

Women in Science and Engineering System Transformation

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UIC UNIVERSITY OF ILLINOIS
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University of Illinois at Chicago Faculty Work Climate Survey

Final Report—Abridged Version

June 2006

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UIC Faculty Work Climate Survey

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UIC Faculty Work Climate Survey: Goals

1. Assess faculty perceptions of the working climate in Colleges of Engineering and Liberal Arts and Sciences
2. Analyze the data by **discipline** (Science, Technology, Engineering & Mathematics [STEM] vs. non-STEM), and by **gender** (men vs. women) controlling for associated factors, such as rank
3. Disseminate the findings widely among the faculty
4. Communicate the findings to the upper administration, who are committed to improving faculty satisfaction, productivity, and equity

Survey Development & Implementation

Please see <http://> for the complete report

Development:

- Riger, S., Stokes, J., Raja, S., & Sullivan, M. (1997). Measuring perceptions of the work environment for female faculty. *The Review of Higher Education*, 21(1), 63-78.
- University of Michigan: Survey of Academic Climate and Activities, Fall 2002 (http://sitemaker.umich.edu/advance/reports_publications_and_grant_proposals#climate)
- University of Wisconsin: Study of Faculty and Academic Staff Worklife, Fall 2002 (<http://www.provost.wisc.edu/climate/>)

Implementation:

- Approval was obtained from the UIC Institutional Review Board prior to implementing the survey.
- Questionnaires were sent to all tenured and tenure-track faculty in LAS and Engineering.

Survey Description

- The questionnaire had 68 questions: 60 multiple-choice and 8 open-ended questions ([link to survey](#))
- Strict confidentiality has been maintained; all the original questionnaires have been destroyed
- The survey examined key topic areas including
 - ◆ Satisfaction with UIC
 - ◆ Hiring process at UIC
 - ◆ Balancing personal & professional life
 - ◆ Interactions with colleagues
 - ◆ Work climate within the department
 - ◆ Professional activities
 - ◆ Tenure process
 - ◆ UIC programs & resources
 - ◆ Faculty diversity issues
 - ◆ Demographics

Focus of the Abridged Report

Please see <http://> for the complete report

- To describe the demographic characteristics of the respondents
- To report gender differences in the bivariate analysis
- To define the predictors of the four primary outcome measures:
 1. Satisfaction with current position at UIC
 2. Satisfaction with career progression at UIC
 3. Consideration to leave UIC
 4. Overall satisfaction
- To summarize the significant overall findings by **gender and discipline**

