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New research suggests peer-advisor relationship is key to success

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Source: Utah State University

Summary: Collaborative research across the country has shown that strengthening the relationship between the student and advisor can increase retention rates in engineering doctoral studies.

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FULL STORY

Collaborative research across the country has shown that strengthening the relationship between the student and advisor can increase retention rates in engineering doctoral studies.

Dr. Marissa Tsugawa, along with professors from Penn State, The University of Oregon, Indiana University Bloomington, University of Reno, Nevada and North Carolina State University, recently published a study with the *Journal of Engineering Education* on March 17. The study connects an engineering student's identity and the intention to complete a Ph.D. in engineering. Identity is a role that students give themselves during their experiences in the lab and classroom. The authors argue that when Ph.D. students fail to identify with engineering, some will not complete their degree.

This worries experts who say degree completion rates for doctoral engineering students remain stagnant at lower levels than necessary to meet national and global requirements. Strengthening the advisor-peer relationship might fix that.

1,754 Ph.D. students from 98 universities were asked about their intent to finish their studies and if they identified as an engineer.

"In this work, we seek to identify to what extent do advisor and peer relationships predict the intention of finishing a Ph.D. and the potential relevance of the number of years in the doctoral program," Tsugawa said. "To do this, we explore engineering identification variables as predictors of the intent to complete a doctoral degree and explore alternative interventions to increase degree completion rates."

The results of this research showed that interest and performance for each individual tended to predict the intention to complete a degree. Overall, graduate engineering identity explained a 9.5 percent variation in degree completion intention beyond advisor and peer relationship variables and the number of years in graduate programs.

"This means that research interest and scientific knowledge could be key when engaging with engineering identity to improve degree completion rates," Tsugawa said. "Efforts should be made to remove barriers and provide support to develop Ph.D. performance."

Tsugawa's research follows engineering identity and neurodiversity amongst STEM students. This is one of many papers they have been a collaborator on, and it is their hope to provide better opportunities and support to neurodivergent engineering students.

Story Source:

Materials provided by **Utah State University**. Original written by Sydney Dahle. *Note: Content may be edited for style and length.*

Journal Reference:

1. Matthew Bahnson, Derrick Satterfield, Heather Perkins, Mackenzie Parker, Marissa Tsugawa, Cheryl Cass, Adam Kirn. **Engineer identity and degree completion intentions in doctoral study**. *Journal of Engineering Education*, 2023; DOI: 10.1002/jee.20516

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