

Introduction: Middle Tennessee State University (MTSU) was awarded an NSF ADVANCE grant, *A Catalyst to ADVANCE the Participation and Advancement of Women in Academic Science, Technology, Engineering, and Mathematics (STEM) Careers at Middle Tennessee State University* (HRD-1409638), to collect data on the recruitment, retention, and promotion of women STEM faculty. The purpose of this study was to develop a clear understanding about the climate for women STEM faculty on our campus. Our goals were to identify and understand barriers that hinder the advancement of women STEM faculty through the tenure and promotion process and into academic leadership positions. Our data collection consisted of administering an online campus climate survey for all faculty, followed by focus groups with select women STEM faculty.

Data collection: We fielded an online campus climate survey, open to all tenure and tenure-track MTSU faculty, in November 2014–January 2015. The survey covered a variety of topics, including resource allocation, compensation, tenure and promotion, climate, and work-life balance. The survey data was used to identify topics for focus groups. We identified the distribution of MTSU STEM faculty by gender, rank, and department and identified those in leadership positions. We recorded 541 responses from the online survey, which is approximately 56% of full-time faculty employed at MTSU in Fall 2014.

Following preliminary analysis of survey data, we developed a focus group protocol using the primary issues that arose from this analysis. We conducted two focus groups with STEM women faculty in May and June of 2015, with a total of 16 faculty members participating: 7 professors, 5 associate professors, and 4 assistant professors. The focus group meetings with targeted STEM women faculty enabled us to better understand the concerns, issues, practices, and experiences of these faculty.

Findings: Survey findings indicate that salaries are a source of overall dissatisfaction. Women were less likely to indicate that they had considered leaving MTSU in general and significantly less likely to indicate they would leave MTSU for a comparable salary at a comparable institution. Regarding resource allocation, men and women did not differ significantly in their evaluation of the availability of resources, but when considering fairness in the allocation of resources, women are much more likely to disagree that resources are allocated fairly.

Promotion and tenure processes are perceived to be inconsistently applied. Focus group participants noted that the guidelines related to promotion and tenure need more clarity. Additionally, women voiced concerns about fairness and transparency in tenure and promotion decisions at the college committee level.

In examining work climate, survey results indicate that most respondents evaluate the climate at MTSU positively. However, service responsibilities are a primary area of concern for women STEM faculty. There is widespread agreement that service is not considered with equal weight for promotion, and that women feel that they often do a larger share of this work than their male colleagues. Further, women faculty cited climate issues regarding exclusion from informal networks, and lack of women in leadership (broadly defined).

Work-family connections continue to be a central factor in understanding the experiences of women in STEM fields. Survey results show that men and women estimate relatively similar levels of responsibility for child care, yet women are much more likely than men to report adverse career effects resulting from children. When responding to generic questions about work-life balance, men and women report similar outcomes. Yet, women are significantly more likely than men to report adverse professional

consequences as a result of having children. Focus group discussions also indicate that there are subtle ways in which ideas about how men and women are expected to behave play out in women STEM faculty experiences, such as women experiencing many obligations and keeping their personal identity away from work.

Recommendations: We found several areas of concern for women STEM faculty at MTSU, ranging from compensation to frustration with the allocation of service responsibilities. Based on the findings, we recommended institutional changes and action items that should improve the climate for women STEM faculty. These included:

- A comprehensive evaluation of tenure and promotion policies;
- An inclusive salary study;
- Training on workload, tenure and promotion, resource allocation, and leave policies;
- Establishment of a formal mentoring program; and
- Committed recruiting of women for leadership roles.

Tenure and promotion guidelines are being reviewed by a committee in the office of the vice provost for faculty. We recommended training on T&P policies for new faculty, chairs, and deans. Professional development training and mentoring are offered by the MTSU Learning Teaching and Innovative Technologies Center (LT&ITC). Women are being appointed to leadership positions, including a co-PI named as dean of the College of Liberal Arts and five women chairs or directors in the College of Basic and Applied Sciences.

Information about MTSU ADVANCE is found at www.mtsu.edu/advance/index.php.