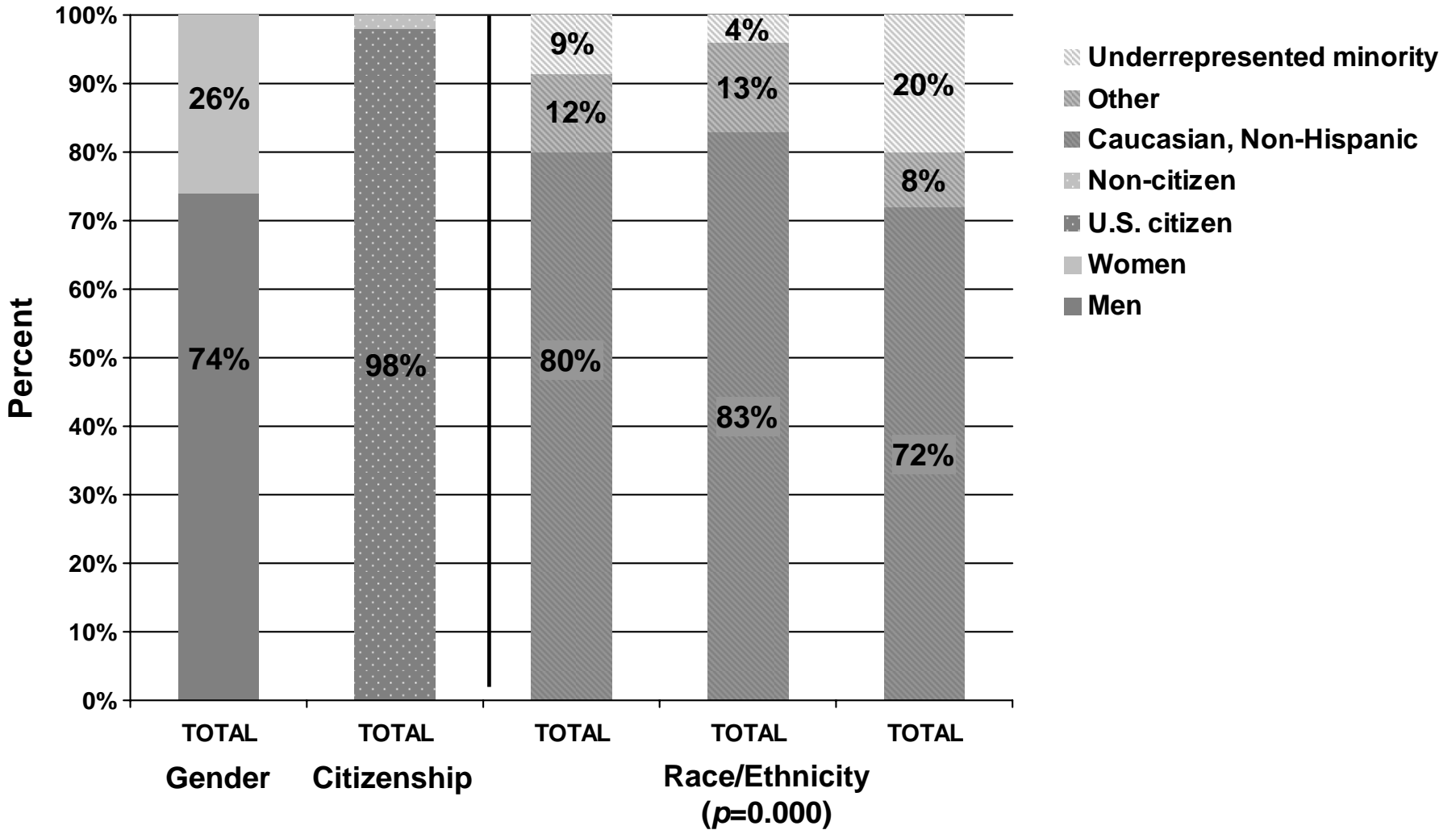
Data Analyses

- **Bivariate Analyses** by:
 - ♦ **Gender:** Men vs. Women
 - ♦ **Discipline:** STEM vs. non-STEM
 - ⇒ **STEM:** College of Engineering, LAS Natural Sciences
 - ⇒ **Non-STEM:** LAS Social Sciences, LAS Humanities
- **ANOVA, Chi-square:** Statistical methods used to test the associations between 2 variables
- **Factor Analysis:** Method of data reduction used to develop scales from multi-item questions
- **Multiple Regression Analysis:** Method used to identify predictors for the outcome measures
- **Path Analysis:** A method that provides a broader context for the outcome variables

