

Survey of Faculty Worklife at Florida Atlantic University (FAU)
Draft 3/7/18

About ADVANCE

Florida Atlantic University's ADVANCE Institutional Transformation-Catalyst (IT-Catalyst) program seeks to conduct self-assessment activities, such as basic data collection and analysis and the review of relevant policies and procedures, to provide the foundation necessary to undertake institutional transformation.

The goal of the National Science foundation's (NSF) ADVANCE program is to increase the representation and advancement of women and underrepresented minorities (URMs) in academic science and engineering careers, thereby developing a more diverse science and engineering workforce.

ADVANCE encourages institutions of higher education and the broader science, technology, engineering, and mathematics (STEM) community to address various aspects of STEM academic culture and institutional structure that may differentially affect women faculty and academic administrators. As such, ADVANCE is an integral part of the NSF's multifaceted strategy to broaden participation in the STEM workforce, and it supports the critical role of the Foundation in advancing the status of women in STEM academic careers.

Methods: About the Survey of Faculty Worklife

The Survey of Faculty Worklife at Florida Atlantic University (FAU) was modified using survey instruments developed by the Women in Science & Engineering Leadership Institute (WISELI) at the University of Wisconsin-Madison. The ADVANCE FAU Leadership Team has been collaborating with experts from WISELI to modify the survey instrument to reflect FAU's organizational context. The University of Wisconsin-Madison was a member of Cohort 1 of ADVANCE Institutional Transformation (IT) Award recipients in 2001. Considered to be one of the leading universities to achieve institutional transformation, UW-Madison has also been a leader at the national level in developing a comprehensive research program to assess and evaluate institutional transformation. Funded by the National Science Foundation's ADVANCE Program, researchers from WISELI interviewed women faculty and staff in STEM disciplines. As a result, climate survey instruments were developed to understand systematically those issues encompassing the hiring process, promotion and tenure, diversity, satisfaction. The WISELI survey was implemented in 2003, 2006, 2010, 2012, and 2016.

To create the Survey of Faculty Worklife at FAU, the leadership team examined each iteration of the WISELI survey. To that end, the Survey of Faculty Worklife at FAU incorporated questions from both the 2010 and 2016 WISELI survey instruments. Both the 2010 and 2016 surveys addressed hiring, diversity, climate, workload, sexual harassment, and demographics. The Survey of Faculty Worklife at FAU incorporated additional questions on workload, as well as sections on collaboration and tenure which were not included in the 2016 survey instrument. The Survey of Faculty Worklife at FAU also incorporated sections on hostile work environment and promotion which were new to the 2016 survey instrument. The Survey of Faculty Worklife at

FAU also adopted two questions from WISELI's 2016 survey instrument which gauged faculty members' awareness and perception of specific changes and programs at the University. Like all questions, these were amended to reflect FAU's context and policies. The survey was divided into 10 substantive categories with another section for demographics:

- Hiring process
- Promotion
- Tenure
- Collaboration
- Workload
- Diversity
- Climate
- Sexual Harassment
- Hostile Work Environment
- Satisfaction with FAU

Once tailored to FAU, the survey instrument was pilot tested by members of the ADVANCE leadership team for the purposes of determining duration for completion, and content and wording of the questions. The resulting survey contained 224 questions with quantitative responses, and 1 question requiring qualitative responses. The survey took about 25 minutes to complete from start to finish, however, faculty had the option of opening the survey and returning to complete it any time before the close date.

Survey Administration

The instrument was created using the Qualtrics program, and administered to all fulltime faculty via email. Full time faculty were defined as all tenured, tenure track, and non-tenure track fulltime faculty across the university. Surveys for the College of Medicine and the Harbor Branch Oceanographic Institute were administered at later dates.

The first survey email was sent on February 28, 2017, and closed on April 12th, 2017. Weekly reminder emails were sent to all faculty who had not submitted the survey. Additionally, a reminder from the Provost was sent on April 10th.

To advertise the survey and encourage faculty participation, members of the leadership team visited and presented to the university faculty senate, the council of college deans, college faculty meetings, department faculty meetings, and association meetings.

