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UMass ADVANCE STEM Rank and Gender Findings 2022

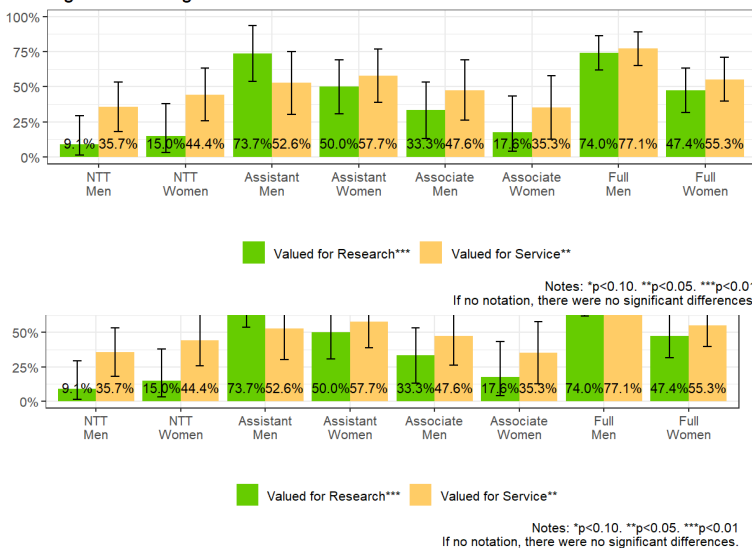
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STEM Faculty Experiences by Gender and Rank

The UMass ADVANCE program is working to ensure greater equity among faculty through the power of collaboration. In the 2022 ADVANCE survey, 273 UMass faculty from 32 STEM departments in CICS, CNS, College of Engineering, and SBS responded. In this research brief, we describe some of the key findings from this survey, focusing on patterns among STEM



Figure 1: Feelings of Inclusion



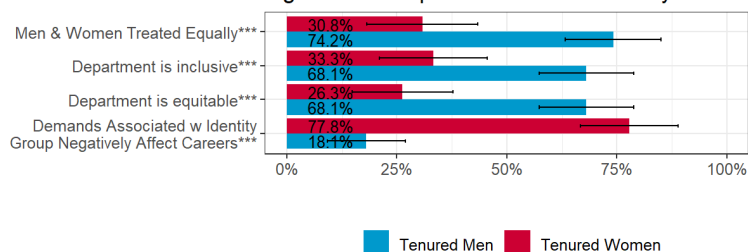
faculty by **gender and rank**¹. We explore whether and how the intersection of gender and rank affect STEM faculty inclusion, shared decision-making, and research collaboration.

Feelings of inclusion are shaped by gender and rank, as shown in Figure 1. **Women across ranks feel less valued for their research than men at the same rank, except for non-tenure-track faculty.** Assistant and Full Professor men faculty feel the most valued for their research. **For service, men Full Professors feel most valued (77.1%) while women Associate Professors feel**

least valued (35.3%).

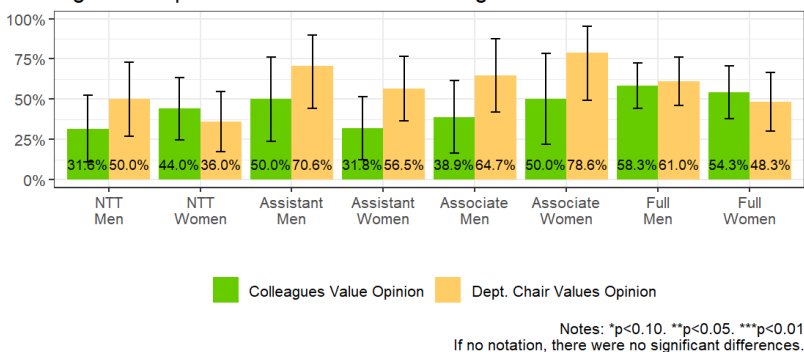
Figure 2 compares tenured faculty using four measures of perceptions of campus climate and reveals substantial gender differences. Among tenured professors, **only 18.1% of men compared to 77.8% of women report that demands associated with their identity group negatively affects their careers.** Women tenured professors are also significantly less likely to report men and women are treated equally, and their department as inclusive and

Figure 2: Perceptions of Tenured Faculty



equitable.