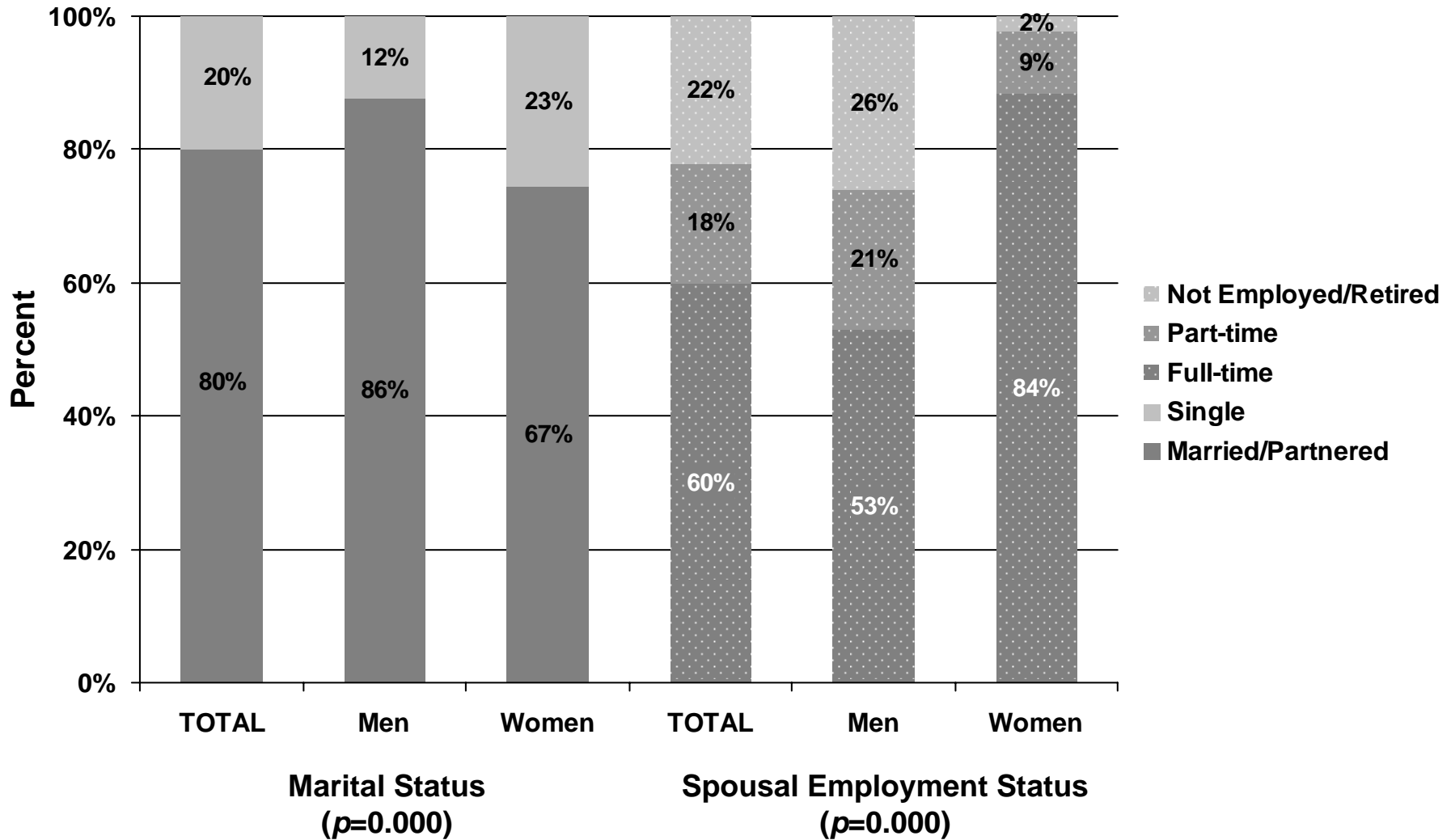
Response Rate, by Discipline & Gender

	Total sample size	Number of responses	Response rate	% of total responses
DISCIPLINE				
Total	521	351	67.4%	100.0%
STEM	251	173	68.9%	49.3%
Non-STEM	267	172	64.4%	49.0%
Discipline missing	n/a	6	n/a	1.7%
GENDER				
Total	521	351	67.4%	100.0%
Men	381	253	66.4%	72.1%
Women	140	89	63.6%	25.4%
Gender missing	n/a	9	n/a	2.6%