Survey Participation

In total, 922 fulltime faculty were emailed the survey, 418 opened the survey, 394 answered some portion of the survey, 326 submitted the survey, and 320 provided informed consent. Table 1 shows the response rate by each of the participating Colleges, and the distribution of characteristics of respondents is shown in Table 2. Figures 1a and 1b describe the distributions of gender by discipline (stem v. non-stem).

Statistical Methods

Differences between male and female faculty and between stem and non-stem faculty for continuous variables were tested for significance using t-tests for independent samples for normally distributed variables, or Wilcoxon Rank Sum tests otherwise. Differences with regard to categorical variables were tested for significance using Chi-square or Exact tests, and for short-scale ordinal variables using Mantel-Haenszel chi-square tests. With regard to identifying factors associated with career and salary satisfaction, this measure of satisfaction was defined as the sum of satisfaction scores for career progression and salary (range: 1 to 10). Bivariate associations with total satisfaction were performed using Wilcoxon Rank Sum tests for dichotomous and short-scale ordinal variables and by Spearman Rank Correlations for longer scale ordinal variables. Among those yielding p-values <.05, bivariate associations were conducted to eliminate redundancy. Further variable reduction was done by deriving multiple linear regression models for variables with significant bivariate associations within each substantive area and evaluating their relative contribution using a monitored stepwise procedure; resulting variables were combined to derive a final model, retaining only those that were significant. Levels of significance were set at $p < .05$, and were two-tailed. No power analysis was performed due to the fact that this is a survey of a population.

RESULTS OF SURVEY

Figures 1a and 1b describe the distributions of respondents by gender (Male vs. Female) and by discipline (STEM vs. non-STEM), respectively. Among STEM faculty, about two-thirds were male, whereas among non-stem faculty, 41% were male. Among male faculty, about two-thirds were STEM compared with female faculty for whom about one-third were STEM. The percentages of questions within each substantive category (hiring, tenure process, promotion, collaboration, workload, climate, diversity, sexual harassment, hostile work environment, satisfaction) that were statistically significantly different between male and female faculty are shown in Figure 2a; those for differences between STEM and non-STEM faculty are shown in Figure 2b. In Figure 2a, the substantive categories where there are relatively more differences between males and females are tenure process, sexual harassment and hostile work environment. In Figure 2b, the areas are diversity, sexual harassment and hostile work environment. Common to both are sexual harassment and hostile work environment.

Table 1: *Total Faculty vs. Faculty Participation by College*

	TOTAL FACULTY		SELF REPORTED		
COLLEGE	# Faculty	% of Total Faculty	# Faculty Respondents	% of college responded	% of University responded
College of Arts & Letters	236	25.30	85	36.02	29.21
College of Business	145	15.50	45	31.03	15.46
College for Design & Social Inquiry	71	7.60	16	22.54	5.50
College of Education	102	10.90	41	40.20	14.09
College of Engineering & Computer Science	84	9.00	14	16.67	4.81
College of Nursing	51	5.50	13	25.49	4.47
College of Science	156	16.70	66	42.31	22.68
Honors College	31	3.30	9	29.03	3.09
University Libraries	33	3.50	1	3.03	0.34
Other	25	2.70	1	4.00	0.34
Total	934	100.00	291	31.16	100.0
Did not Consent			6		
Missing Affiliation			29		
Total responding			326		

Table 2: *Characteristics of Respondents Among those who Consented*

CHARACTERISTIC	N	%
GENDER (MALE)	141	46.4
GENDER (FEMALE)	160	52.6
OTHER	3	1.0
STEM Colleges	80	25.0
NON-STEM Colleges	240	75.0
STEM MALE	49	63.6
STEM FEMALE	28	36.4
NON-STEM MALE	92	41.1
NON-STEM FEMALE	132	58.9
WHITE	247	75.8
ASIAN OR ASIAN AMERICAN	21	6.4
BLACK OR AFRICAN AMERICAN	10	3.1
NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER	1	0.3
OTHER	8	2.5
HISPANIC OR LATINO	29	8.9
TENURED (ASSOCIATE & FULL PROFESSOR)	163	50.9
TENURE TRACK (NOT TENURED – ASSISTANT PROFESSOR)	60	18.8
NON TENURE TRACK (OTHER)	97	30.3

