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## UMass ADVANCE STEM Nationality and Gender Findings 2022

Shuyin Liu

*University of Massachusetts Amherst, shuyinliu@umass.edu*

Joya Misra

*University of Massachusetts Amherst, misra@umass.edu*

Laurel Smith-Doerr

*University of Massachusetts Amherst, lsmithdoerr@soc.umass.edu*

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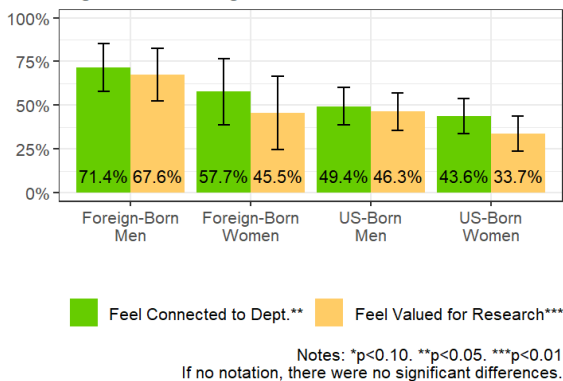
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## STEM Faculty Experiences by Gender and Nationality

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 **nationality**<sup>1</sup>. We explore whether and how the intersection of gender and nationality affect STEM faculty inclusion, shared decision-making, and research collaboration.

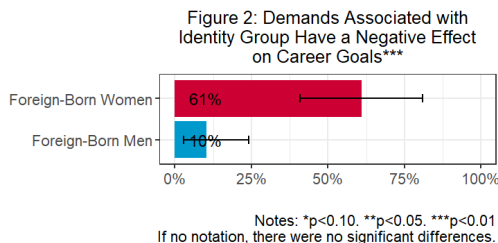


Figure 1: Feelings of Inclusion



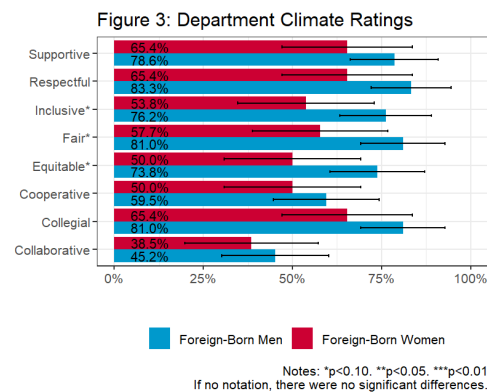
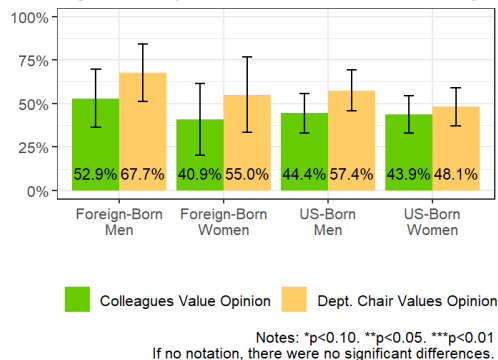
**Feelings of inclusion among STEM faculty are reflect both nationality and gender.** As Figure 1 shows, foreign-born faculty and men faculty are more likely to report that they feel connected to their department and feel valued for their research. **US-born women faculty are the least likely to feel this way:** only 43.6% of them report feeling connected to department and only 33.7% of them report feeling valued for research. This reflects a change since our 2018 survey, in which foreign-born women were the least likely to report feeling connected to the department or valued for their research. This may reflect pandemic effects on US born STEM women.

Figures 2 and 3 focus on differences among foreign-born faculty. Foreign-born women faculty are six times as likely to report that the demands associated with their identity group have a negative effect on their career goals, and they rate their department climate lower than foreign-born men, although there is some overlap in the confidence intervals.



Figures 4 and 5 examine experiences with decision-making and perceptions of personnel processes among STEM faculty. We do not see significant differences in decision-making experiences by gender and nationality in Figure 4.

