

ADVANCEing Women in Science, Technology, Engineering, and Mathematics (STEM) Careers at Middle Tennessee State University

Abstract

During Year 1 of the Middle Tennessee State University (MTSU) ADVANCE project, our first step was a campus wide survey of faculty. We received a remarkable 69% response rate to our survey which specifically focused on identifying barriers that affect recruitment, retention, participation and promotion of women STEM faculty. The next phase of the study, which includes focus groups, will address more nuanced understanding of these barriers as well as activities that support the faculty. Further, the study will provide answers to questions such as "What are the outcomes of the tenure and promotion process for all STEM faculty?" and "How are the processes and allocations of resources gendered?" Finally, our study will suggest policy changes that could be implemented to improve the recruitment, retention, and promotion of women STEM faculty at MTSU. The overarching goal for this project for MTSU, a Carnegie Doctoral Research Intensive University, is to model an inclusive and diverse STEM workforce. More broadly, our findings will be widely influential, and will provide a model for faculty leadership development beyond our campus.

Overview of Project

Middle Tennessee State University (MTSU) is conducting a self-assessment study to review the status of women faculty in STEM disciplines on campus. This study focuses on identifying barriers that affect recruitment, retention, participation and promotion of women STEM faculty at MTSU. Our goal is to identify best practices for the recruitment, retention and promotion of women STEM faculty and promote gender equity at MTSU. Our study will provide insight on the campus climate for women STEM faculty and administrators. The activities will be directed by the Project's Leadership Team (PLT) will provide answers to the following:

- What is the distribution of MTSU STEM faculty by gender, rank and department?
- What is the gender distribution of MTSU STEM faculty in leadership positions?
- What are the outcomes of the tenure and promotion process for MTSU STEM faculty?
- What is the allocation of resources for MTSU STEM faculty by gender?
- What are the processes that lead to divergent outcomes and resource allocation by gender in STEM disciplines at MTSU?
- Which policy changes could be implemented to improve the recruitment, retention, and promotion of STEM women at MTSU?

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Promotion and Tenure Policies

STEM Associate Professor responses to question about consistency in application of policies for promotion to the rank of Full Professor show that:

- Women at the Associate Professor rank in STEM departments are less likely to agree that the policy for promotion to full professor is applied consistently.
- Women are more mixed in their evaluation of the application of promotion policy.

STEM responses to question about consistency in application of department policies for tenure and promotion to Associate Professor show that:

- Regardless of rank, women in STEM departments are less likely to agree that tenure and promotion policy is applied consistently at the department level.

Resource Allocation

STEM responses to question about fairness of allocation of lab space at the college level show that:

- Women in STEM departments are more likely to disagree that lab space is allocated fairly at college level. There was no significant difference at the department level.

STEM responses to question about fairness in allocation of summer teaching show that:

- Women in STEM departments are more likely to disagree that summer teaching assignments are allocated fairly. This decision is made at the department level.

STEM responses to question about gender neutrality of resource allocation at the university show that:

- Women in STEM departments are more likely to disagree that resource allocation at the university is gender neutral.

