Building a Future in STEM: The Girl Scouts and a University Partnership

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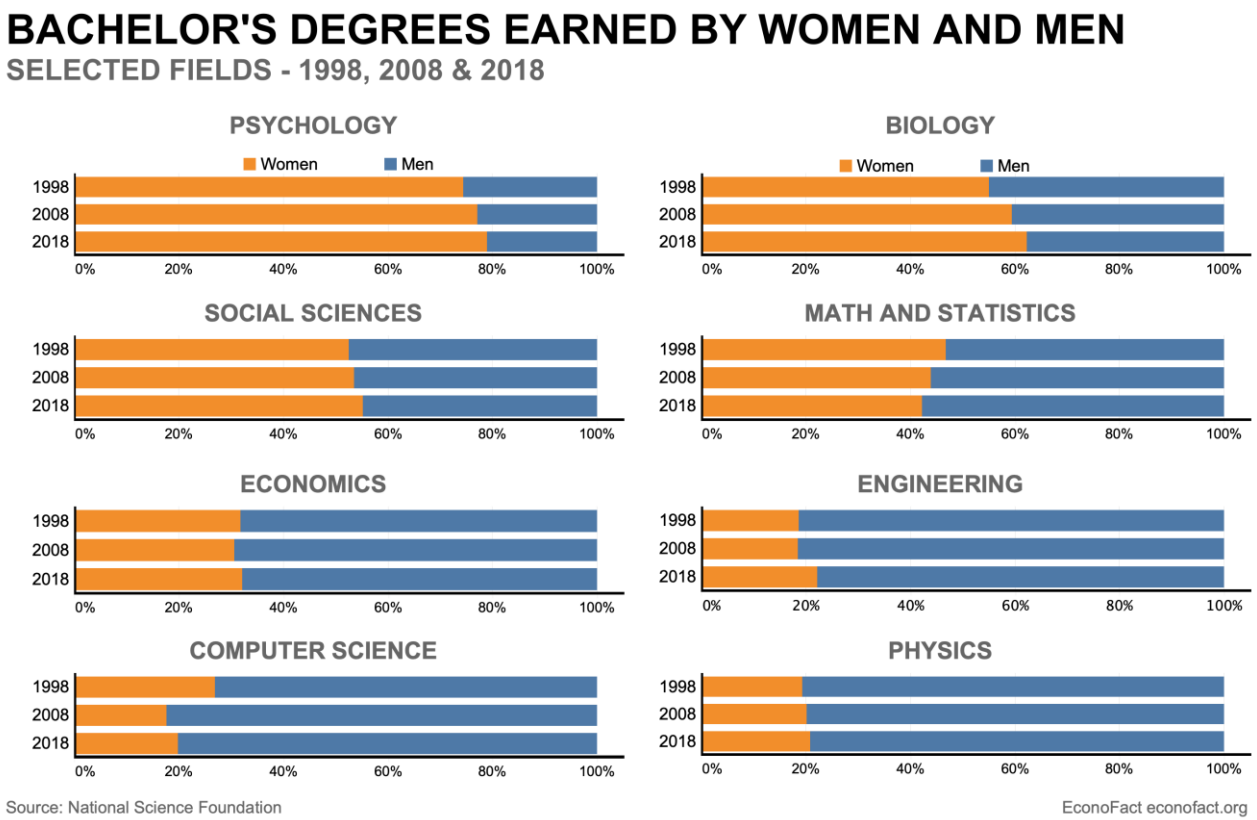
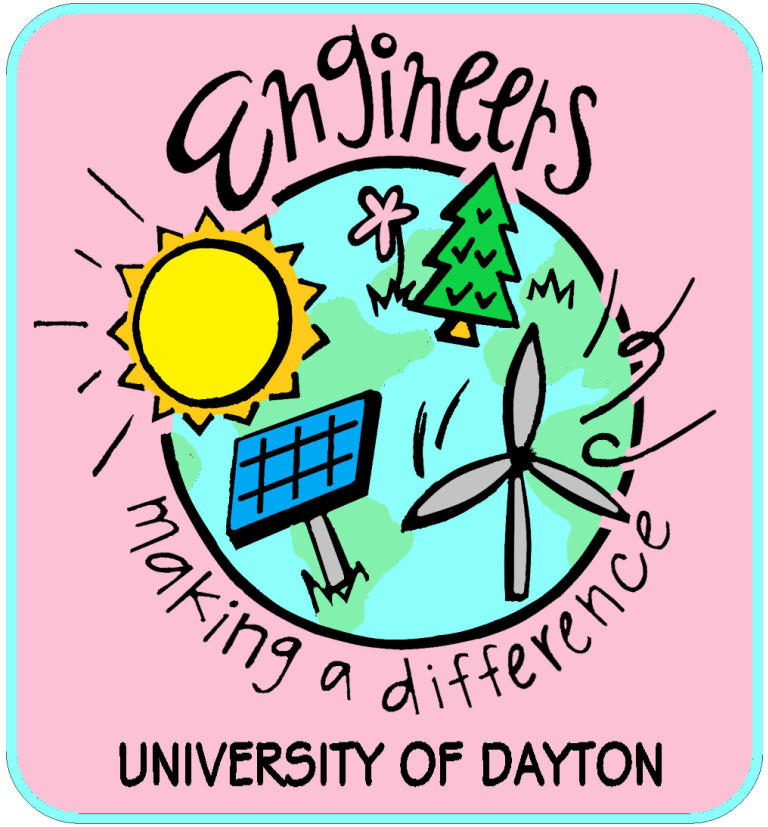
Overview of the gender disparity in engineering and STEM fields