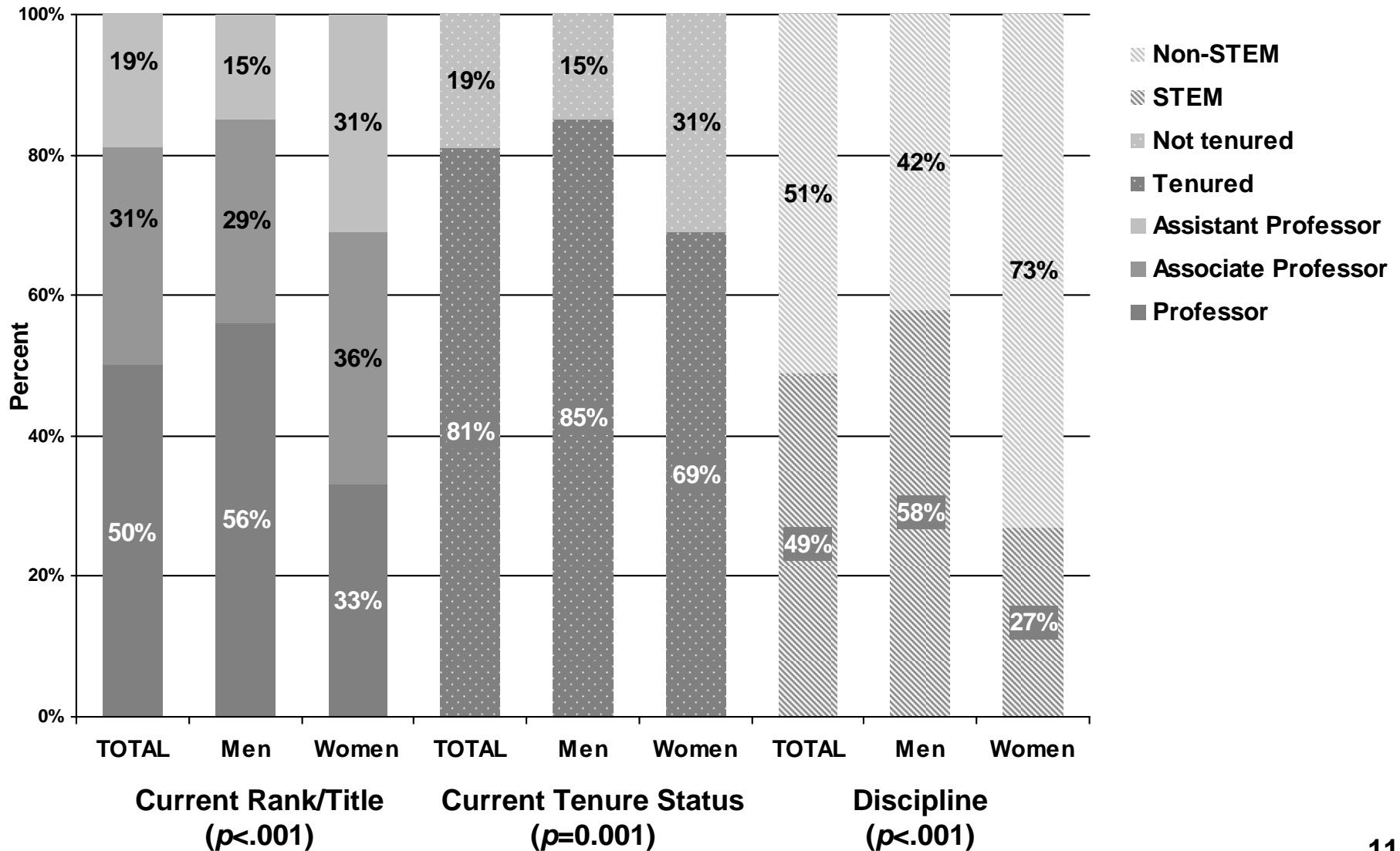
Sample Demographics



Sample Demographics



Faculty Academic Characteristics



Summary of Findings: Bivariate Analyses

- Overall response rate: 67%
- No **significant effects of gender or discipline** for:
 - ◆ Satisfaction with position at UIC
 - ◆ Overall satisfaction
 - ◆ Hiring process scale*
 - ◆ Renegotiation of salary
 - ◆ Percentage of articles submitted and accepted
 - ◆ Resources available to faculty scale*
 - ◆ Negative departmental climate scale*
 - ◆ Positive climate for minorities scale*
 - ◆ The tenure process scale*
 - ◆ Balancing personal and professional life*

**Scales were developed using factor analysis*

Summary of Findings: Bivariate Analyses

Statistically significant effects of **gender**, controlling for rank for:

- **Serious consideration to leave UIC:** men were more likely to leave
- **Self-rated overall research productivity:** women rated themselves lower
- **Departmental advisory/executive committee:** men were more likely to serve on this committee than women
- **Positive climate for women scale:** women faculty felt that the climate was less positive for women than their male counterparts
- **Safety at the workplace:** women felt less safe than men
- **Rolling back the tenure clock:** women were more likely to roll back the tenure clock
- **Women rated the tenure rollback, dual-career hiring, family medical leave and campus childcare as programs of more value than men**
- **Women were twice as likely as men to be childless, and reported not having the number of children they would have liked because of their professional obligations.**
- **Care of dependent children:** more men reported caring for dependent children than women
- **Women faculty with children felt they were perceived as less committed to their jobs than women without children**

Summary of Findings: Bivariate Analyses

Statistically significant effects of **discipline**, controlling for rank for:

