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UMass ADVANCE STEM Race and Gender Findings 2022

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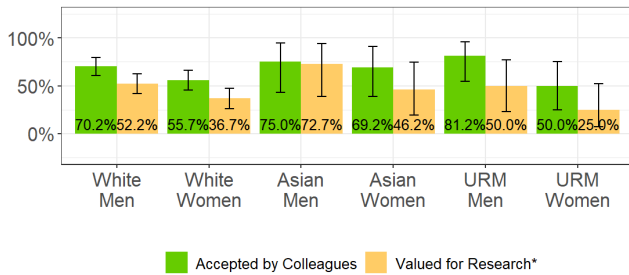
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STEM Faculty Experiences by Gender and Race

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



Figure 1: Feelings of Inclusion



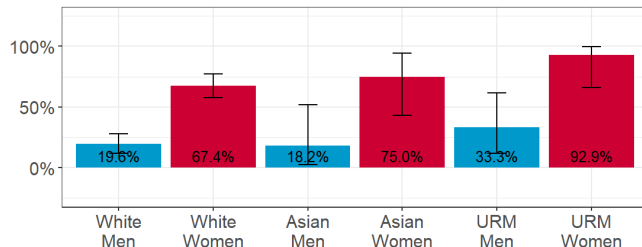
Notes: *p<0.10. **p<0.05. ***p<0.01
If no notation, there were no significant differences.

Feelings of inclusion among STEM faculty are shaped by both gender and race. As Figure 1 shows, men and Asian faculty are most likely to report feeling accepted by colleagues and valued for their research. Women from underrepresented minority (URM) groups and white women feel least accepted by colleagues and the least valued for their research. Asian women are more likely than other women to feel accepted by colleagues but are less likely than men to feel valued for their research. **Among all groups, women from URM groups feel especially undervalued for their own research, with only 25% feeling valued.**

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Similarly, Figure 2 shows that White and Asian men are least likely to report that their careers are negatively affected by demands associated with their identity groups. **Women across all racial groups** are much more likely to report that their careers are **negatively affected by demands** associated with their identity groups. Men from underrepresented groups are also more likely than white and Asian men to report that their careers are negatively impacted by these demands, but

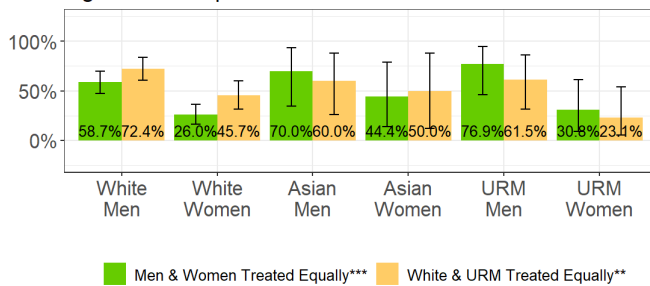
Figure 2: Demands Associated with Identity Group Have a Negative Effect on Career Goals***



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

their experience is still substantially better than women from URM groups.

Figure 3: Perceptions of Treatment



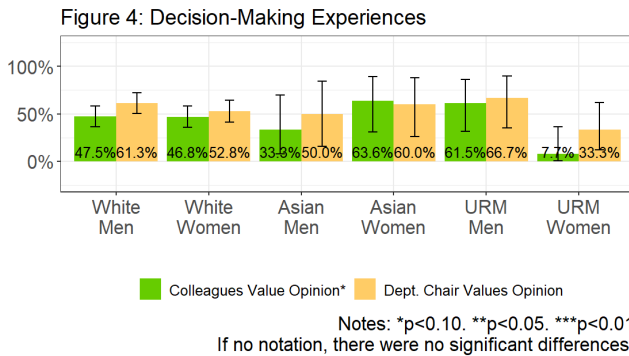
Notes: *p<0.10. **p<0.05. ***p<0.01
If no notation, there were no significant differences.

As shown in Figure 3, women are also less likely to believe that men and women are treated equally, or that white and racial minority faculty are treated equally. **Among all groups, women from URM groups, followed by white women, are most likely to perceive treatment as unequal.** Yet men of all groups are more likely

¹ Faculty are grouped by white men (n=95), white women (n=89), Asian men (n=12), Asian women (n=13), men from underrepresented racial minority (URM) groups (n=16) and women from URM groups (n=16). URM includes the categories “American Indian or Alaskan Native”, “Black”, “Hispanic or Latino origin”, and anyone who chose “Multi-Racial” or “Other” and provided a response indicating they were a member of a traditionally underrepresented community.

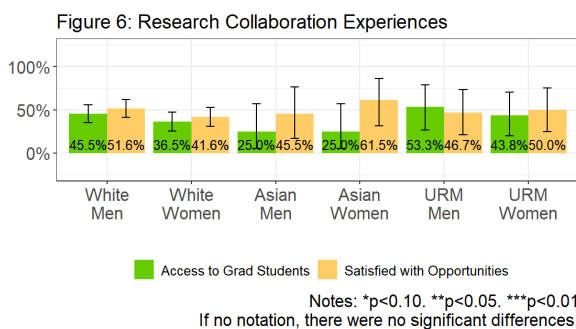
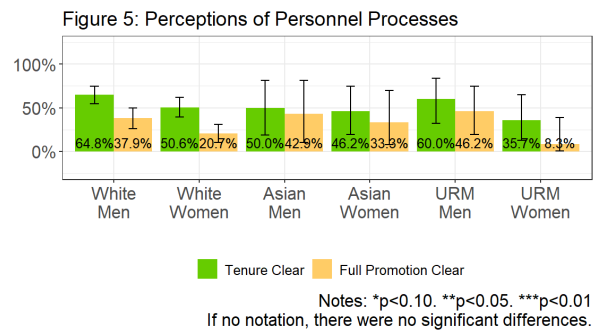
STEM Faculty Experiences by Gender and Race

to see men and women being treated equally, while also more likely to think that white and URM faculty are treated equally.



As for experiences with decision-making, STEM faculty generally report that their opinions are valued by departmental chairs/heads and colleagues, though for most groups, they are more likely to see their chair/head as valuing their opinion. However, as Figure 4 shows, women faculty from URM groups feel much less valued than other groups in decision-making. They especially feel less valued by their colleagues. Asian men also feel considerably less likely to think that their colleagues value their opinion.

Figure 5 shows perceptions towards the tenure and promotion processes. Men across all racial groups are more likely to report that they perceive tenure & promotion processes as clear than women. **Only 36% of women STEM faculty from underrepresented groups feel that tenure & promotion processes are clear, while only 8% of women associate and full professors from underrepresented groups believe that promotion to full processes are clear.** White and Asian women report more clarity on tenure than women from underrepresented groups, but tenured white women also show very low levels of clarity on promotion to full. Men from underrepresented groups and white men faculty are more likely to report that the tenure processes are clear, compared to Asian men, and URM men and Asian men are more likely to report that full promotion processes are clear.



In the context of research collaboration, on average, UMass STEM faculty report that they are “somewhat dissatisfied” or “neither satisfied or dissatisfied” with opportunities for collaboration; however, collaboration opportunities vary by gender and race. As Figure 6 shows, **both men and women STEM faculty from Asian groups are the least satisfied with access to graduate students.** In terms of groups who report the highest satisfaction, men STEM faculty from URM groups are the most satisfied with access to graduate students of

any group, while Asian women are the most satisfied with their collaboration opportunities. These findings underline the importance of looking at intersections of gender *and* race to understand faculty collaboration experiences.

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