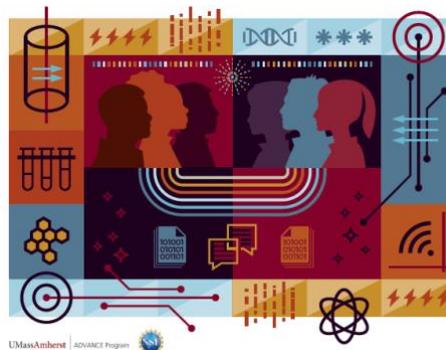


STEM Faculty Experiences by Gender & Rank

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.

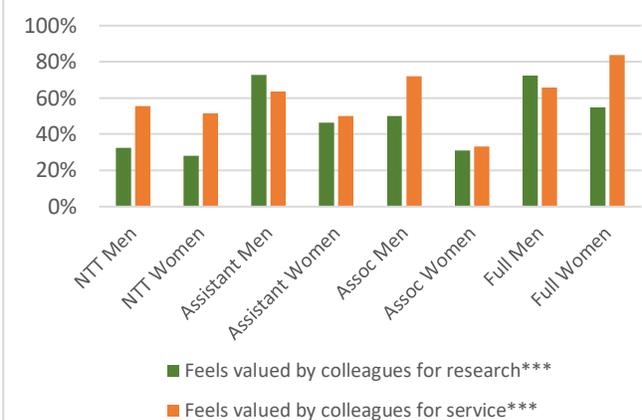


In this research brief, we focus on patterns among STEM faculty by **rank and gender**. We explore whether and how rank and gender

In this brief, faculty are grouped by non-tenure-track men (n=38), non-tenure-track women (n=36), assistant professor men (n=33), assistant women (n=29), associate men (n=26), associate women (n=42), full men (n=105), and full women (n=63). The figures below, statistical significance is indicated as *p<.10, **p<.05, and *** p<.001.

affect STEM faculty's experience with inclusion, shared decision-making, and research collaboration. UMass ADVANCE interventions aim to develop systemic and sustainable approaches to address faculty disparities at the intersection of gender and rank. As the findings in this brief indicate, **campus interventions must foster inclusion specifically for women associate professors in STEM.**

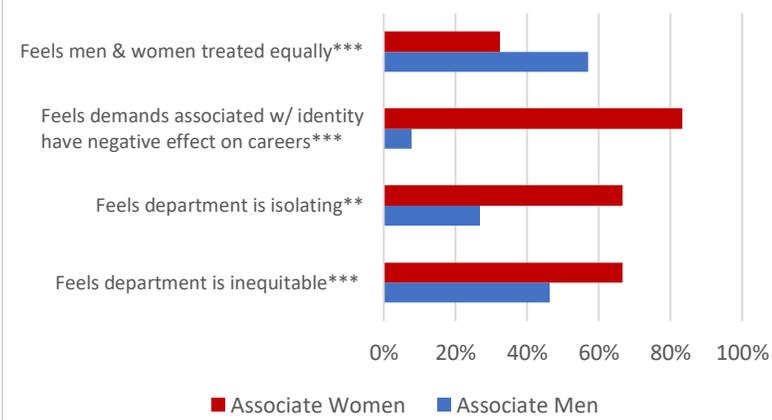
Figure 1: Feelings of Inclusion



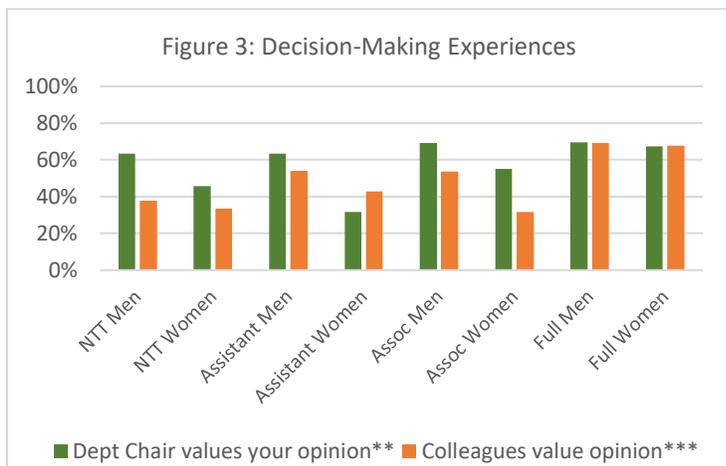
Feelings of inclusion among STEM faculty are shaped by gender and rank. As Figure 1 shows, women across ranks feel less valued for their research than their male counterparts. Assistant and full men STEM faculty feel the most valued for their research. **Women associate professors feel the least valued for their research (31%) and service (33.3%).** These findings resonate with national studies on the “ivory ceiling” for associate women, as they devote themselves to teaching, mentoring, and service – activities that build campus communities but hold less value at research-intensive universities. Full women do report feeling very valued for their service.

