## 1. Appoint Leaders Who Value EDI

Those individuals who are appointed to positions of leadership should have a strong reputation for facilitating an inclusive workplace culture that considers intersectional inequalities (e.g., gender, race/ethnicity, sexual identity, and physical disability/mental health diagnoses); and reflect the diversity of the people they represent.

- Greater diversity amongst university administrators is positively associated with greater faculty diversity ${ }^{1}$.
- The beliefs and behaviour of administrators and department heads have a strong impact on the culture at the University, Faculty/College, and local department/unit level, including the career satisfaction of female NSE faculty ${ }^{2}$. Therefore, prospective leaders should have a good understanding of equity, diversity, and inclusion (EDI) principles and/or bring lived experience.
- Leaders should also encourage all faculty/staff to attend events that promote EDI and provide a budget for faculty to attend non-local events. Male faculty, in particular, may be more inclined to engage with EDI initiatives if an emphasis is placed on the role of EDI in increasing institutional credibility and competitiveness, as well as STEM department effectiveness ${ }^{3}$.

Gender and age are the primary reasons that women reported harassment and discrimination, whereas men were most likely to report experiencing harassment or discrimination as a result of their academic views or race/ethnicity ${ }^{7}$.

## 2. Uphold EDI Principles in Departmental Hiring

Department/unit hiring and recruitment policies should reflect the principles of equity, diversity, and inclusion.

- There is evidence that some existing NSE department hiring and recruitment practices are biased toward men ${ }^{4}$, restricting NSE faculty diversity.
- If workplace practices/procedures remain biased, the inequalities they reinforce will be consistently repeated over time ${ }^{5,6}$.

On average, surveyed female faculty who experienced harassment or discrimination waited almost a year and a half longer to be promoted from Assistant to Associate Professor to than women who did not report experiencing harassment or discrimination
( $\mathrm{p}<0.01$ ) ${ }^{7}$.

## 3. Incentivize EDI-Based Training

Intersectional bias, harassment/discrimination, and code of conduct training should be incentivized for all faculty/staff.

- Female NSE faculty in Canada experience disrespect, harassment, and discrimination at significantly higher rates than male faculty ${ }^{7}$; and U.S. STEM faculty with multiple marginalized identities (e.g., racialized women and racialized LGBTQA individuals) have reported the most harassment and discomfort, as compared to other faculty $8,9,10,11$.
- Female NSE faculty who experience harassment and discrimination can also experience additional professional marginalization that may be detrimental to their careers (e.g., exclusion within their departments/units and delayed promotion to associate professor) ${ }^{7}$.
- Faculty may self-select to participate in training and, thus, they may already hold favourable attitudes toward EDI. Faculty who would benefit most may not participate in training without some external encouragement.


## 4. Enforce Anti-Discrimination and Anti-Harassment Policies

Mechanisms to hold faculty/staff who engage in discriminatory or disrespectful conduct accountable following bias, harassment, and code of conduct training should be developed in consultation with the appropriate partners (e.g., unions and human resources representatives).

- Canadian NSE faculty emphasize the importance of accountability, stressing that bias training is insufficient on its own ${ }^{12,13}$.
- For example, after implicit gender bias training, male STEM faculty in the U.S. were still significantly more likely than women to accept gendered stereotypes about women in STEM ${ }^{14}$.



## 5. Recognize a Diverse Range of Service Work Activities

Awards for service work should recognize a broader range of activities.

- Faculty engage in a broad range of service activities beyond committees; and marginalized identity faculty members (e.g., women) may be more likely to engage in particular kinds of service work than their colleagues. Specifically, female NSE faculty spent significantly more time engaged in outreach (i.e., recruiting young girls and women into NSE) and professional development activities than male faculty ${ }^{20}$.
- If departmental awards do not account for this diversity, the work of particular faculty members may remain unrecognized and undervalued.


## 6. Track and Review Distribution of Service Work

Distribution of service work should be tracked and reviewed.