- **Satisfaction with career progression:** faculty in non-STEM fields were more satisfied. The higher the rank, the more satisfied they were.
- **Serious consideration to leave UIC:** non-STEM faculty considered leaving more seriously
- **Number of undergraduate & graduate courses taught:** faculty in non-STEM taught more courses
- **Being a PI on funded research:** STEM faculty were more likely to be PIs
- **Number of articles or books published:** STEM faculty had more articles, non-STEM faculty had more books
- **Rolling back the tenure clock:** faculty from the non-STEM fields were more likely to roll back the tenure clock
- **Faculty from the non-STEM fields found tenure rollback to be of more value than faculty in the STEM fields**
- **Faculty in the non-STEM fields reported it was harder to adjust their schedules to care for children**

Primary Outcome Measures:

1. Satisfaction with Current Position at UIC

Bivariate Results

- 58% of faculty were very or moderately satisfied
- 23% of faculty were very or moderately dissatisfied
- Mean score ($4.16 \pm 1.53^*$) indicates that overall faculty were slightly to moderately satisfied with their position at UIC.
- There were no significant effects of gender, discipline, or rank on satisfaction at UIC.
- Top 3 reasons for dissatisfaction were
Resources, Administration, and Salary.

*On a scale of 1-6, where 6 was most satisfied.

Significant Predictors of Dissatisfaction with Current Position at UIC

(Multiple Regression Analysis)

FACTOR	Overall	Factors for women	Factors for men
A negative departmental climate	S	S	S
Fewer resources	S	NS	S
Not having tenure	S	NS	S
Fewer like-minded colleagues	S	NS	NS
Less of a balance between personal & professional life	S	NS	NS
Having to care for dependent children	NS	NS	S

S – Significant predictor

NS – Not a significant predictor

Primary Outcome Measures:

2. Satisfaction with Career Progression at UIC

Bivariate Results

- 63% of faculty were very or moderately satisfied
- 17% of faculty were very or moderately dissatisfied
- Mean score ($4.40 \pm 1.41^*$) indicates that overall, faculty were slightly to moderately satisfied with their career progression at UIC.
- There were no significant effects of gender.
- However there were significant effects of both discipline and rank on satisfaction with career progression at UIC.
 - ♦ **Non-STEM faculty** were more satisfied
 - ♦ **The higher the rank**, the more the satisfaction

*On a scale of 1-6, where 6 was most satisfied

Significant Predictors of Dissatisfaction with Career Progression at UIC

(Multiple Regression Analysis)

FACTOR	Overall	Factors for women	Factors for men
A negative departmental climate	S	S	S
Fewer resources	S	S	S
Fewer like-minded colleagues	S	NS	S
A more positive climate for women	S	NS	S
Not being PI on a funded grant	S	S	NS
Low self-rated research productivity	S	NS	NS
Fewer papers/articles accepted	NS	S	NS

S – Significant predictor

NS – Not a significant predictor

Primary Outcome Measures:

3. Consideration to Leave UIC

Bivariate Results

- Overall 61% considered leaving moderately or very seriously
 - ◆ 12% **never** considered leaving
- Mean score ($2.81 \pm 1.03^*$) indicates faculty were more likely to consider leaving UIC
 - ◆ No significant effects of gender or rank
- Significant effects of discipline – Non-STEM faculty considered leaving more strongly than STEM faculty
- Top 3 reasons for consideration to leave were:
Salary, Lack of Resources, and Colleagues

*On a scale of 1-4, where 4 depicted considered leaving UIC very seriously.

Significant Predictors of Consideration to Leave UIC

(Multiple Regression Analysis)

