

**NSF ADVANCE PROJECT
REPORT ON UCI FACULTY SURVEY**

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The UCI NSF Advance Program sponsored a faculty-wide survey and a Chair's survey in the fall quarter of 2002. All 897 faculty members (672 males and 225 females) received e-mails asking them to complete the on-line faculty survey. Of these, 55 (37 males and 18 females) were new hires, and therefore the survey did not apply to them. So our adjusted faculty population is 842. We collected 260 surveys (177 from male faculty members and 83 from female faculty members), for an overall response rate of 31%. The response rate varied by gender: 28% of the male faculty members responded, whereas 40% of the female faculty members responded. Fairly equal proportions of male and female faculty members of each rank responded to the survey.

Table 1: Gender by Rank of Respondent

| | <u>Male</u> | <u>Female</u> |
|---------------------|-------------|---------------|
| Full Professor | 97 (54.80%) | 42 (51.22%) |
| Associate Professor | 36 (20.34%) | 17 (20.73%) |
| Assistant Professor | 44 (24.86%) | 23 (28.05%) |
| | (100%) | (100%) |

Appendix A gives a breakdown by gender and school.

The basic purpose of this survey was to establish a baseline estimate of gender differences among UCI faculty across a number of different measures. We intend to conduct additional surveys in subsequent years in order to measure changes, especially in response to the efforts of the newly established Equity Advisors who now operate in each school. Still, this survey stands alone as a measure of gender equity at UCI as of October, 2002. Below, we summarize the main findings of our analysis of the 2002 survey data.

1. DEPARTMENTAL SUPPORT ITEMS

How satisfied are UCI professors with the amount of support they receive from the university, and does the level of satisfaction differ by gender?

We asked "How satisfied or unsatisfied are you with each of the following aspects of your employment at UC Irvine?"

- Q1_1 = Support from colleagues
- Q1_2 = Accessibility of Dept chair
- Q1_3 = Feedback on research, publication record, and/or teaching record
- Q1_4 = Available equipment
- Q1_5 = Available space
- Q1_6 = Finding qualified research assistants
- Q1_7 = Opportunities to teach courses of your choice

(1 = very dissatisfied; 2 = somewhat dissatisfied ; 3 = somewhat satisfied
4 = very satisfied)

Table 2: Descriptive Statistics for Departmental Support Items, by Gender

| Variable | N | All Faculty | | Female | Male |
|----------|-----|-------------|---------|--------|-------|
| | | Mean | Std Dev | Mean | Mean |
| Q1_1 | 256 | 3.371 | 0.816 | 3.313 | 3.399 |
| Q1_2 | 251 | 3.625 | 0.695 | 3.700 | 3.591 |
| Q1_3 | 243 | 3.148 | 0.854 | 3.156 | 3.145 |
| Q1_4 | 253 | 3.008 | 0.877 | 3.000 | 3.011 |
| Q1_5 | 257 | 3.047 | 0.913 | 3.012 | 3.062 |
| Q1_6 | 229 | 2.707 | 0.930 | 2.676 | 2.721 |
| Q1_7 | 250 | 3.536 | 0.641 | 3.580 | 3.515 |

Professors in our sample have a fairly high level of satisfaction with their employment at UCI, and express more satisfaction than dissatisfaction on each item. Overall, they tend to be least satisfied with finding qualified research assistants and most satisfied with the accessibility of the Department Chair (followed closely by their opportunity to teach courses of their choice).

Gender differences on the departmental support items:

- On average, men report higher satisfaction on items Q1_1, Q1_4, Q1_5, and Q1_6. Women report slightly higher satisfaction on the remaining items: Q1_2, Q1_3, and Q1_7.
- However, considering tests of statistical significance for the mean gender differences, there are no statistically significant differences across the seven departmental support items.

We also considered the gender combinations of the Department Chair and faculty members. We wanted to know if the level of satisfaction was affected by the: (1) the gender of the Department Chair, and (2) the gender combination of faculty member and chair.

Table 3: Descriptive Statistics for Departmental Support Items, by Gender of Respondent Chair

Female Chair

| Variable | All Faculty Mean | Female Faculty Mean | Male Faculty Mean |
|----------|------------------|---------------------|-------------------|
| Q1_1 | 3.22 | 3.09 | 3.30 |
| Q1_2 | 3.42 | 3.53 | 3.37 |
| Q1_3 | 3.07 | 3.32 | 2.94 |
| Q1_4 | 2.84 | 2.95 | 2.78 |
| Q1_5 | 3.06 | 3.23 | 2.97 |
| Q1_6 | 2.58 | 2.64 | 2.54 |
| Q1_7 | 3.43 | 3.52 | 3.38 |

Male Chair

| Variable | All Faculty Mean | Female Faculty Mean | Male Faculty Mean |
|----------|------------------|---------------------|-------------------|
| Q1_1 | 3.42 | 3.39 | 3.43 |
| Q1_2 | 3.69 | 3.75 | 3.65 |
| Q1_3 | 3.17 | 3.10 | 3.20 |
| Q1_4 | 3.06 | 3.02 | 3.07 |
| Q1_5 | 3.04 | 2.93 | 3.09 |
| Q1_6 | 2.75 | 2.69 | 2.77 |
| Q1_7 | 3.57 | 3.60 | 3.55 |

We find only slight differences in means among these combinations.