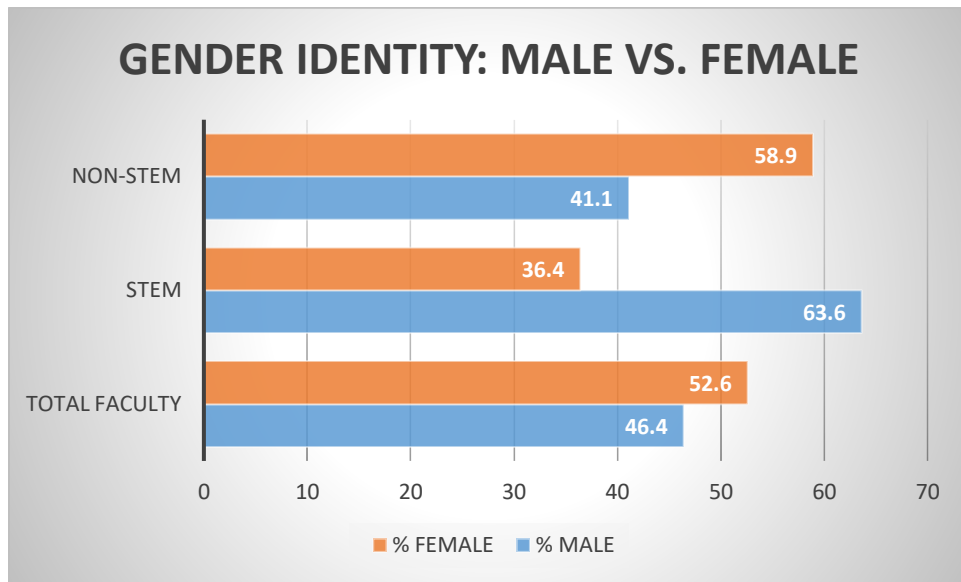


Figure 1a. Faculty STEM vs. non-STEM by Males vs. Females

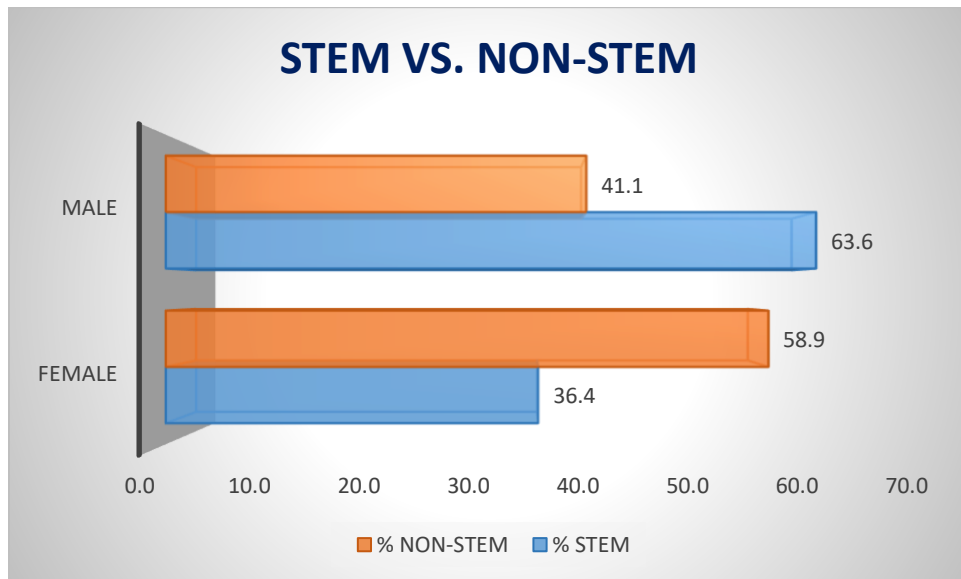


Figure 1b. Faculty Males vs. Females by STEM vs. non-STEM