Comparing just associate-level men and women faculty, Figure 2 reveals stark differences in perceptions of campus climate. Just **32.5% of associate women believe that men and women are treated equally** in their departments, compared to nearly 60% of associate men. Associate women are **over eleven times as likely to report demands associated with their identity groups have had negative effects on their careers.** Associate women are the most likely across groups to report that their departments are inequitable and isolating.

Figure 2: Perceptions of Associate Men and Women



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In the context of decision-making, just more than half of STEM faculty generally report feeling that their opinions are valued by chairs/heads – with the exception of non-tenure-track (NTT) and assistant women. As Figure 3 shows, **only 31.8% of assistant women faculty feel their chairs/heads value their opinions**. Among colleagues more generally, **NTT faculty members feel very undervalued by colleagues**. However, **associate women STEM faculty, relative to any other group, feel the least valued by their colleagues in decision-making**.

As indicated in Figure 4, among assistant professors, men are more likely than women to report that tenure and promotion processes are clear and that criteria are applied consistently. **Only 17% of assistant women faculty in STEM report that tenure and promotion processes are clear**. Among tenured faculty, as shown in

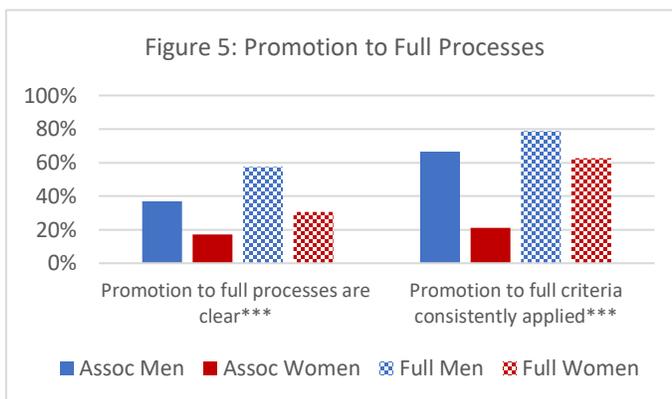
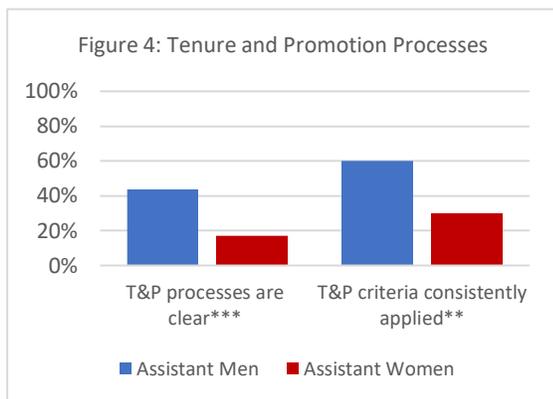
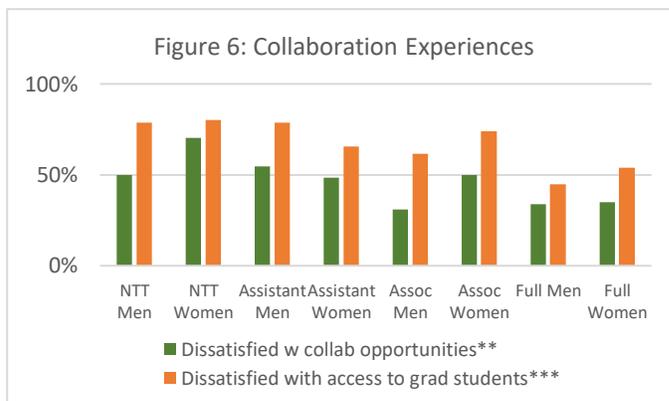


Figure 5, men are much more likely than women to report that promotion to full is clear and that criteria are applied consistently. **Only 17% of associate women faculty in STEM report that promotion to full processes are clear**. These findings suggest that there is a disconnect in transparency surrounding personnel processes by gender and rank that often leaves most women uncertain about their next career steps.

On average, STEM faculty across ranks report enjoying collaboration very much; however, collaboration opportunities vary by gender and rank. As Figure 6 shows, **assistant professors are least satisfied with research collaboration opportunities of all tenure-track faculty**. Assistant men and women are also deeply unsatisfied with access to graduate students. **Associate women report satisfaction levels similar to assistant professors, suggesting that, unlike men, their collaboration opportunities do not improve with tenure**.



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/>.