Correlations among the departmental support items:

The first six items were positively and significantly intercorrelated. Therefore, we combined the first six items into a departmental support index by summing the responses across the six items for each individual. On the overall departmental support index, there is no significant gender difference ($p = 0.23$).

2. TYPES OF SUPPORT RECEIVED AT TIME OF HIRE

Next, we turn to the zeal with which UCI recruits its faculty members. We asked "When you were hired by UC Irvine, did you receive any of the following forms of support?"

- Q5_1 = Campus housing (University Hills)
- Q5_2 = Monetary housing allowance (down payment)
- Q5_3 = A Mortgage Origination Program (MOP) loan
- Q5_4 = A reduced teaching load during your first year of employment
- Q5_5 = An adequate start-up package
- Q5_6 = An employment offer for your spouse/partner

(1 = yes; 0 = no)

Table 4: Descriptive Statistics for Types of Support Received at Hire, by Gender

| Variable | N | All Faculty | | Female | Male |
|----------|-----|-------------|---------|--------|-------|
| | | Mean | Std Dev | Mean | Mean |
| Q5_1 | 226 | 0.633 | 0.483 | 0.614 | 0.641 |
| Q5_2 | 239 | 0.172 | 0.378 | 0.164 | 0.175 |
| Q5_3 | 237 | 0.485 | 0.501 | 0.521 | 0.470 |
| Q5_4 | 255 | 0.635 | 0.482 | 0.704 | 0.603 |
| Q5_5 | 248 | 0.649 | 0.478 | 0.608 | 0.669 |
| Q5_6 | 177 | 0.158 | 0.366 | 0.370 | 0.084 |

Note that the means for each of these items are equal to the proportion of respondents answering "yes." So, 63% received campus housing, 17% got a monetary housing allowance, etc.

Gender differences in types of support received (at time of hire):

There are no significant gender differences on the first five items, although women were less likely to receive several kinds of support, including an adequate start-up package.

However, there is a very large gender difference on the last item: an offer of employment for one's spouse/partner. Women were much more likely to get an offer for their partner/spouse than were men (37% versus 8.4%). As we will see below, women are significantly more likely to consider good job opportunities for their spouse/partner to be important.

3. TYPES OF SUPPORT RECEIVED AT ANY TIME DURING UCI EMPLOYMENT

Next we consider the levels of financial and non-financial support received by faculty members. We asked "*At any time during your employment at UC Irvine, did you receive any of the following forms of support?*"

- Q6_1 = Course release supplied by your department
- Q6_2 = Committee relief supplied by your department
- Q6_3 = Support for research or travel from your department or School
- Q6_4 = Extra space beyond the norm for your department
- Q6_5 = Summer salary

Table 5: Descriptive Statistics for Types of Support Received at Any Time, by Gender

| Variable | N | All Faculty | | Female | Male |
|----------|-----|-------------|---------|--------|-------|
| | | Mean | Std Dev | Mean | Mean |
| Q6_1 | 247 | 0.514 | 0.501 | 0.608 | 0.470 |
| Q6_2 | 248 | 0.234 | 0.424 | 0.247 | 0.228 |
| Q6_3 | 254 | 0.732 | 0.444 | 0.790 | 0.705 |
| Q6_4 | 252 | 0.151 | 0.359 | 0.100 | 0.174 |
| Q6_5 | 226 | 0.513 | 0.501 | 0.529 | 0.506 |

The means for these five items are equal to the proportion of the respondents receiving the particular type of support. So, approximately 73% of respondents received research/travel support, while only 15% received extra space beyond their department's norm.

Gender differences in types of support received (anytime):

- The only significant gender difference ($p=0.04$, two-tailed) on these items is for Q6_1 (course release), and suggests that women receive significantly more course releases than men. This finding is replicated in the department-level analysis.
- One other variable has a marginally significant gender difference: Q6_4 (extra space). Women were (two-tailed $p = 0.12$) less likely to receive extra space beyond the norm of the department (17% for men versus 10% for women). It is necessary to control for school in this analysis, because in the hard sciences, where there tend to be less women, faculty members tend to need more space. When we control for school, we find that Q6_4 is significant (two-tailed $p=0.05$), and suggests that women receive significantly less space than men, even when school is controlled. This difference disappears, however, when we control for date of hire. Everyone gets less space now than in the past, and women are more likely to be hired recently than men.