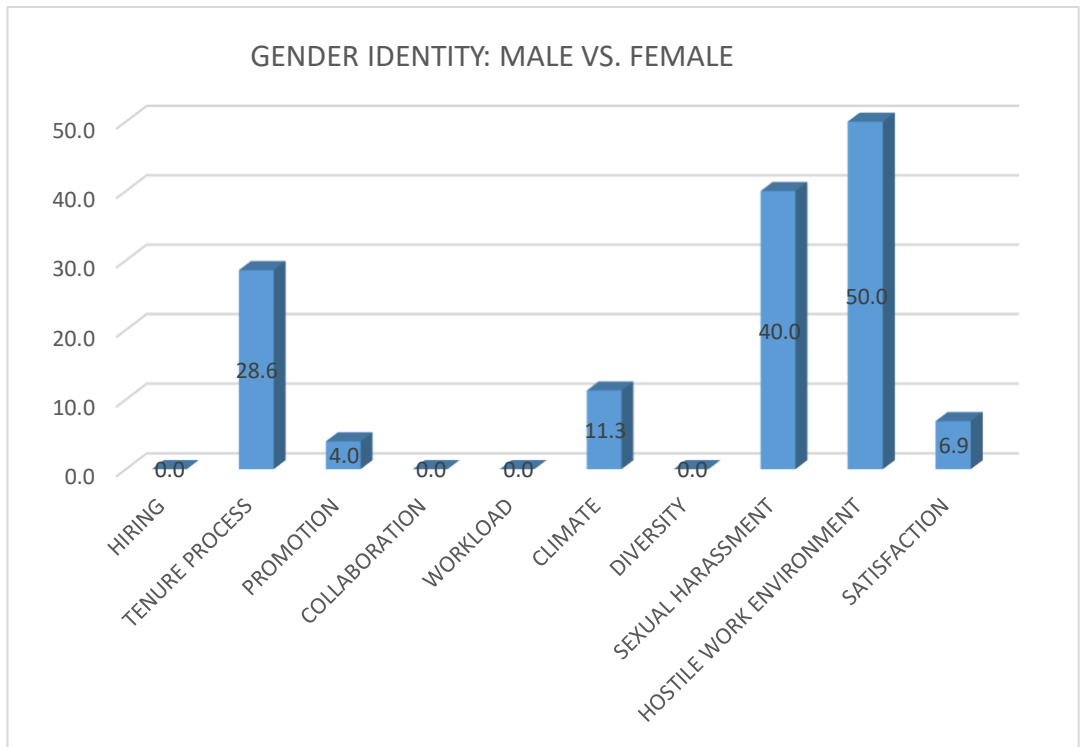


Figure 2a. Percentages of questions that were statistically significant between male and female faculty for each of 10 substantive categories

