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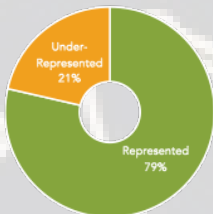
## SPACE GRANT PROGRAM EVALUATION - Wisconsin DATA

This summary shares **Wisconsin Space Grant data collected** for the national Space Grant program evaluation through summer 2023. The evaluation focuses on identifying effective repeatable practices that meet NASA's goals and encourage STEM career interest among undergraduate and graduate students.

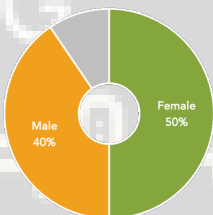
### Student Data

42 students completed matched pre- and post-surveys (a 35% response rate).

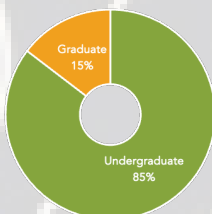
### Underrepresented



### Gender



### Academic Level



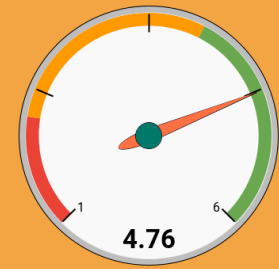
## EFFECTIVE REPEATABLE PRACTICES

### Authentic Experiences



This scale measures the extent to which students report being engaged in a range of research or engineering practices, such as designing and carrying out experiments or building and testing new products or applications. Mastery of these skills has a predictive effect on students' STEM self-efficacy beliefs. **Wisconsin students reported a low level of authentic experiences, with "1" being extremely low and "6" being extremely high.**

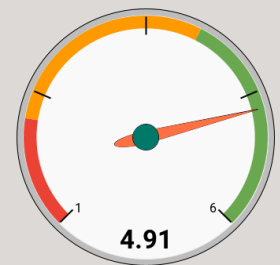
### Student Engagement



The student engagement scale assesses the extent to which students perceive their STEM experience included practices that foster student belonging, such as, connecting students with other students like them, fostering collaboration and peer support, and providing a challenging experience. **Wisconsin students reported a moderate level of student engagement, with "1" being extremely low and "6" being extremely high.**

### Mentoring

The mentoring scale measured students' perceptions of the mentoring they received. Survey questions are related to 1) leveraging institutional recognition and support, 2) appropriate pairing of mentor and mentee, 3) useful guidance, 4) social and emotional support, 5) cultivating inclusivity, and 6) mentor training. The quality of mentoring can make a significant difference in a student's experience with research. **Wisconsin students reported a moderate to high level of mentoring, with "1" being extremely low and "6" being extremely high.**

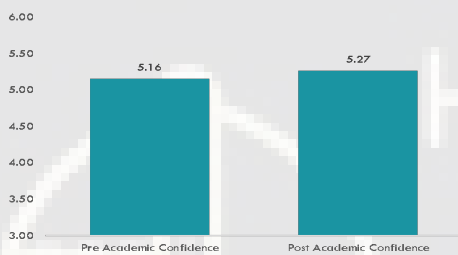


## STUDENT OUTCOMES

The evaluation outcomes are framed by the concept of **STEM identity**. Having a strong STEM identity has emerged as one of the best predictors of a student's entry into a STEM-related career. STEM identity lies in the cohesion of multiple constructs: how well one understands the content of STEM (academic confidence), how well one articulates and uses STEM practices (self-efficacy), and one's ability to be recognized as contributing member of a STEM community (student belonging).

Wisconsin Space Grant Consortium students reported increased feelings of academic confidence, STEM self-efficacy, student belonging, and STEM identity.

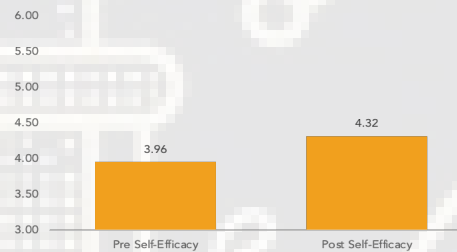
### Academic Confidence



The academic confidence scale, adapted from Bong's (2001) Self-Efficacy for Academic

Achievement Scale, was used to assess students' perceived capability to master content in their STEM coursework. Survey questions included items, such as I can master the content in even the most challenging STEM course if I try and I can earn a good grade in my STEM-related courses. A "1" indicates a low-level of academic confidence and a "6" indicates a high-level of academic confidence.

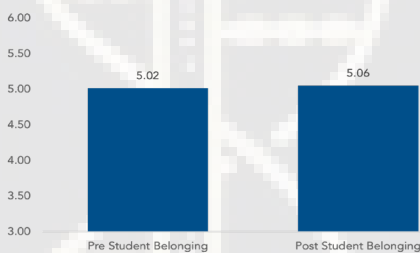
### STEM Self-Efficacy



The STEM practices self-efficacy scale, adapted from Estrada et al. (2011) and Chemers

et al. (2011), assesses students' confidence to participate in STEM research or design and development activities, such as use STEM tools and/or instruments, create explanations for the results of a study or project, and figure out what data/observations to collect. A "1" indicates a low-level of STEM self-efficacy and a "6" indicates a high-level of STEM self efficacy.

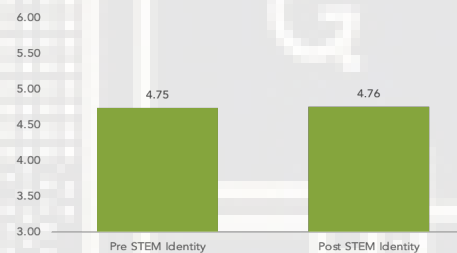
### Student Belonging



The belonging scale, adapted from University of Colorado Campus and Workplace Culture Survey

(2021), was used to measure students' feelings of recognition as a contributing member of the STEM community. Survey questions included items, such as I feel included in informal networks within my department/program and I feel valued in my department/program. A "1" indicates a low-level of feelings of belonging and a "6" indicates a high-level of feelings of belonging.

### STEM Identity



The STEM identity scale, adapted from Estrada et al. (2011) and Chemers et al. (2011), was

used to assess students' perception of themselves as someone who works in a STEM field. A "1" indicates a low-level of STEM identity and a "6" indicates a high-level of STEM identity.