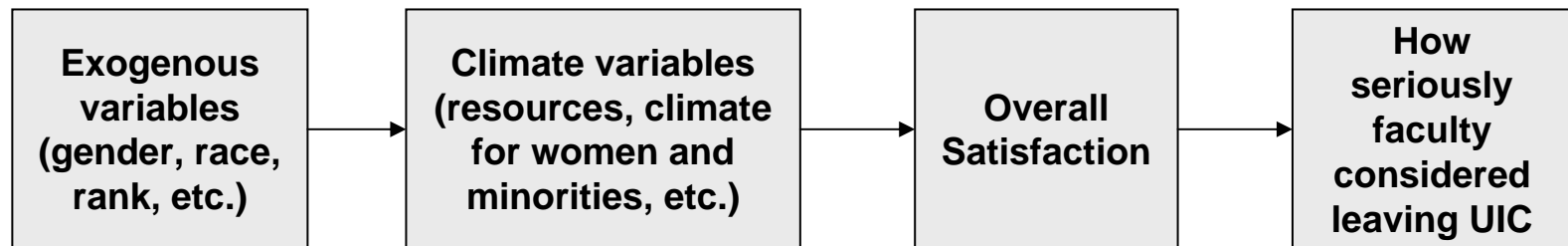
Factors	Overall	Factors for women	Factors for men
A negative departmental climate	S	S	S
Fewer resources	S	NS	S
Not successfully renegotiated	S	NS	S
Not having tenure	S	NS	NS
Non-STEM discipline	S	S	S
Not married	S	NS	NS

S – Significant predictor

NS – Not a significant predictor

Path Model Predicting Considerations of Leaving

- Path analysis determines a set of factors that influence the outcome variables of satisfaction and consideration to leave.



- Overall satisfaction is the variable that has the greatest influence on consideration to leave
- Negative departmental climate and lack of resources are the variables that influence satisfaction the most
- While gender does not appear in the path model, it indirectly influences a number of the other variables. These relationships have been explored in detail in the bivariate analysis.

Primary Outcome Measures:

4. Overall Satisfaction

(Path Analysis)

- Mean score ($4.27 \pm 1.37^*$) indicates faculty were more satisfied than dissatisfied
- No significant effects of gender, discipline or rank.
- Significant predictors of dissatisfaction in the path model include:
 - ◆ A more negative departmental climate
 - ◆ Not having tenure
 - ◆ Fewer like-minded colleagues
 - ◆ Fewer resources
 - ◆ Greater departmental support for family obligations

*On a scale of 1-6, where 6 was most satisfied.

Summary of Findings: Gender-Specific Demographic Differences

- 14% of the faculty from the STEM fields were women and 86% were men, in contrast 38% of the faculty from the non-STEM fields were women and 62% were men
- The ratio of non-Hispanic Caucasian:Underrepresented Minority:Other was 83:4:13 for men and 72:20:8 for women
- 85% of the men faculty were married or partnered, while 66% of women faculty were married or partnered
- 84% of women and 53% of men reported spouses/partners employed full-time
- Women faculty were twice as likely as men faculty to be childless

Summary of Findings: Other Gender-Specific Differences

- Women felt there was a less positive climate for them in their departments, irrespective of discipline
- Women faculty rated themselves lower on the self-rated productivity scale even though there were no significant differences by objective measures
- Women faculty felt less safe/secure at the workplace
- Women rated tenure rollback, dual hiring, and campus childcare more highly than men, regardless of whether they had dependent children or were partnered
- More women reported not having the number of children they would liked to have had because of professional obligations
- Women faculty were more likely to report the use of childcare programs even though men were more likely to report caring for dependent children

Summary of Findings: Discipline-Specific Differences

- 86% of the women respondents were from the non-STEM fields as compared to 14% from the STEM fields
- Faculty in non-STEM fields are more satisfied and rate themselves as more productive but are also more likely to consider leaving
- Faculty from the non-STEM fields are more likely to use tenure rollback and reported having more difficulty adjusting their schedules to care for dependent children

Conclusions

- Overall, the single most important predictor of satisfaction and consideration to leave was a **negative departmental climate**
- The second most important predictor was a **lack of resources** in the department

Next Steps

- The results of this survey* have provided the campus with a framework to address issues of climate and resources that will affect all faculty at UIC.
- A group comprised of senior campus leadership will be tasked by the Provost with developing a blueprint for policy and program recommendations based on the survey data. The Provost is requesting an initial report by December 2006.
- Implementation of the recommendations should occur in conjunction with that of the campus Strategic Plan to create a more robust and supportive climate.
 - ◆ Practical steps include involving heads and faculty in a dialog across campus (workshops/town hall meetings) to address these issues.
- Future research conducted to examine gender differences should include qualitative methodologies such as one-on-one interviews or focus groups.

*These findings have been presented to the faculty of LAS and the College of Engineering and the WISEST Executive Committee.