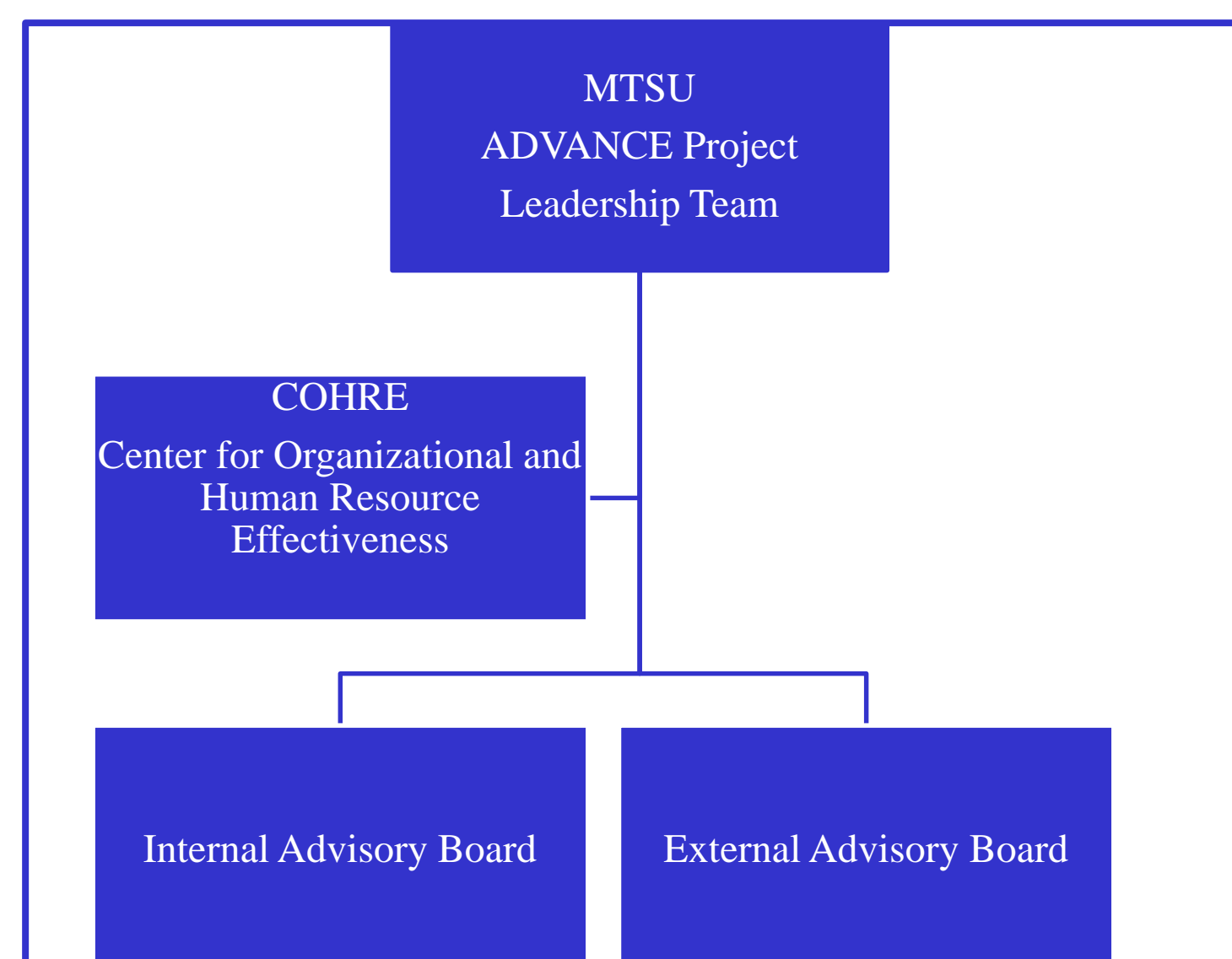
Leadership Issues

STEM responses to question about gender diversity of leadership at the university show that:

- Men in STEM departments are more likely to agree that leadership at the university is gender diverse and women are more likely to disagree.

STEM responses to question about leadership opportunities in the department show that:

- Women in STEM departments are more likely to agree with the statement that men are given more opportunities to lead in the department.



Visit the MTSU ADVANCE website at www.mtsu.edu/wistem/advance
Like us on Facebook at [Women in STEM Center at MTSU](https://www.facebook.com/WomenInSTEMCenter)



MTSU Creative and Visual Services photos by: Andy Heidt

Table 1: Responses by Department & Sex, Full Time Tenured or Tenure Track STEM Faculty

Department	Sex		Total
	Female	Male	
Aerospace	2	5	7
Agribus. & Agrisci.	28.27	71.43	100.00
Biology	5.26	5.68	11.94
Chemistry	1	5	6
Computer Science	16.67	83.33	100.00
Concrete Industry	2.63	5.68	8.31
Economics & Finance	5	14	19
Engineering Tech.	26.32	73.68	100.00
Geosciences	13.36	15.93	29.29
Mathematical Sciences	5	12	17
Physics & Astronomy	29.41	70.59	100.00
Political Science	13.16	13.64	26.80
Psychology	0	2	2
Sociol. & Anthr.	0.00	100.00	100.00
Total	0.00	2.27	2.27
	1	0	1
	100.00	0.00	100.00
	2.63	0.00	2.63
	2	13	15
	13.33	86.67	100.00
	5.26	14.77	20.03
	7	7	14
	12.50	87.50	100.00
	2.63	7.95	10.58
	2	2	4
	50.00	50.00	100.00
	5.26	2.27	7.53
	4	4	8
	66.67	33.33	100.00
	23.05	4.55	27.60
	1	4	5
	20.00	80.00	100.00
	2.63	4.55	7.18
	0	4	4
	0.00	100.00	100.00
	0.00	4.55	4.55
	6	10	16
	37.50	62.50	100.00
	15.79	11.36	27.15
	4	6	10
	40.00	60.00	100.00
	10.53	6.02	16.55
	38	88	126
	30.16	69.84	100.00
	100.00	100.00	100.00

Key
frequency
row percentage
column percentage

Next Steps

We are conducting two focus groups with MTSU STEM women faculty to explore issues that were highlighted in the survey. We expect to conduct one-on-one interviews with select STEM women faculty after completion of focus groups. Topics we are exploring include:

- General climate
- Resource allocation within departments
- Informal networks and mentoring
- Leadership opportunities and barriers
- Perceptions of women as leaders
- Promotion processes and guidelines



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