STEM has a demographics crisis which is particularly dire in the physical sciences. Our fields are more male and more white than the U.S. population as a whole, which means that these fields are missing out on diverse perspectives and talent [3]. Identity-based inequities are further ingrained in the disparate nature in which we distribute credit in the form of citations [4]. These inequities are immoral, and it is the work of all members of the STEM, Physics, and Astrophysics community—especially white men like myself, who are an overrepresented majority with excess power—to make the field more welcoming and inclusive. There is a high differential attrition rate of underrepresented groups in baccalaureate and post-graduate programs [6], and university researchers can make immediate impacts at these levels.

My focus on improving retention of underrepresented groups is rooted in social cognitive career theory [2], which has three axes: "physics self-concept and self-efficacy", "expectancy-value and planned behavior", and "motivation and self-determination".

Physics self-concept and self-efficacy negatively manifests as feelings of inadequacy, lack of social support, and communication anxiety. To combat this, we need to build young peoples' identities as scientists by providing opportunities to build competance, to perform science skills, and to receive recognition [1]. In addition to building knowledge and competence, STEM education (in classrooms and research groups) must give students experience to *perform* as scientists by e.g., giving talks or collaborating on projects *in low-stakes environments*. Furthermore, students deserve positive recognition for their accomplishments, but often only receive criticism (even if constructive) on a regular basis. As a research mentor, I frequently encourage and complement my students for their work. Even small victories deserve to be celebrated, and I try to instill that mindset in my students.

Expectancy-value and planned behavior manifests as buying into negative stereotypes about oneself or experiencing negative environments. I have a track record of making my departments more just, equitable, diverse, and inclusive spaces. As a graduate student, I created the first rubric used on the graduated admissions committee, iterated on that rubric, and led the push to adopt rubrics in this process permanently. This rubric has measurably reduced the bias of reviewers which has led to the admission of more diverse classes. As a postdoc at Northwestern, I have been an integral part of the push to hire Visceral Change to perform a climate survey this academic year. I aim to use my power and privilege in the field to make systemic changes within my own departments to improve outcomes for all scientists regardless of their identity. I still have a lot to learn about how to make e.g., my *classroom or research group* more inclusive, and plan to take the Inclusive STEM Project MOOC course in the coming year.

Motivation and self-determination can drive students out of STEM because they do not find it intrinsically motivating or socially relevant, or because they lack encouragement. In my mentoring relationships, I practice active listening [5] with my students to try to understand what motivates them so that I do not steer them out of intrinsically motivating questions. Another way to build relevance is by employing lesson plans which allow students to engage with their culture *and* science simultaneously. One example of such a lesson plan—which was developed for middle school but is applicable to introductory undergraduate astronomy classes or public outreach—can be found online here: `https://www.openscied.org/instructional-materials/8-4-earth-in-space/`. I would be excited to try to design public lectures (e.g., through astronomy on tap) or other outreach lesson plans rooted in this motivation principle through the public outreach programs at Princeton.

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