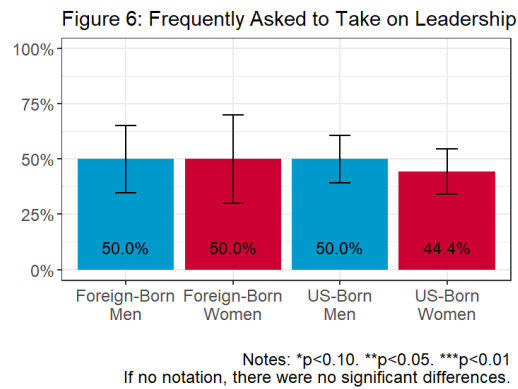
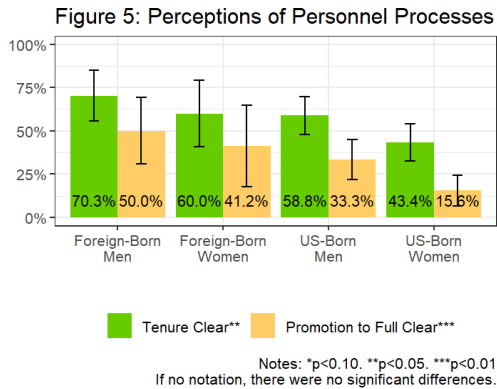
Figure 4: Experiences with Decision-Making



In terms of personnel processes, foreign-born faculty and men faculty are more likely to believe that the tenure and promotion criteria are clear. US-born women faculty are least likely to perceive promotion to full criteria as clear.

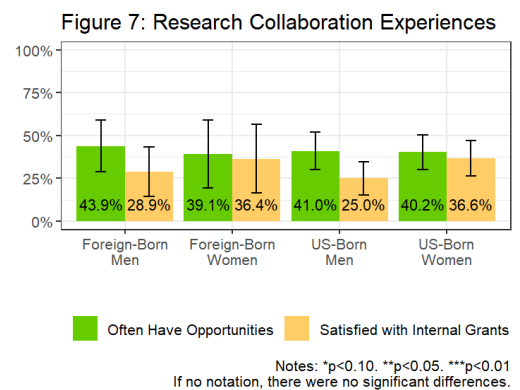
<sup>1</sup> 27.3% of STEM survey respondents were born outside of the US. Faculty are grouped by foreign-born men (n=42), foreign-born women (n=26), US-born men (n=85), and US-born women (n=96).

## STEM Faculty Experiences by Gender and Nationality



We also examined another measure of decision-making (Figure 6). In the 2018 survey foreign-born faculty, especially foreign-born women faculty, were less frequently asked to take on leadership roles. The good news is that based on our 2022 survey, we no longer see significant differences by gender and nationality anymore. This suggests that the university has made progress on bringing more faculty into leadership opportunities.

In terms of research collaboration experiences (Figure 7), **we also no longer see significant differences by gender and nationality, based on the 2022 survey.** The findings based on the 2018-2019 survey pointed out the disadvantaged situations of foreign-born women faculty that need to be addressed by interventions. In 2022, foreign-born faculty are more comparable with US born faculty in terms of collaboration opportunities. Both foreign-born women and US born women are somewhat more satisfied with internal grants. This suggests that interventions into creating more diverse and equitable collaborations, including by UMass ADVANCE, have been successful.



**Next Steps:** It appears that some of the most dramatic differences between US born and foreign-born faculty have been mitigated between 2018 and 2022, either due to interventions on campus, or through the leveling effect of the pandemic. Foreign born faculty now feel a greater sense of inclusion, but in the wake of the pandemic, there remains work to do to make all faculty feel more connected and included. Foreign-born faculty women particularly feel the impact of their identity group on career goals, and feel less included than foreign-born faculty men, which requires intervention. Interventions around decision-making, leadership, and collaboration have been more effective, and should be continued.

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