Figure 3: Experiences with Decision-Making



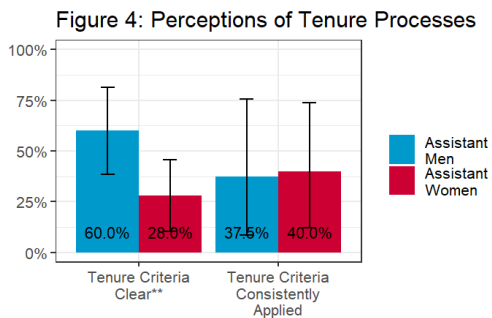
In the context of decision-making, there is more convergence among STEM faculty who report that their opinions valued by their department chair and heads, **with the exception of non-tenure-track women (36%) and women Full Professors (48.3%),** as shown in Figure 3. As for experiences with colleagues in general, **women**

¹ In this brief, faculty are grouped by non-tenure-track men (n=29), non-tenure-track women (n=29), Assistant professor men (n=20), Assistant women (n=26), Associate men (n=21), Associate women (n=17), Full men (n=51), and Full women (n=40).

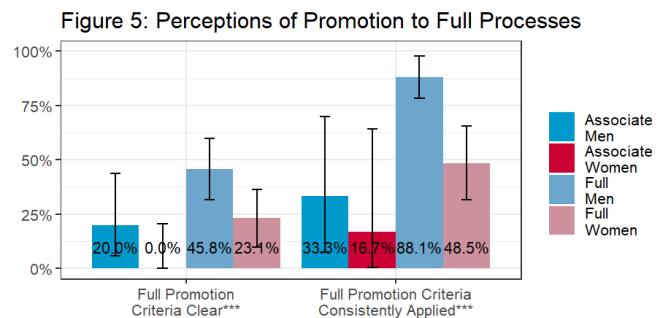
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Assistant Professors and non-tenure-track men faculty feel the least valued by their colleagues in decision-making, followed by men Associate Professors, compared to other groups.

Figures 4 and 5 examined perceptions of personnel processes. Among Assistant Professors, **women faculty are much less likely than men faculty to report that the tenure criteria are clear ($p < 0.05$)**. The good news is that there are larger percentages of Assistant Professors reporting tenure criteria are clear, compared to what we found in the 2018-2019 survey. Among tenured faculty, we also see significant differences by gender and rank. Women are much less likely to report that promotion to Professor is clear and that criteria are applied consistently, either at the Associate-level or the Full-Professor-level. Women Associate Professors are in the most disadvantaged position among all tenured faculty: none of them believe the promotion to Full criteria are clear and only 16.7% of them believe the criteria are consistently applied.

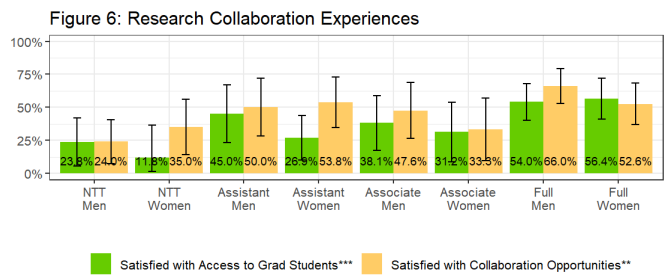


Notes: * $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$
If no notation, there were no significant differences.



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In the context of research collaboration experiences, we observe significant differences by gender and rank. **Among tenure-track faculty, women Assistant Professors are the least satisfied with access to graduate students and women Associate Professors are the least satisfied with collaboration opportunities. In addition, the satisfaction levels of collaboration among women do not necessarily improve or improve much after they are tenured, although they are higher among Full Professor women.**



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Next Steps: These data make clear that there remain a number of important differences among faculty by rank and gender. Overall, faculty who are not on tenure-track, both men and women, feel disregarded for their research, see their opinions as less valued in decision-making, and are less satisfied with collaboration opportunities. For tenure-track faculty, there are substantial gender differences, with men assistant and full professors generally feeling more valued than women assistant and full professors. Both associate men and women feel less valued for research and service – but associate women report feeling particularly devalued. Most troubling is that women, including tenured women, are less likely to report their departments as inclusive and equitable, and are less likely to see tenure and promotion criteria as clear and consistently applied. ADVANCE work must focus on creating more equitable department environments, highlighting the research contributions of women faculty, and ensuring that tenure and promotion criteria are clear to all faculty. [UMass ADVANCE tools](#) on equitable evaluation practices, and on crediting collaborative work equitably may provide a starting point to address these issues.

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