- Women earning close to half of all STEM bachelor's degrees in the United States
- Women earned two-thirds of bachelor’s degrees in life sciences, psychology, and social sciences
- Women are underrepresented in more math-intensive fields: 39% in geoscience, 22% in engineering, 42% in mathematics, 19% in computer science, and 40% in the physical sciences.

Understanding the Girl Scouts as a Strategic Partner



Estimated Current Membership

- 1.7 million girls
- 750,000 adult volunteers

Girl Scout's STEM Outcomes

- STEM Interest: positive affect and curiosity towards STEM
- STEM Confidence: feelings of self-efficacy in relation to STEM
- STEM Competence: ability to think scientifically when working to solve a problem
- STEM Value: understanding the role STEM plays in everyday life

Benefits to Universities

- Leverage of Girl Scouts' **established network for outreach**, reducing the logistical burden of managing minors.
- Partnership **helps universities navigate regulations** and resource constraints when working with minors.
- The role of university students as mentors has benefits of **combating imposter syndrome** and enhancing retention in STEM programs.

Benefits to Girl Scouts and Troop Leaders

Girl Scouts of the USA

- GSO own outcomes, STEM programming is where they see the highest gains and impact on our Challenge Seeking outcome.
- Some leaders are intimidated to offer engineering badges
- Access to university facilities, equipment, and expertise.
- Access to college role models

Specific STEM Activities and Badges Facilitated

THINK LIKE AN ENGINEERING JOURNEY FOR BROWNIES & JUNIORS

Grade Level

- Brownies – grades 2 – 3
- Juniors – grade 4 – 5

Badge Requirements:

1. Find out how engineers use design thinking to solve problems.
2. Do 3 design thinking activities
3. Plan a Take Action project that helps others.

Specific STEM Activities and Badges Facilitated

DAISY ROLLER COASTER DESIGN CHALLENGE BADGE

Grade Level – Kindergarten - 1st

Badge Requirements

- Make a simple roller coaster car
- Build a model of a roller coaster
- Test your roller coaster

One of Daisy Mechanical Engineering Design Challenge Badges

- Board Game Design Challenge
- Roller Coaster Design Challenge
- Model Car Design Challenge