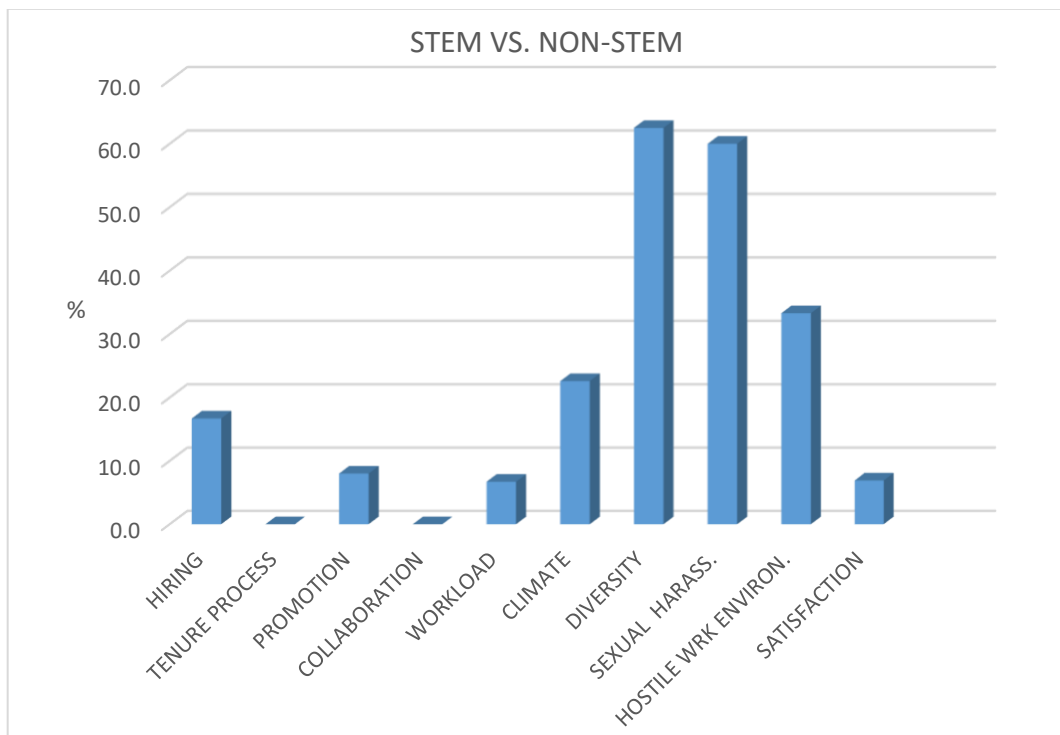


Figure 2b. Percentages of questions that were statistically significant between STEM and non-STEM faculty for each of 10 substantive categories.

Male v. Female Faculty

Hiring: Males reported a longer employment duration at FAU (14.9 years) relative to females (12.4 years). Differences between male and female faculty were not significant for hiring practices that encompassed satisfaction with department's hiring process, effort to obtain resources, effort to meet, interactions regarding new searches, and presentation of start-up package.

Tenure Process: Males were more likely to be tenured (60% vs. 41% for females). Females indicated tenure process was more severe for them for both department and college committees. Females were more likely to have their tenure clock stopped (13% vs. 5% for males). There were no significant differences with regard to eligibility for tenure or promotion, or receipt of tenure at prior institution, understanding of what to do to achieve tenure, and support from department concerning stopping/slowing tenure clock.

Promotion: Males met with mentors (other than official mentors) in department more often than females. There were no significant differences with regard to satisfaction with process, understanding and valuing criteria, support for process, usefulness of Chair and mentors, usefulness of departmental feedback on process, usefulness of sources of information for eligibility and promotion, and fairness of committees.

Collaboration: Differences between male and female faculty were not significant with regard to the number of collaborators within and outside the department, satisfaction with opportunities, emphasis on interdisciplinary research, and how research is consistent with that of department.

Workload: Significant differences existed between male and female faculty with regard to time spent on service and research. Female faculty reported spending less time on professional service activities than male faculty (means 4.2% vs. 5.5%, respectively), less time on administrative activities (mean 12.2% vs. 14.2%, respectively), and less time on scholarship or conducting research (means:16.6% vs. 21.5%, respectively). Differences between male and female faculty were not significant with regard to total hours in a work week, reasonableness of workload, and time spent on teaching or lecturing activities, student meetings, external paid consulting, clinical work, and outreach.

Climate: Male faculty indicated they were more involved in department decision-making with regard to how resources are allocated and perceived greater fairness with how committee assignments rotate. Female faculty were more often reluctant to voice concerns regarding behavior of departmental colleagues, perceived greater value for the paid parental leave program, and participated more in programs sponsored by the Center for Women, Gender, Sexuality Studies. Differences between male and female faculty were not significant with regard to other interactions in the department concerning respect, networking, soliciting opinions, resources, navigating unwritten rules, feeling valued, balancing work/life, and other decision-making. Also, there were no significant differences between men and women's change in enthusiasm regarding changes in tenure policies, hiring, retention, evaluation policies, resources and

classroom technology, restructuring, teaching schedules, perception of new programs and workshops focused on equity, career advancement, leadership, and University-wide planning.

Diversity: Differences between male and female faculty were not significant with regard to commitment to diversity demonstrated in department, at FAU, or by faculty/staff/students. There were no significant differences with regard to perceptions of the overall climate for women, faculty of color, or LGBTQ. Also there were no significant differences with regard to whether or not the respondent has acted to increase diversity of faculty, staff, and/or students at FAU.

