Supplemental Digital Appendix 1

Examples of Threats That Negatively Impact Performance and Assessment of Some Learners Based on Gender, Race/Ethnicity, Sexual Orientation, Ability Status, and Experience as an International Medical Graduate (IMG)

Gender. Women medical trainees face overt harassment and discrimination at disproportionately high rates compared to men. For instance, a study of over 7,000 residents from 262 surgical residency programs, 65% of women reported gender discrimination and 20% reported sexual harassment compared to 10% and 4% of men, respectively.[1]Additionally, while data are lacking on the frequency in medicine of misgendering transgender and non-binary colleagues, it may be prevalent and psychologically and cognitively harmful.[2]

Race/ethnicity. The multiple studies demonstrating differences in assessed performance that negatively affect students from race/ethnicity groups historically underrepresented in medicine (UIM) [3–6] suggest that both individual assessor bias and larger systemic factors create these inequitable outcomes. Structures and processes within organizations and institutions that host educational training programs may reinforce privileges for some learners and perpetuate oppression for others.[7] Racialized norms of professionalism may contribute to trainee distress in the learning environment: UIM trainees and faculty describe increased scrutiny around their professionalism and feel they must navigate a tension between inclusion and assimilation.[8,9] Black individuals describe feeling compelled to use their professional identities to challenge larger social and historical mistreatment of Black Americans.[10] Cumulatively, these forces detract from racially minoritized individuals' opportunities to learn and demonstrate learning.

Sexual Orientation. Learners in minoritized groups based on sexual orientation experience challenges in the learning environment that interfere with performance. Lesbian, gay and bisexual (LGB) students report higher rates of humiliation and discrimination related to their sexual orientation than their heterosexual counterparts (27.0% vs 20.7% and 23.3% vs 1.0%, respectively; both $P < .001$).[11] Students with multiple marginalized identities (e.g., female, non-White, and LGB) reported the highest rates of mistreatment and discrimination.[12]

Ability status. Learners with disabilities require appropriate accommodations to learn and perform at their best in all workplaces and educational settings. Without appropriate accommodations, educators may cause harmful bias in assessment. Students with disabilities may not receive appropriate accommodations on high-stakes assessments; a study at more than 70 medical schools showed that 52% of students who applied for accommodations in the United States Medical Licensing Examination (USMLE) Step 1 licensing examination were denied. Of those who were denied and took the exam without accommodations, 32% failed and 3% withdrew or were dismissed from medical school.[13]

IMGs. Physicians who complete medical school in a different country than the one in which they complete their postgraduate training (e.g., residency) and practice medicine face barriers that can precipitate bias in assessment. IMGs may face racism, marginalization, and/or discrimination from patients and providers.[14] Some must learn new dialects, slang, or idioms as they culturally adapt within a new medical education system.[15] A meta-ethnography on IMGs' experiences around immigration revealed that some IMGs originating from medical education systems that prioritized knowledge and science experienced challenges working in new systems that

prioritized communication skills and patient-centered care.[16] Therefore, assessed differences in communication skills may reflect difference in training and acculturation rather than actual skills.

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