(note: The interitem correlations on this subset of items are not sufficiently high; therefore, we have not combined them into an overall support index).

4. FACULTY WORKLOAD

Now we move on to consider the reported workload of faculty members. We asked, "In a typical week during the school year, approximately how many hours were you engaged in the following teaching activities...?"

Table 6: Descriptive Statistics for Teaching Items, by Gender

| | N | All Faculty Mean | Std Dev | Female Mean | Male Mean |
|---------------------------------------|-----|---------------------|---------|----------------|--------------|
| <i>Undergraduate Teaching (Q7_1):</i> | 219 | 11.229 | 8.569 | 12.265 | 10.792 |
| <i>Graduate Teaching (Q8_1):</i> | 227 | 8.746 | 7.258 | 7.799 | 9.176 |

Gender Differences on Q7_1 and Q8_1:

- On average, women devote more hours to undergraduate teaching (12.27 hours/week versus 10.79 hours/week). Although sizeable, this difference is not statistically significant, (one-tailed $p=0.085$).
- On average, men teach slightly more at the graduate level than women (9.18 hours/week versus 7.80 hours per week). Again, this difference is not statistically significant, (one-tailed $p=0.165$).

- There is also no statistically significant gender difference on *average combined teaching hours* (undergraduate teaching hours + graduate teaching hours)

We asked, "In a typical week during the school year, approximately how many hours were you engaged in the following supervising activities...?"

Table 7: Descriptive Statistics for Supervising Items, by Gender

| | N | All Faculty Mean | Std Dev | Female Mean | Male Mean |
|--|-----|---------------------|---------|----------------|--------------|
| <i>Undergraduate Student Supervising (Q9_1):</i> | 227 | 2.516 | 2.405 | 2.487 | 2.528 |
| <i>Graduate Student Supervising (Q10_1):</i> | 232 | 6.457 | 6.735 | 5.655 | 6.811 |

Gender Differences on Q9_1 and Q10_1:

- No statistically significant gender difference on undergraduate student supervising hours ($p = 0.90$).
- However, women do significantly less graduate student advising in this sample (6.81 hours for men, 5.65 hours for women, $p < 0.01$).

We asked, "In a typical week during the school year, approximately how many hours do you spend engaged in committee service?"

- Q11_1 = Department service
- Q12_1 = School service
- Q13_1 = University service
- Q14_1 = Service to your discipline

Table 8: Descriptive Statistics for Committee Service Items, by Gender

| Variable | N | All Faculty Mean | Std Dev | Female Mean | Male Mean |
|----------|-----|---------------------|---------|----------------|--------------|
| Q11_1 | 229 | 4.003 | 4.691 | 4.165 | 3.963 |
| Q12_1 | 217 | 2.221 | 4.270 | 3.000 | 1.876 |
| Q13_1 | 220 | 2.068 | 3.602 | 1.811 | 2.144 |
| Q14_1 | 226 | 4.703 | 7.443 | 4.058 | 5.012 |

Gender differences on committee service items:

- No significant gender difference in Department Service.

- Women do significantly more School service (1.88 hours versus 3.00 hours).
- Men do significantly more University service (2.14 hours versus 1.81 hours).
- Men do more service to the discipline (5.01 hours versus 4.06 hours), but this difference is not statically significant.
- When we consider the sum of hours devoted to committee work (excluding service to the discipline) per week by gender, we find that women spend an average of 8.64 hours, while men spend an average of 7.43 hours. This difference is not statistically significant (two-tailed $p=0.29$).

Faculty Workload Regressions

We expect workload to vary by rank (senior faculty members should carry a heavier workload than junior faculty members) and possibly by school, but we are also interested to know if it varies by gender. We combined the six items into an index by summing each respondent's responses.

**Table 9. Predictors of Total Faculty Workload Hours:
Standardized Ordinary Least Squares Regression
Coefficients (N=180)**

| Variable | Coefficient |
|---------------------------|--------------------|
| Degree year | 0.085 |
| Female | -0.071 |
| Rank | |
| Associate Professor | 0.048 |
| Assistant Professor | -0.237 |
| School[†] | |
| R² | 0.088 |
| Adj R² | 0.016 |

*p < 0.05 (two-tailed test)

[†] We include the Schools as controls, but do not report the coefficients here in the interest of parsimony. None are significant.

Note: Standardized regression coefficients reported. Comparison categories are Full Professor and School of Biological Sciences. Total workload hours is sum of reported hours spent teaching, supervising, and engaged in service.

None of the variables in our equation are significantly related to workload, and the equation explains very little of workload variance. This means that there is equity across schools, across ranks, and across gender. This seems to indicate a heavier workload for junior faculty members than is optimum.