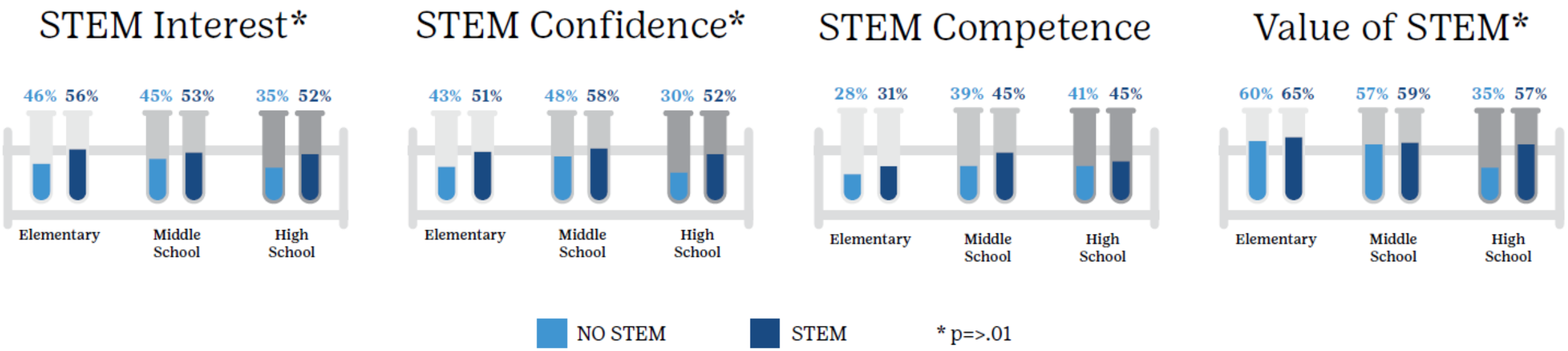
Specific STEM Activities and Badges Facilitated

Junior Think Like A Programmer Badge

Daisy STEM Career Exploration Badge

Ambassador Designing Robots Badge

Evidence of Impact and Outcomes



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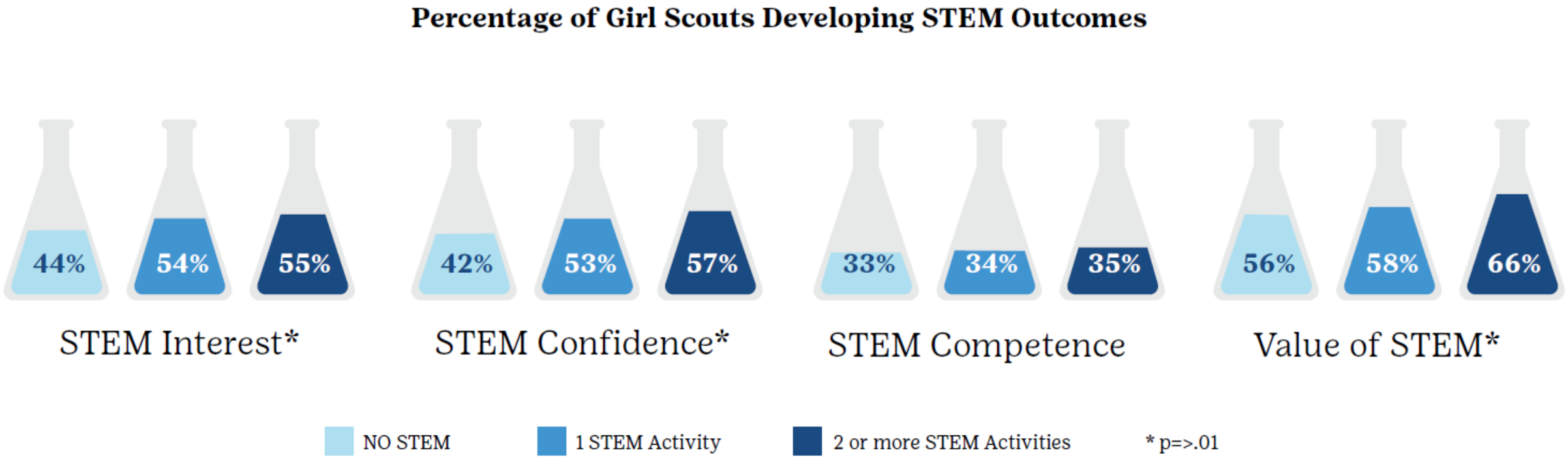

Overcoming Challenges in Partnership Implementation

Timeline Challenges

- GSUSA need time to recruit troops, would like up to a year
- Students work in 16 week chunks of time with definite times that won't work
- Find the SWEET SPOT

Regulatory Challenges with minors

- Take the time to understand Girl Scout policies and how these fit with your university
- Getting university students to complete any required training early

Future Directions and Expanding the Partnership

Daisy Cybersecurity Basics Badge

NEW Makers Badges

Senior Space Science Expert Badge

Conclusion

- Partnership between universities and Girl Scouts can be mutually beneficial.
- Early exposure to STEM for young girls has long-term impact on diversity in engineering and STEM fields.
- Easy way for other universities to build similar partnerships to foster a more inclusive environment in STEM.

Thank you!

Questions & Discussion

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