

2020

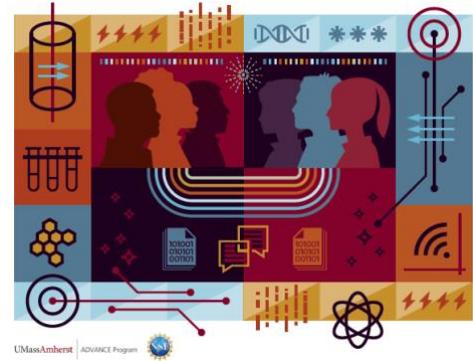
## **UMass ADVANCE Faculty Survey: Comparing STEM and Non-STEM Faculty Experiences**

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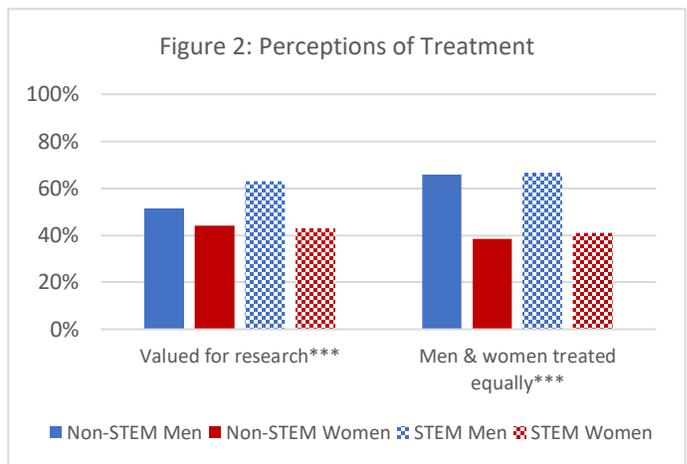
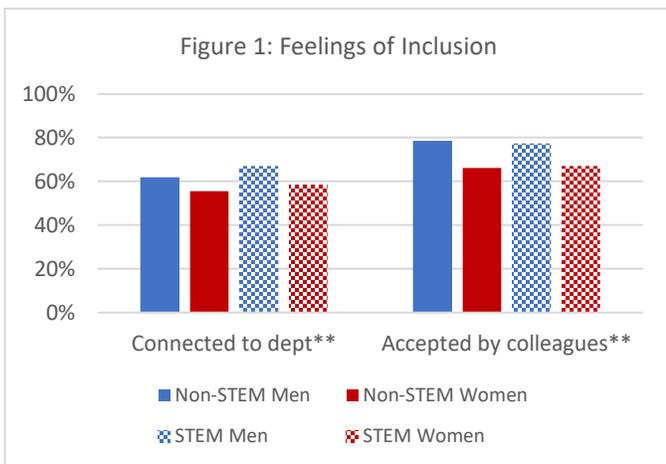
# Comparing STEM and Non-STEM Faculty Experiences

The UMass ADVANCE program is working to ensure greater equity among faculty through the power of collaboration. In this research brief, we describe some of the key findings from our initial survey, conducted in 2018-19. We will conduct the same survey in 2022-23 to measure the impact of our interventions.

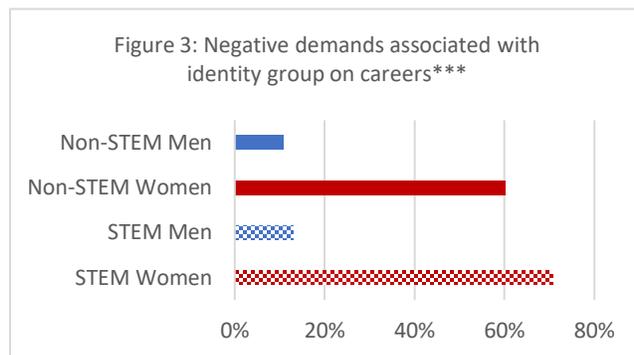
In this research brief, we focus on **patterns between STEM faculty and non-STEM faculty by gender** in the areas of inclusion, shared decision-making, and research collaboration. While the findings in this brief indicate similar patterns for women faculty in both STEM and non-STEM fields, there are some differences between women in these fields. UMass ADVANCE interventions aim to develop systemic and sustainable approaches to equity and inclusion in STEM, particularly for women, but interventions will transform the university to will support greater equity across campus.



64% of survey respondents are in STEM fields. In this brief, faculty are grouped by non-STEM men (n=42), non-STEM women (n=92), STEM men (n=204), and STEM women (n=180). In the figures below, statistical significance is indicated as \* $p \leq .10$ , \*\* $p \leq .05$ , and \*\*\* $p \leq .001$ .