5. FACULTY WORKLOAD SATISFACTION ITEMS

Next we consider satisfaction with reported workloads at UCI. We asked "*How satisfied or unsatisfied are you with each of the following aspects of your employment at UC Irvine?*"

- Q2_1 = Managing your teaching load
- Q2_2 = Serving on Dept committees
- Q2_3 = Serving on School committees
- Q2_4 = Serving on University committees
- Q2_5 = Advising graduate students
- Q2_6 = Time available for your research

(1 = very dissatisfied; 2 = somewhat dissatisfied ; 3 = somewhat satisfied
4 = very satisfied)

Table 10: Descriptive Statistics for Workload Satisfaction Items, by Gender

| Variable | N | All Faculty Mean | Std Dev | Female Mean | Male Mean |
|----------|-----|---------------------|---------|----------------|--------------|
| Q2_1 | 251 | 3.167 | 0.802 | 3.062 | 3.218 |
| Q2_2 | 249 | 3.100 | 0.824 | 2.987 | 3.153 |
| Q2_3 | 214 | 3.154 | 0.775 | 3.000 | 3.224 |
| Q2_4 | 216 | 3.134 | 0.810 | 2.986 | 3.208 |
| Q2_5 | 235 | 3.353 | 0.709 | 3.289 | 3.384 |
| Q2_6 | 254 | 2.630 | 0.922 | 2.309 | 2.780 |

Again, UCI professors report a fairly high level of satisfaction with their workloads. Those in our sample are the least satisfied with their time availability for their research, and most satisfied with the amount of time spent advising graduate students.

Gender differences on the workload items:

- On average, women report lower levels of satisfaction on all six of the workload items (meaning they are less satisfied than men across the board).
- Considering tests of statistical significance for the mean gender differences, women are significantly less satisfied with Q2_3 (school committees), Q2_4 (University committees), and Q2_6 (time available for research). Women did not report significantly lower satisfaction with respect to the other three items (teaching load, Dept committees, and advising graduate students). This is interesting considering the hours respondents reported spending on each of these activities. Women reported spending significantly more time on school committees, and significantly less time on university committees. Overall, they report a mean number of hours that is not significantly different from those spent by men, though the number of hours spent on the various tasks varies somewhat by gender.

Correlations among the workload items:

All six items are positively and significantly correlated with one another (so people who tended to be (dis)satisfied with one item tended to be (dis)satisfied with the other five). Therefore, we can combine them into an index of general workload satisfaction, by summing the responses across the six items for each individual.

On the overall workload index, there is a statistically significant gender difference, with women reporting overall lower satisfaction with the workload indicators.

**Table 11. Predictors of Satisfaction with Faculty Workload:
Standardized Ordinary Least Squares
Regression Coefficients (N=193)**

| Variable | MODEL 1 Coefficient | MODEL 2 Coefficient |
|---------------------------|------------------------|------------------------|
| Degree year | -0.369 [*] | -0.344 [*] |
| Female | -0.215 [*] | -0.237 [*] |
| Total workload hours | --- | -0.158 ⁺ |
| Rank | | |
| Associate Professor | -0.037 | -0.028 |
| Assistant Professor | 0.299 [*] | 0.261 [*] |
| School^a | | |
| Family | | |
| Young Children | 0.044 | 0.031 |
| Spouse Employed | -0.003 | -0.004 |
| R ² | 0.270 | 0.292 |
| Adj. R ² | 0.160 | 0.177 |

*p < 0.05 (two-tailed test)

⁺p < 0.10 (two-tailed test)

^a We control for school, but in the interest of parsimony, we do not report the coefficients here. None of the schools has a significant coefficient.

Note: Standardized regression coefficients reported. Comparison category is Full Professor. Total workload hours is sum of reported hours spent teaching, supervising, and engaged in service.

As we described above, the bivariate analysis found that women score significantly lower on the workload satisfaction index, indicating that they are less satisfied than men. The regression analysis (Model 1) addresses whether the overall gender difference in satisfaction with workload is due to gender differences on other variables. We controlled for degree year (year respondent completed his/her Ph.D.), School (e.g., Biological Sciences, Social Sciences, College of Medicine, Social Ecology, Engineering, Physical Sciences, Humanities, Arts, Social Sciences, Graduate School of Management), rank (Professor, Associate Professor, Assistant Professor), and family variables (young children in the home and employment of spouse).

Importantly, the gender difference was found *not* to be due to these other variables—women reported being significantly ($p = 0.025$, one-tailed test) less satisfied with their workload, even after adjustments are made for degree year, school, rank, and family variables. It is also important to note that degree year is negatively related with satisfaction, meaning that junior faculty members feel that their workload is too heavy.

How does this relate to actual reported hours spent on various tasks during a typical week? When we add reported workload in Model 2, we find, as expected, that those with heavier workloads are (marginally) significantly less satisfied. Perhaps women are less satisfied because they perform lower-level service compared to men. That is, they

do more school-level service, whereas men do more university-level service. Also, male faculty members spend more of their workload hours with graduate students, who may be an asset in terms of helping with research.

