

Collaborative Research: Research Initiation: Factors Affecting Latina Engineering Student Decisions to Enter Graduate School or Engineering Career Pathways

Overview

Collaborative Research: Research Initiation: Factors Affecting Latina Engineering Student Decisions to Enter Graduate School or Engineering Career Pathways is a PFE:RIEF project to explore the social, cultural, educational, and institutional parameters affecting matriculation of undergraduate Latina engineering students into graduate engineering programs. Latina students who study engineering generally struggle with low feelings of institutional belongingness, even when they display high measures engineering self-efficacy and have high levels of achievement. Reasons such as this may contribute to the gender gap evident in STEM, that widens as students progress to graduate study. For Latina students the gender gap widens at twice the rate of women from other ethnic/racial backgrounds. Overall, the Latine/x/a/o engineering student population is not well understood, with matriculation of Latina students into graduate school no exception. This project helps contribute to this need by using a mixed-methods approach. The modified Collegiate Achievement Model is used for the quantitative portion of the work and the theoretical framework shifts to the Community Cultural Wealth Model for the qualitative aspects of the study. This is done specifically to provide broader, richer insights into both the institutional integration issues and the cultural and social perspectives behind the factors and experiences impacting Latina engineering student graduate study and career pathway decisions.

Intellectual Merit

This project will generate new knowledge on the motivations of Latina engineering students to matriculate to graduate school and/or pursue career pathways. The work will improve understanding of the complex psycho-social processes contributing to the persistent and underrepresentation of Latine/x/a/o and Hispanic and gender gap across STEM fields. Results from this work will also contribute to knowledge of the relative strengths and weaknesses of institutional integration theoretical models relative to community cultural wealth models for studying and understanding Latine/x/a/o populations entering STEM graduate schools and STEM workforce pathways.

Broader Impacts

Latine/x/a/o and Hispanic students in STEM come from the fastest growing ethnic minority in the United States. However, they are extremely underrepresented in terms of STEM degrees, especially at the graduate level. This research helps correct this situation, by providing critically needed insights to draw more Latina students into STEM graduate programs and eventually into the professorial ranks. The work will also help identify institutional practices and structures that are unintentionally aversive and leave women of color feeling excluded despite high levels of academic self-efficacy. Clearly identifying such issues is an important step toward change that broadens participation in STEM and provides our nation with a more diverse and equitable workforce.