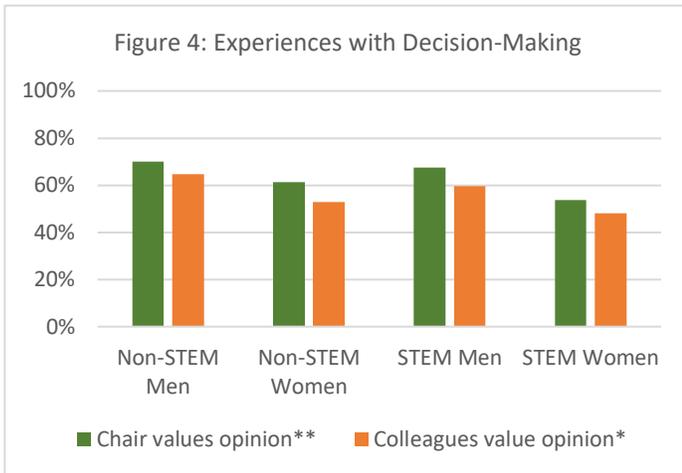


Feelings of inclusion among UMass faculty are shaped by gender. As Figure 1 shows, **women faculty in STEM and non-STEM disciplines on campus feel similarly less connected to their departments and less accepted by colleagues** than men faculty. Similarly, Figure 2 shows that **women faculty regardless of discipline feel less valued for their research than men**. Women are also less likely to perceive men and women as being treated equally in departments than men, in both STEM and non-STEM. **Men in STEM feel the most valued for their research** on campus (63%), compared to just 43% of STEM women.



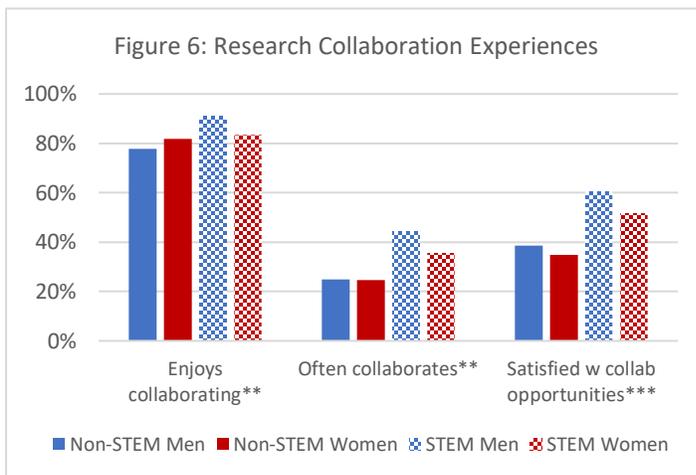
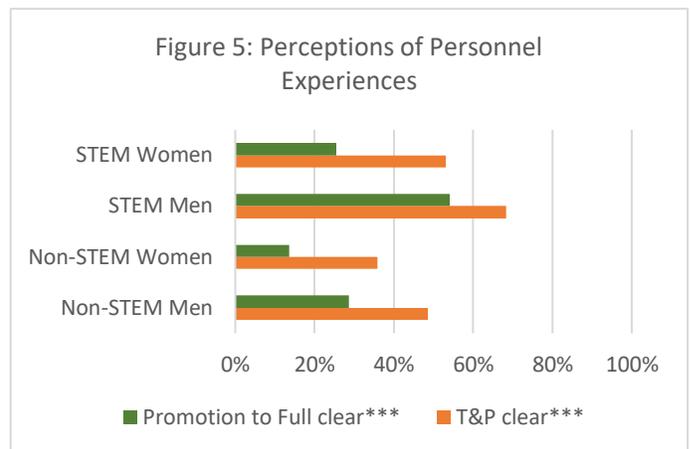
Women are also much more likely to report experiencing negative demands on their careers based on their identity group than men, as shown in Figure 3; however, women in STEM are more likely to experience negative demands than non-STEM women, with **70% of STEM women faculty experiencing negative demands**. Taken together, these findings suggest that the gendered trends surrounding inclusion hold across disciplines and departments on campus.

# Comparing STEM and Non-STEM Faculty Experiences



Departmental decision-making is also shaped by gender, although there are important differences between STEM and non-STEM fields. As Figure 4 shows, women faculty feel less valued by men in departmental decision-making. However, **STEM women feel the least valued of any group by their chairs (53.7%) and their colleagues (48.1%)**. STEM men also feel less valued than non-STEM men in departmental decision-making.

In personnel decisions, women across campus are less clear of processes than men, but **women in non-STEM fields appear to be the most disadvantaged**. As shown in Figure 5, **only 35.8% of non-STEM women find tenure & promotion processes to be clear (compared to 53% of STEM women), and just 13.6% of tenured non-STEM women find promotion to Professor processes clear (compared to 25.5% of STEM women)**. These findings on promotion to full are especially troubling, as most women on campus are in the dark on this important career step.



UMass faculty across campus report enjoying research collaboration very much. However, as Figure 6 shows, **STEM faculty collaborate more frequently than non-STEM faculty, with STEM men most often collaborating on research. Non-STEM faculty are less satisfied with collaboration resources than STEM faculty, with non-STEM women being the least satisfied of any group**. Among STEM faculty, women are less satisfied with collaboration resources than men.

Through the power of collaboration UMass ADVANCE transforms the campus by cultivating faculty equity, inclusion and success. ADVANCE provides the resources, recognition and relationship building that are critical to equitable and successful collaboration in the 21st century academy. UMass ADVANCE is funded by the National Science Foundation. For more information on ADVANCE go to <https://www.umass.edu/advance/>.