6. JOURNAL ARTICLE & BOOK PRODUCTIVITY

How productive are UCI professors, and are there gender differences on productivity?

1. We asked, "In total, how many of your articles have been accepted for publication in these three [self-reported top 3 journals] journals during your academic career?" (Q18_1)

2. "Altogether, how many of your peer-reviewed articles have been accepted for publication during your career (include sole and co-authored articles)?" (Q19_1)

3. "How many of your scholarly books have been published or are in press (do not include textbooks and edited volumes)?" (Q20_1)

Table 12: Descriptive Statistics for Productivity Items, by Gender

| Variable | N | All Faculty | | Female | Male |
|----------|-----|-------------|---------|--------|--------|
| | | Mean | Std Dev | Mean | Mean |
| Q18_1 | 218 | 11.922 | 17.745 | 6.688 | 14.097 |
| Q19_1 | 219 | 39.087 | 37.223 | 28.016 | 43.361 |
| Q20_1 | 225 | 1.0756 | 2.761 | 0.785 | 1.194 |

* These large gender differences in productivity disappear when year of degree is controlled

Gender differences on these three productivity measures:

- When reviewing the bivariate correlations, we find that women score significantly lower on all three of these items.
- But women, not surprisingly, have on average more recent degree dates than men. So, being female is positively related to degree date, and degree date is negatively related to lifetime productivity. Thus, we have a negative relationship between female and productivity.
- When we control for degree year, there is no significant gender difference on either Q18_1 or Q19_1. And, on Q20_1, the difference is also not significant (but getting close ($p=0.08$, two-tailed test)).

Regression Analysis of Productivity

To arrive at a comprehensive measure of productivity, we combine the three measures as follows: since academic books require considerably more time and effort than research articles, we weight books by a factor of 5, and add it to the number of articles and the number of articles in top journals. This weights articles in top journals by a factor

of 2. We take the natural logarithm the original dependent variable, since it is severely skewed.

Table 13. Predictors of Productivity: Log of Publications
Standardized Ordinary Least Squares
Regression Coefficients (N=126)

| Variable | Coefficient |
|---------------------------|--------------------|
| Degree year | -0.240* |
| Female | -0.044 |
| Workload | |
| Total teaching | 0.099 |
| Total university service | 0.028 |
| Total discipline service | 0.129* |
| Total supervision | 0.018 |
| Rank | |
| Associate Professor | -0.174* |
| Assistant Professor | -0.505* |
| Family | |
| Young Children | -0.097 |
| Spouse Employed | -0.007 |
| Female*Young Children | -0.049 |
| School⁺ | |
| R² | 0.768 |
| Adj. R² | 0.724 |

*p < 0.05 (two-tailed test)

⁺ We control for school, but in the interest of parsimony, we do not report the coefficients here.

Note: Standardized regression coefficients reported. Comparison category is Full Professor.

As expected, degree year and rank are negatively related to productivity, and service to the discipline is positively related. We interpret the latter as follows: service to the discipline is by invitation, which is usually extended to scholars who have earned a reputation in the field. Service, in turn, tends to increase contacts in the discipline and enhance publication possibilities.

7. FUNDING

How did UCI faculty fare in obtaining funding for their research? We asked, "Did you receive funding from any of the following sources during the past academic year?" (yes or no)

Q21_1=Funding from UC Irvine

Q21_2=Funding from a foundation or other nonprofit organization

Q21_3=Funding from for-profit business or industry in the private sector

Q21_4=Funding from state or local government

Q21_5=Funding from federal government

Table 14: Descriptive Statistics for Funding Items, by Gender

| Variable | N | All Faculty | | Female | Male |
|----------|-----|-------------|---------|--------|-------|
| | | Mean | Std Dev | Mean | Mean |
| Q21_1 | 238 | 0.559 | 0.498 | 0.595 | 0.543 |
| Q21_2 | 234 | 0.367 | 0.483 | 0.378 | 0.363 |
| Q21_3 | 223 | 0.157 | 0.365 | 0.141 | 0.164 |
| Q21_4 | 225 | 0.182 | 0.387 | 0.200 | 0.174 |
| Q21_5 | 233 | 0.609 | 0.489 | 0.551 | 0.634 |

The mean on these items equals the proportion that replied yes (e.g., received funding).

Gender differences on the funding measures:

- A higher percentage of women than men received funding from UC Irvine, non-profits, and the state government. A higher percentage of men than women received funding from for-profit organizations, and the federal government.
- In terms of *total grant dollars* (Q22_1), there is no significant gender difference. When we add controls for degree year and school, the differences remain non significant.