- This may be especially important for female faculty, who report significantly heavier service workloads than their male colleagues, detracting from time spent on research ${ }^{1,15,16}$.
- Gender inequality in service responsibilities may be an unintended consequence of EDI policies requiring equitable gender representation on committees, which may disproportionately affect women in majority-male departments, such as NSE ${ }^{17,18}$.
- Overall, gendered cultural expectations put more pressure on women to accept service requests (e.g., women are agreeable/helpful). Thus, it is often easier for men to "just say no" ${ }^{18}$; and men may be more likely than women to be "sheltered" from service requests by colleagues, in the first place ${ }^{19}$.


## 7. Consider the Effects of Care Work on Faculty Productivity

The care work that faculty perform should be recognized as part of their workload or service assignment (e.g., dealing with students' non-academic personal/health problems).

- Students are significantly more likely to disclose serious personal problems to female faculty than male faculty ${ }^{21,22,23}$; and female NSE faculty report significantly more stress as a result of these non-academic interactions ${ }^{21}$.
- Student care labour is not currently accounted for in faculty performance evaluations, even though it can affect the time that faculty spend in research, teaching, and service ${ }^{21}$.


## Women are significantly more

 likely than malefaculty members to have
had students disclose
suicidal thoughts/behaviour
( $\mathrm{p}<0.05)^{21}$.

## 34.7\% of female faculty

22.9\% of male faculty

## 8. Provide Sufficient Access to Mental Health Resources

Support faculty's ability to safely manage students' personal/ health disclosures with additional training and resources (e.g., Mental Health First Aid course). Such training is only intended as interim support until students are referred to qualified professionals.

- Female and male NSE faculty expressed a desire for mental health response training ${ }^{21}$.
- Female and male NSE faculty generally felt unprepared and ill-equipped to handle serious personal/health disclosures from students when they arose ${ }^{21}$.


## 9. Remove Unequitable Barriers to Promotion \& Tenure

Promotion and tenure (P\&T) guidelines should be developed according to EDI principles; recognizing that marginalized faculty may encounter more barriers to satisfying existing P\&T criteria, including workload inequality (e.g., heavier service and student care demands). "Marginalized faculty" includes but is not limited to gender/women.

- Female STEM faculty in Canada may wait significantly longer to be promoted to associate and full professor, relative to their male colleagues ${ }^{24}$.
- However, women, immigrants, and those for whom English is a second language may all perceive the tenure review process and criteria (e.g., heavy emphasis on research/ number of publications) to be biased/more challenging to meet than other faculty ${ }^{25,26}$.
- Both female and male NSE faculty acknowledged some bias in the current definition of faculty success (research, teaching, and service); and recommended similar changes, including: valuing teaching and research equally; valuing a wider range of service activities (e.g., science communication activities); and appreciating the time the faculty invest in unsuccessful grant applications, for example ${ }^{27}$.
- Administrators and department leaders should engage faculty in discussions regarding institutional/departmental criteria for evaluating success/performance.


## 10. Support Work-Life Balance

Departments should develop a strategy to better support faculty's work-life balance, particularly during transitions to and from caregiving leave (e.g., birth, elder care, and care of a sick/injured relative, etc.). While disproportionately affecting women, these issues are relevant to all faculty.

- The majority of both female and male NSE faculty were dissatisfied with their work-life balance and slightly over one-third considered quitting because of it ${ }^{13}$.
- Yet, female NSE faculty are significantly more likely than their male colleagues to take leave for birth or adoption; and nearly $50 \%$ of both female and male leave-takers did not feel supported by their department/unit at the time ${ }^{12,13}$.
- NSE faculty may encounter particular barriers to taking leave related to their particular work/research (e.g., field and lab work and continued supervision of HQPs) ${ }^{28}$. Moreover, female NSE researchers have been found to integrate career activity into their leaves (and return to work early) both because they wanted to and because they felt pressure to stay involved or return to protect their reputations and promotion prospects ${ }^{29}$.
- Department leaders should discuss faculty's unique leave and work-family balance needs (e.g., university child care spaces, flexible hours/job-sharing, and limits on afterhours e-mails, etc.) to best facilitate the continued career achievement and future success of all faculty.


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For additional information contact:

Dr. Jennifer Dengate
Email: Jennifer.Dengate@umanitoba.ca

Dr. Annemieke Farenhorst
Email: Annemieke.Farenhorst@umanitoba.ca

Dr. Tracey Peter
Email: Tracey.Peter@umanitoba.ca