Sexual Harassment: Female faculty experienced sexual harassment at FAU significantly more often than male faculty, and were more likely to perceive the process for resolving complaints as less effective. Differences between male and female faculty were not significant with regard to how common it is and how seriously sexual harassment is treated on campus, and how well the respondent knows what to do if there is a sexual harassment complaint.

Hostile Work Environment: Female faculty experienced and witnessed hostile/intimidating behavior more frequently than males, and consider this behavior on campus treated less seriously than male faculty. Differences between male and female faculty were not significant with regard to perception of frequency on campus, knowledge of what to do, and how effective the process is for resolving complaints.

Satisfaction: Male faculty were more likely to benefit from formal/informal outside job offers in that they resulted in adjustment to summer salary. Female faculty were more likely to consider leaving due to stress reduction. Other than these, there were no significant differences between male and female faculty with regard to satisfaction with resources, career progression, and salary, and with overall satisfaction with being a faculty member at FAU.

STEM vs. Non-STEM Faculty

Hiring: STEM faculty were less satisfied with interactions with search committees. There were no significant differences with regard to duration at FAU, and with satisfaction with overall hiring process, department's efforts to obtain resources, departmental faculty effort to meet, and start-up package.

Tenure Process: There were no significant differences between STEM and non-STEM faculty with regard to understanding the tenure process, and whether their tenure clock has been stopped or slowed. There was also no significant difference in perception of severity of the College's committees.

Promotion: STEM faculty were significantly more likely to perceive that FAU Official mentors within the department were less useful. There were no significant differences with regard to perceived usefulness of other mentors, departmental chairs, peers and sources of information. Also, there were no significant differences with regard to reasonableness of requirements, perceived support for advancement, confidence that promotions are based on performance, evaluation of research, teaching and service, and frequency of meetings with mentors.

Collaboration: There were no significant differences between STEM and non-STEM faculty with regard to all variables related to collaboration that encompassed number of collaborators within and outside the department, satisfaction with opportunities, emphasis on interdisciplinary research, and whether research is consistent with that of the department.

Workload: There was a significant difference between STEM and non-STEM faculty with regard to reasonableness of current overall workload, with non-STEM indicating a heavier workload. STEM faculty indicated they allocated significantly more time to meetings with students outside class, to scholarship and research, and less time to committee work than non-STEM faculty. Differences were not significant with regard to total hours worked per week, percent delegated to teaching or lecturing activities, administrative work, grants, external paid consulting, clinical, professional service and outreach.

STEM faculty reported submitting significantly more peer-reviewed journal publications and grant proposals, whereas non-STEM faculty reported submitting more authored books and other scholarly and creative works than STEM faculty. The groups did not differ in number of edited books and book chapters they reported submitting.

Climate: STEM faculty reported that their opinion was solicited significantly less often by departmental colleagues, that they were less able to navigate unwritten rules concerning conduct as a faculty member, and were less likely to fit into the department or unit. Non-STEM faculty reported more enthusiasm with regard to new classroom technology at FAU and hiring of new colleagues. STEM faculty reported more enthusiasm for changes in faculty evaluation. STEM faculty considered workshops for new faculty and Institutional Performance Metrics as more valuable. Non-STEM faculty found Center for Women, Gender and Sexuality Studies more valuable. STEM faculty were more likely to have had participated in the Association for Women in Sciences (AWIS) programs (14% vs. 0.6%). STEM faculty were less likely to have had participated in workshops for new faculty (26% vs. 51%), those for promotion/tenure (30% v 59%), and those sponsored by Center for Women, Gender, and Sexuality studies (2% v 21%). There were no significant differences between STEM and non-STEM faculty with regard to the degree to which respondents gain respect from colleagues, students, staff and department chair, exclusion from network in the department, feelings of isolation within department and university, comfort with work-life balance, feelings of being valued for your research and scholarship, and perception of whether their research is mainstream in the department. There were no significant differences with regard to voicing opinions related to obtaining resources and decision-making. There were no significant differences with regard to enthusiasm for changes in faculty tenure policies, restructuring, retention and budget cuts in last 5 years. There were also no significant differences with regard to perception of value of programs related to work-life balance, equity, hiring, professional troubleshooters, Strategic Plan, platforms and pillars.