8. WORK-FAMILY ITEMS

We asked "*How satisfied or unsatisfied are you with each of the following aspects of your employment at UC Irvine?*"

Q3_1 = Balancing family obligations with work responsibilities

Q3_2 = Access to child care facilities

(1 = very dissatisfied; 2 = somewhat dissatisfied ; 3 = somewhat satisfied
4 = very satisfied)

Table 15: Descriptive Statistics for Work-Family Satisfaction Items, by Gender

| Variable | N | All Faculty | | Female | Male |
|----------|-----|-------------|---------|--------|-------|
| | | Mean | Std Dev | Mean | Mean |
| Q3_1 | 245 | 2.918 | 0.874 | 2.645 | 3.041 |
| Q3_2 | 103 | 3.029 | 1.043 | 2.700 | 3.164 |

Respondents were slightly more satisfied with access to child care facilities (they are "somewhat satisfied" overall). On average, respondents are slightly less than somewhat satisfied with respect to their ability to balance work and family.

Gender differences on the work-family items:

Although women on average express less satisfaction on the work-family balance item (the mean for men is 3.04; among women the mean is 2.64), the difference is not

statistically significant ($p = 0.17$). This could be due to equal levels of satisfaction, or to different expectations of what one might expect in terms of work-family balance. The mean gender difference on Q3_2 (access to child care facilities) is statistically significant (mean for men is 3.16; among women the mean is 2.70, $p = 0.03$). Women are significantly less likely to express satisfaction with accessing child care facilities at UCI; men don't find it to be as much of a problem.

If we consider only faculty members with young children (children needing childcare, ages 12 and younger), women are significantly (one-tailed $p < 0.001$) less satisfied with their balance of work-family responsibilities. But they are not significantly different on their satisfaction with access to child care facilities.

9. CHILD CARE AND HOUSEHOLD RESPONSIBILITIES

Do men and women faculty members have different responsibilities at home? We asked:

1. "Please indicate the percentage of childcare duties you are responsible for..." (Q35)
2. "Please indicate the percentage of household responsibilities (cooking, yard work, cleaning, household repairs, shopping, etc.) you perform..." (Q36)

- Women, on average, score considerably higher on both items:

women's mean on Q35 = 71.5% (N=23)
men's mean on Q35 = 32.3% (N=67)

women's mean on Q36 = 67.5% (N=63)
men's mean on Q36 = 43.3% (N=142)

- However, these differences are not statistically significant. Clearly, this because there is a high percentage of missing values on especially the first of these variables, resulting in a small sample size. Only 28% of women and 38% of men answered Q35, 76% of women and 80% of men answered Q36.

10. ABOUT YOUR DEPARTMENT

We are also interested in the work environment at UCI. We asked, "Since you have been a faculty member at UC Irvine, approximately how many times, if ever, have you experienced any of the following behavior from (a) students, (b) faculty, and/or (c) staff?"

The results below apply to the total number of remarks from students, faculty, and staff combined.

1. Questions or disparaging remarks about your qualifications

- Women received significantly ($p=0.03$) more disparaging remarks about their qualifications than men (mean for men=3.78, mean for women=4.44)

2. Inappropriate references to your personal life or appearance

- Women received significantly ($p < 0.01$) more inappropriate references to their personal life or appearance than men (mean for men=3.48, mean for women=4.20)

3. Overbearing, intimidating, or offensive verbal behavior

- Women received more inappropriate references to their personal life or appearance than men, but the difference is not statistically significant (mean for men=4.37, mean for women=5.14)

4. Physical intimidation

- Women received significantly ($p < 0.05$) more physical intimidation than men (mean for men=3.14, mean for women=3.24)

5. Other types of harassment or assault

- Women received more "other" types than men, but the difference is not statistically significant (mean for men=3.17, mean for women=3.33)

Overall, women faculty members reported significantly more negative treatment in the workplace on the part of students, staff and faculty for three of the five measures.

Now consider only COLLEAGES AND ADMINISTRATORS. How often were are you...

1. Asked to take on additional responsibilities (e.g. teaching in place of absent colleagues, transporting job candidates, proctoring others' exams)?

- Women are asked to do this more than men, but the difference is not statistically significant (mean for men=2.29, mean for women=2.36)

2. Excluded from key processes (e.g. policymaking or decision making meetings or committees)

- No significant gender difference in exclusion from key processes

3. Discouraged from participation at meetings (e.g. by ignoring, interrupting, being critical)

- No significant gender difference in discouragement from participation at meetings

So overall, women did not report more negative experiences with colleagues and administrators in their work environment.

We also asked, "*During processes involving hiring, reappointment, tenure, or promotion in your department, have you noted any of the following behaviors from colleagues referring to an individual under consideration?*" Please indicate whether any observed behaviors were based on the GENDER or RACE/ETHNICITY of the individual under consideration (questions Q46_1 and Q46_2).

