank, K., Bieber, J.P., Bentley, R.J., Blackburn, R.T., & Trautvetter, L.C. (1989, March). Faculty scholarly output: Development of a theoretical model. Paper presented at the annual meeting of the American Educational Research Association: San Francisco.

McElrath, K. (1992). Gender, career disruption, and academic awards. Journal of Higher Education, 63, 269-281.

National Center for Education Statistics (1995). Integrated Postsecondary Education Data System; Fall Staff Survey 1995. U.S. Department of Commerce.

Regular instructional staff counts as of November 1, 1998. Human Resource Records and Information Services. Office of Human Resources, The University of Michigan.

Shauman, K.A., & Xie, Y. (1998). A national profile of academic women in research universities. A paper presented at the Women at Research Universities Conference, Boston.

Part III: Study Methods and Findings

Study Methods

As described earlier, 2,624 individuals[5] received Faculty Work-Life Study questionnaires: all University of Michigan-Ann Arbor faculty who held at least half-time instructional appointments; who had been at the U-M for at least one year; and who were either tenured, in tenure-track appointments, clinical faculty, or lecturers.[6] We used three different questionnaires for this study: one for lecturers and clinical faculty; a second for tenure-track assistant professors; and a third for tenured associate and full professors. The three questionnaires were identical in over 90% of their content, all of them addressing the respondents' experiences and perceptions of the work environment at U-M. The differences among the three questionnaires reflected the unique situation of each group. For example, the matter of achieving tenure was not relevant for lecturers and clinical faculty and was quite different for pre-tenure assistant professors and tenured associate and full professors.

On a separate one-page questionnaire, faculty supplied personal information about their backgrounds--their highest degree, the institution at which they earned their highest degree, their age, gender, race, citizenship, number of years they have been at U-M, and other related data. We collected and coded the demographic data separately. In order to conduct analyses, we later merged the demographic and other data without specific characteristics that would reveal faculty identities.

Responses to our twelve-page survey provided extensive and rich data. Some of the question sets came from an earlier University of Michigan national survey of faculty (Blackburn & Lawrence, 1989) that showed high test-retest reliabilities. This prior survey's reliability gives us confidence in the data, yielding information we can trust to be representative of faculty members' perceptions of this work place.

---

[5] There were 2,999 names in the original database provided by the University's personnel office. Two hundred-eighty five were excluded because they were no longer employed at the University at the time the survey was distributed. In addition, 90 faculty members were excluded because they were away on leave and unavailable to receive and/or respond to the survey in a timely manner.

[6] During the period of survey development, we considered drawing a sample from the faculty population; however, there were problems associated with the non-randomness of unit size and skewed distribution of women and faculty of color across units. After consulting with the Director of the Survey Research Center of ISR, we decided on the census approach of surveying all faculty. Employing this method was important for two reasons: (1) the skewed distributions of subgroups in many units (e.g., women in nursing and men in engineering) would limit analyses; and (2) surveying all faculty members meant that everyone could have a voice in reporting what working in her or his unit is like.

The number of overall respondents was 1,167, a response rate of 44%. Tables A.1 and A.2 display the percentage of respondents for all faculty and for tenured and nontenured faculty by gender, race, rank and academic area. The response rates for women and ethnic minority groups are in keeping with other studies: women tend to respond at a proportionately higher rate than men, and people of color tend to respond at a lower rate than whites.[7]

As have other researchers, we faced some questions about whether and how to aggregate data from faculty of color. Studies of academics typically include too few faculty of color to conduct sub-analyses that might be expected to show significant differences among non-white racial groups and at the same time maintain confidentiality. As a result, researchers often aggregate the faculty of color groups and treat the members as if all were the same--that is, holding similar values, goals, aspirations, abilities, satisfactions, and perceptions of the work environment. Clearly this is not the case, for great variations exist among members of a group as well as between groups.

For our study, we analyzed a range of responses from the various ethnic and racial groups to determine if they replied significantly differently. (Because there were only five Native American respondents, we were unable to undertake separate analyses for this group.) After extensive comparisons, we found that responses from African-Americans and Latinos/as were strikingly similar. Throughout our data analyses, we occasionally found differences between the responses of Asian/Asian-American and other faculty of color. Because these differences were small, we chose, for the most part, not to analyze Asian/Asian-Americans separately from other faculty of color. However, we did separate Asian/Asian-American responses from those of other faculty of color in our gender analyses of the units' climates and overall career satisfaction. We did so primarily to show the pattern of the responses from Asian/Asian-American and other women of color as consistently at the low end of the climate and satisfaction scales, white males at the high end, and white women, Asian/Asian-American and other men of color in between.

We compared information from the University personnel database with our collected

[7] Anecdotal evidence suggests that people of color are skeptical of how their personal information will be used once collected, perhaps due to the history of discrimination in the U.S. and fear that their anonymity will not be assured due to their small numbers. Women, on the other hand, appear to be eager to voice their experiences and perceptions in such studies, as indicated by their higher rate of participation compared to men. Also, humanities faculty tend to have less confidence in survey data and respond at a lower rate.

survey data. An oft-voiced concern with this type of research is that those who respond are more likely to be those with complaints to register. However, t-tests we conducted between respondents and non-respondents, when controlled by rank, showed no significant differences in salary—a common proxy for career satisfaction and achievement. T-tests also showed no significant differences between respondents and non-respondents by career age and biological age.

Most of the data in this report are in the form of percentages for different groups derived from cross tabulations. In addition, we used t-tests and ANOVAS to examine mean differences where appropriate.

The ethics of confidentiality limit what we include in the report, since analyzing by rank, gender, race/ethnicity, *and* academic division would occasionally produce cells containing but a single member. In some cases, such small numbers prevented us from analyzing the data by one or more of the groups. For instance, the data on research productivity over a two-year period consisted of limited numbers of women in the physical sciences and small numbers of women respondents in the humanities and fine arts, as well as limited numbers of faculty of color in all of the disciplinary divisions. Where these numbers were insufficient, we did not include data for those groups in the tables, nor did we report significant differences.

In the case of questions about faculty members' spouses/partners and children, limited responses were a problem. However, because these questions were not central to issues of faculty academic careers, we report the data as general information. In some instances, these small numbers prevented us from testing the levels of significance within groups.

Findings of the Study

The remainder of this report contains tables and figures illustrating the findings for tenured and tenure-track faculty responses to all the survey items. The information is generally organized as it was in Part II, with the addition of responses to inquiries not included in the highlights of this report. The findings are arranged in the following order:

A. U-M Faculty and Respondents: Who They Are
B. Workload and Productivity
C. Faculty Self-Assessments
D. Organizational Structures, Policies, and Resources
E. Institutional and Unit Climate
F. Career Satisfaction and Retention
G. Family Work-Life Issues

Within the tables, we first present information about all tenured and tenure-track faculty. We then present the data by rank; by gender, controlling for rank; by race,

controlling for rank; and by division. Significant differences are designated by bold type and a single asterisk. In every case, significance levels are at least $p \leq .05$. Because we rounded percentages for each category, totals will not always equal one hundred.

Furthermore, where we report means, the tables also include standard deviations. Note that the range of standard deviations for research productivity is extremely large. This large range is similar to findings from other studies of faculty productivity (i.e., Blackburn and Lawrence, 1995). The large standard deviations stem from the fact that, even at research universities where research output is expected and emphasized, a relatively small number of faculty produce prodigiously and others produce less (Creamer, 1998).