Impact of Undergraduate Research Conferences on Student Belongingness and Scientific Identity

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### Research Questions

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<td>1. How has presenter confidence changed after participation in the Research Celebration?</td>
<td><img src="image1.png" alt="Histogram of Student Presenter Change in Confidence" /></td>
<td><img src="image2.png" alt="Histogram of Student Presenter Perceived Change in Ability" /></td>
<td><img src="image3.png" alt="Chart" /></td>
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<td>2. How has presenter ability changed after participation in the Research Celebration?</td>
<td><img src="image4.png" alt="Histogram of Student Presenter Change in Ability" /></td>
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<td>3. Has participating in the Research Celebration impacted participant feelings of belongingness?</td>
<td><img src="image5.png" alt="Histogram of Student Presenter Belongingness" /></td>
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<td>4. Has participating in the Research Celebration impacted participant scientific identity?</td>
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<td><img src="image6.png" alt="Histogram of Student Presenter Change in Ability" /></td>
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<td>5. Is there a difference in presenter belongingness, scientific identity, perceived ability, and confidence between each Celebration event?</td>
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<td><img src="image7.png" alt="Chart" /></td>
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### Background

- Undergraduate research conferences, celebrations, and similar events are common
- Little research on the outcomes related to undergraduate student research presentations (Potter, Abrams, Townsend, Wake, & Williams, 2010).
  - Increase in research confidence (Casad, Chang, & Pribbenow, 2016)
  - Development of student identity as scholar (Gumbhir, 2014)
  - Adoption of skills and attitudes more aligned with their discipline (Hill & Walkington, 2016).

### Methods

- Participants (N=142)
  - 69% Female; 23.9% Male; 1.4% Non-binary
  - Presented
    - In person August 2019 (n = 57)
    - Virtual December 2019 (n = 18)
    - Virtual April 2020 (n = 67)
- Academic Level
  - 0.7% Freshpersons
  - 7.7% Sophomore
  - 21.8% Junior
  - 49.3% Senior
  - 15.5% Graduate Student
- College of Major
  - 69% College of Arts and Sciences
  - 1.4% Haile/US Bank College of Business
  - 0.7% College of Education
  - 18.3% College of Health and Human Services
  - 9.9% College of Informatics
- Post-event survey (based on Caprio & Hackey, 2014; Casad et al., 2016; Kneale, Edwards-Jones, Walkington, & Hill, 2013; Potter et al., 2010) on professional skills, belongingness (9 items), scientific identity (8 items), and their experiences during the Research Celebration.

### Results

Students presenting at Research Celebrations report high Scientific Identity and Sense of Belonging. Students find an increased perception of confidence for and ability in research after presenting. Virtual forum did not impact student perceptions.

### Conclusions

- Student presenters perceive an increase in confidence following a Research Celebration
- Student presenters perceive an increase in ability following a Research Celebration
- Student presenters report high Scientific Identity (32.4/40)
- Student presenters report a high Sense of Belonging (36.1/45)
- No significant difference between Heather Bullen Summer Celebration (in-person), Winter Celebration (virtual), or Spring Celebration (virtual)
  - *high defined as last quartile of possible scores

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