Diversity: Non-STEM faculty reported significantly greater commitment to diversity in their department and are committed to increasing diversity among faculty, staff and students. Non-STEM faculty reported their departments had a significantly more positive climate for gay, lesbian, bisexual and transgender faculty, and were more likely to report engaging in actions to increase diversity. Differences between STEM and non-STEM faculty were not significant with

regard to diversity commitment demonstrated at FAU or by faculty/staff/students. There were no significant differences with regard to departmental climate for women or faculty of color.

Sexual Harassment: STEM faculty perceived sexual harassment as treated more seriously on campus than non-STEM faculty, although STEM faculty were less likely to know what to do if a person experiences sexual harassment. There were no significant differences with regard to perception of how common sexual harassment is on campus and how effective the process is for resolving complaints about sexual harassment at FAU.

Hostile Work Environment: STEM faculty were less likely to have personally experienced and witnessed hostile/intimidating behavior at FAU, and were less likely to know the steps for recourse. There were no significant differences between STEM and non-STEM with regard to personally how seriously this behavior is treated, how common this behavior is, and how effective the process is to resolve complaints.

Satisfaction: For faculty who received outside job offers, STEM were more likely to receive adjustments to summer salary (15% v. 3%). With regard to reasons for leaving FAU, STEM were more likely to leave to adjust their clinical load. Other than these, there were no significant differences between STEM and non-STEM with regard to satisfaction with resources, career progression, salary and overall satisfaction with being a faculty member at FAU.

Factors Associated with Sum of Satisfaction Scores for Career Progression and Salary

A multivariate analysis was conducted using all quantitative variables; the following were found significant:

1. There was a significant interaction between gender (male vs. female) and program (STEM vs. non-STEM) with regard to satisfaction related to career progression and salary. The difference between non-STEM males and females was not significant (both non-STEM males and females had median satisfaction scores of 6.0 [range 1 to 10]), whereas the difference between STEM males and females was significant, with females having a median score of 6.5 and males having a median score of 5.0.

The following factors were significantly associated with satisfaction regardless of gender or program:

2. The more confidence the respondent has that the promotion process is based on performance, not politics/relationships/demographics, the greater the satisfaction with career progression and salary.
3. In the past 5 years, the greater the enthusiasm regarding changes to faculty evaluations at FAU, the greater the satisfaction with career progression and salary.
4. In the past 5 years, the greater the enthusiasm for hiring of new colleagues at FAU, the greater the satisfaction with career progression and salary.
5. Regarding all university/school/college/department resources, the more satisfied with FAU resources for teaching, the greater the satisfaction with career progression and salary.

6. The less likely the respondent is to leave FAU because of increase in salary, the greater the satisfaction with career progression and salary.

LIMITATIONS

There are several limitations with regard to the application of survey methodology as well as potential biases in results. First, we know that all targeted faculty were emailed the survey, but we don't know whether all targeted faculty actually received the survey. The response rate was approximately one-third. Future surveys may involve random sampling of faculty from each College to determine the percent that had received the survey, more intensive follow up of non-responders, and more widespread marketing of the survey to faculty, chairs and deans. Second, although the response rate for race/ethnicity of faculty respondents was consistent with that reported in Diversity Data Report 2015 (77.2% vs. 75.4% for White), the non-response rate for completing the set of race/ethnicity variables was 21%. Because results may not be representative, it is important to consider additional definitions (recategorizations) of race/ethnicity that minimize the potential to identify respondents. Third, although we report on percentages of questions for which there were statistically significant differences (Figures 2a and 2b), the number of questions for each substantive area ranges from 5 to 62. Two possible approaches to reduce the number of questions within a substantive area are to a) further subset the questions into other substantive areas, and b) apply statistical methodology to reduce redundancy among questions. Fourth, focus groups could be conducted to identify better strategies for recruiting survey participants, clarify results from the survey, validate relative importance of substantive areas, and explore other content areas.

Footnote: There were three respondents who did not complete the gender question or indicated 'other'; these were not included in analyses due to small numbers.

Dr. Kathleen DiMaggio, ADVANCE Statistical Consultant