1. Inappropriate references to one's personal life or appearance (GENDER)

- Women were significantly ($p < 0.001$) more likely to note inappropriate references to one's personal life or appearance (based on gender) than men (mean for men=1.22, mean for women=1.65)

2. Inappropriate references to one's personal life or appearance (RACE/ETHNICITY)

- Women were significantly ($p < 0.01$) more likely to note inappropriate references to one's personal life or appearance (based on race/ethnicity) than men (mean for men=1.19, mean for women=1.40)

Female faculty members were more cognizant of negative remarks being made of other women and racial/ethnic minorities than were male faculty members.

When a faculty member contemplates leaving the university, what factors do they consider to be important in arriving at a decision?

We asked, *"If you were to leave your current position at UC Irvine to accept another position inside or outside of academia, how important would each of the following be in your decision?"* (1=not important; 2=somewhat important; 3=very important)

1. Salary level

- No statistically significant gender difference in importance.

2. Tenure-track/tenured position

- Women consider this significantly more important than do men.

3. Opportunities for advancement

- No statistically significant gender difference in importance.

4. Benefits

- No statistically significant gender difference in importance.

5. No pressure to publish

- No statistically significant gender difference in importance.

6. Greater opportunity to teach

- No statistically significant gender difference in importance.

7. Greater opportunity to do research

- No statistically significant gender difference in importance.

8. Good geographic location

- No statistically significant gender difference in importance.

9. Good job or job opportunities for spouse/partner

- Women consider this significantly more important than do men.

10. Good research facilities and equipment

- No statistically significant gender difference in importance.

11. Good instructional facilities and equipment

- No statistically significant gender difference in importance.

11. INCOME

Women respondents earn significantly less than men. We ran a regression analysis to determine the source of the differences. We seek to determine why women earn less than men. We know that there is no significant difference on productivity by gender, but productivity varies by degree year, and women tend to be concentrated in the later degree years. Are women concentrated in lower-paying departments/schools?

**Table 16. Predictors of Salary:
Standardized Ordinary Least Squares
Regression Coefficients (N=128)**

| Variable | Coefficient |
|---------------------------|--------------------|
| Degree year | -.0638* |
| Female | -.0.038 |
| Age | -0.169 |
| Date of Hire | 0.248* |
| Workload | -0.046 |
| Total teaching | -.052 |
| Total university service | -0.003 |
| Total discipline service | -0.032 |
| Total supervision | |
| Productivity | |
| Total Publications | 0.249* |
| Rank | |
| Associate Professor | -0.271* |
| Assistant Professor | -0.456* |
| Family | |
| Young Children | -0.040 |
| Spouse Employed | 0.067 |
| School⁺ | |
| R² | 0.819 |
| Adj. R² | 0.078 |

*p < 0.05 (two-tailed test)

⁺ We control for school, but in the interest of parsimony, we do not report the coefficients here.

Note: Standardized regression coefficients reported. Comparison category is Full Professor.

We find that degree year and rank are negatively related to income. Date of hire (more recent hires) and productivity are positively related. The fact that the female variable is not significant in this model does not mean that women don't get lower salaries. They do. It indicates that the reason they have lower salaries is accounted for by other variables in the model. We expect that the school variable accounts for the gender difference: women tend to be concentrated in schools with lower salaries. We have a similar finding using the department-level data, and comment further on this below.

Further questions we plan to address are: Does men's productivity count for more than women's achievements? Do women earn less than men in the same department? Are women slower to advance through the ranks than comparable men?

We are also interested in the speed with which men and women move through the UCI step system. How long does it take an average man and an average woman to obtain tenure? How long until promotion to full professor? We will consider three different dependent variables (years from PhD to tenure, years from Associate Professor to Full

Professor, and years from PhD to Full Professor), and several independent variables: age, school, children, working spouse, total hours of committee work, and total hours teaching.

12. GENERAL JOB SATISFACTION

Finally, we turn to satisfaction with the general aspects of their UCI jobs. We asked *"How satisfied or unsatisfied are you with each of the following aspects of your employment at UC Irvine?"*

Q4_1 = Job security

Q4_2 = Salary

Q4_3 = Spouse or partner employment opportunities in geographic area

Q4_4 = Your job at UC Irvine, generally

(1 = very dissatisfied; 2 = somewhat dissatisfied ; 3 = somewhat satisfied
4 = very satisfied)

Table 17: Descriptive Statistics for General Job Satisfaction Items, by Gender

| Variable | N | All Faculty | | Female | Male |
|----------|-----|-------------|---------|--------|-------|
| | | Mean | Std Dev | Mean | Mean |
| Q4_1 | 252 | 3.659 | 0.601 | 3.580 | 3.696 |
| Q4_2 | 258 | 2.884 | 0.963 | 2.805 | 2.920 |
| Q4_3 | 200 | 3.205 | 0.909 | 3.368 | 3.140 |
| Q4_4 | 257 | 3.366 | 0.700 | 3.235 | 3.426 |

Respondents are the most satisfied with their job security (mean=3.66), and the least satisfied with their salary (mean=2.88).

Gender differences on the job general satisfaction items:

- Women respondents are significantly ($p = 0.02$) less satisfied with their job security (men's mean=3.7 versus 3.58 for women). We also found an interesting relationship between rank and job security satisfaction: Assistant Professors have a mean of 3.10, Associate Professors a mean of 3.63, and Full Professors a mean of 3.91 on Q4_1. Assistants and Associates are significantly ($p=0.001$) less satisfied than Full Professor, and Assistants are significantly ($p=0.001$) less satisfied than Associates. Among Assistants, women are less satisfied than men ($p=0.003$); among Associates and Full Professors, there are no significant gender differences.
- Women respondents are also significantly less satisfied with respect to item Q4_4 (general job satisfaction), with women's mean equal to 3.235, and men's mean 3.426.
- Although only marginally significant, women express less satisfaction with salary (2.92 vs. 2.80). This of course could be important in terms of attracting and retaining women faculty at UCI. Not surprisingly, there is virtually no gender difference on Q4_3.

Correlations among the general satisfaction items:

The four job satisfaction items are significantly intercorrelated, so they were combined into an index by summing the scores on the individual items. There is no significant gender difference in terms of the general job satisfaction index, although women's average score was lower than men's. If we eliminate Q4_1 (spouse or partner employment opportunities in the geographic area) from the job satisfaction index, we find significant differences by gender: women are significantly less satisfied. Men's mean: 10.05; women's mean: 9.62, $p=0.04$, one-tailed test.

CONCLUSIONS

We found that the faculty members' experiences at UCI are partially dependent on gender. While male and female faculty do not differ on their perception of departmental support, most aspects of support at hire, most aspects of university support, overall workload, and levels of productivity, they do differ on a number of other measures. Women report more support for spousal hire at the time of their hire, and they also indicate that it is more important for them in considering whether or not to leave UCI. Women get less extra space, but we found this to be a function of women's more recent hire dates. Women do less graduate student supervision and more school-level service, while men do more university and discipline service. We found that discipline service is positively related to productivity. Women receive more leaves. We don't yet know of the reason for more leaves for women, but it is possibly due to the university's maternity leave program.

Although we found no difference in the total workload hours reported by men and women, women are less satisfied with their workloads (as are more junior faculty members, while their reported workload hours are also not significantly different). This may reflect a dissatisfaction with where they spend their time (compared to men, more on undergraduates than graduates; and more on lower level service).

We found that women have lower productivity, but we discovered that it is entirely due to their later PhD dates.

Women receive funding, but tend to receive funds from UCI, non-profits, and state governments, while men tend to get funding from for-profit and federal government agencies. Yet the total grant dollars are not significantly different for men and women.

Women with young children tend to be less satisfied with the work/family balance. Our response rate on child care/household issues was quite low, but of the people who did answer, we found large differences in reported time spent on these tasks: women reported being responsible for considerably more of this work.

Women reported significantly more negative treatment by faculty, staff and students in the workplace, and noticed disparaging remarks about other women and ethnic/racial minorities more often.

When considering leaving UCI, women were more likely to cite the importance of jobs for their spouse and tenure track positions.

Women earn significantly less, but when we control for degree year, rank, productivity, family variables, and school, that difference disappears. While degree year, rank, and productivity are meritocratic factors for income variance, school is not. Women tend to be concentrated in schools that have lower salaries. This is not unlike the occupational reward structure in the private sector, where women's skills tend to be undervalued.

APPENDIX A

SURVEY RESPONDENTS (N=260): GENDER BREAKDOWN BY SCHOOL

| SCHOOL | N | % Female |
|---|------------|----------|
| GRADUATE SCHOOL OF MANAGEMENT | 8 | 37.50% |
| THE HENRY SAMUELI SCHOOL OF ENGINEERING | 15 | 20.00% |
| INFORMATION & COMPUTER SCIENCE | 15 | 13.33% |
| SCHOOL OF SOCIAL ECOLOGY | 21 | 57.14% |
| COLLEGE OF MEDICINE (BASIC SCIENCE) | 19 | 36.84% |
| COLLEGE OF MEDICINE (CLINICAL SCIENCE) | 18 | 33.33% |
| ACADEMIC AFFAIRS | 1 | 0.00% |
| SCHOOL OF BIOLOGICAL SCIENCES | 28 | 35.71% |
| CLAIRE TREVOR SCHOOL OF THE ARTS | 9 | 55.56% |
| SCHOOL OF HUMANITIES | 31 | 48.39% |
| SCHOOL OF PHYSICAL SCIENCES | 43 | 6.98% |
| SCHOOL OF SOCIAL SCIENCES | 51 | 33.33% |
| DEPARTMENT OF EDUCATION | 1 | 0.00% |
| TOTAL | 260 | |