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2025

Growing the Cybersecurity Workforce:

Enhancing Career Guidance through Professional Development for Advisors and Counselors

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2025 CAE Community Symposium

The Cybersecurity Workforce Gap

- 1.2 million+ cybersecurity professionals employed in the United States
- 450,000 unfilled cybersecurity positions nationwide
- **Critical barrier:** lack of understanding of cybersecurity work roles
- Limited training for those who guide students (counselors, advisors, educators)

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Research Questions

Primary Research Question:

How does targeted professional development for academic advisors and career counselors enhance their ability to connect with and guide students effectively toward cybersecurity careers?

Secondary Questions:

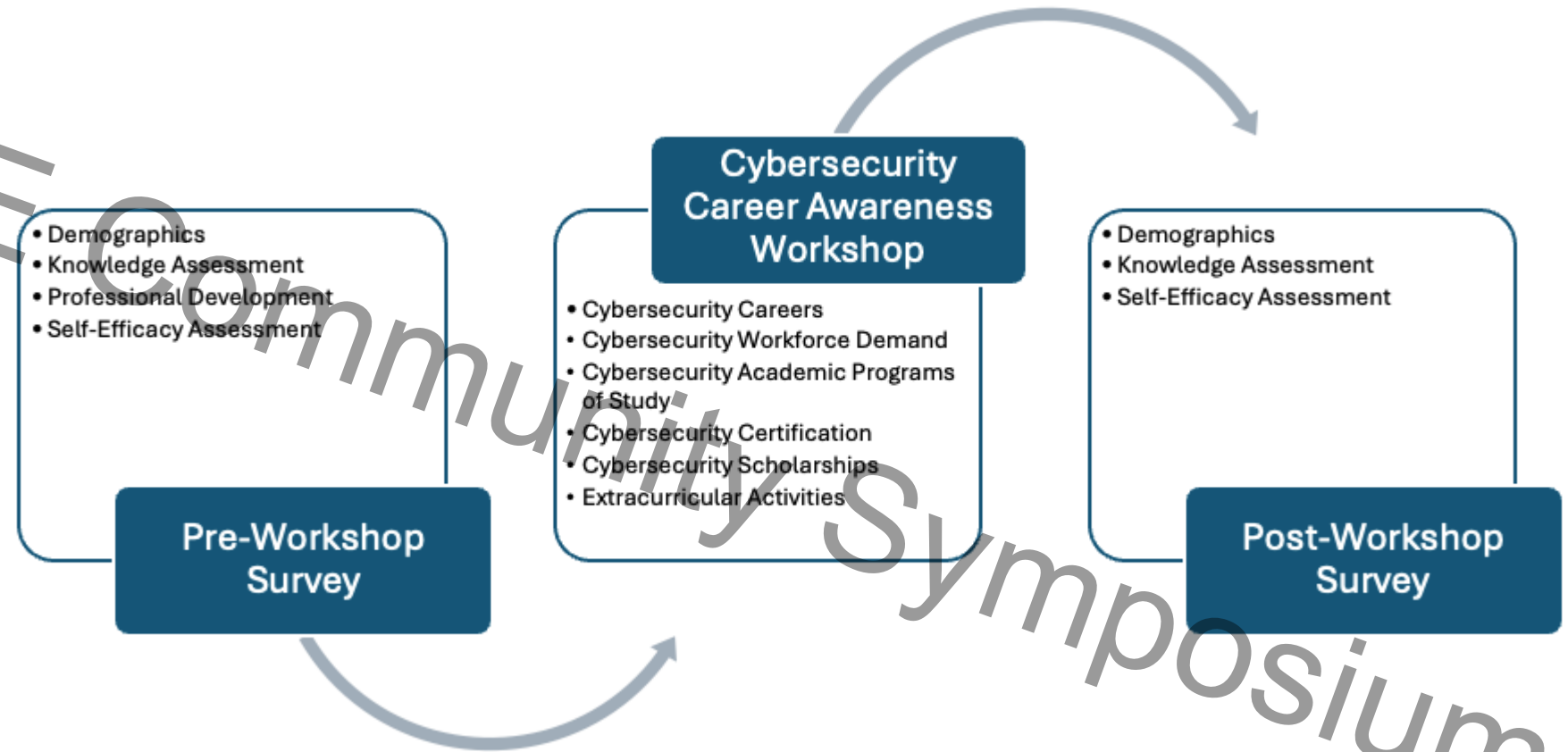
- What knowledge gaps exist among advisors and counselors?
- Which resources are most effective in building confidence?
- How can improved guidance impact the cybersecurity workforce gap?



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Study Methodology: Quasi-experimental design





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2025 CAE Cybersecurity Career Awareness Workshop

The workshop provided:

- Overview of cybersecurity
- Cybersecurity careers & workforce demand
- NICE Framework & Cyberseek resources
- Centers of Academic Excellence
- Academic pathways and certifications
- Extracurricular activities
- Cybersecurity scholarship opportunities

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Pre-Workshop Assessment: Confidence Levels

Self-reported confidence in advising students on cybersecurity pathways:

Confidence Level	Percentage of Participants
Not confident at all	35%
Slightly confident	35%
Somewhat confident	20%
Confident	8%
Very confident	2%

Over 70% of participants reported low confidence levels

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Knowledge Assessment

Knowledge Domain	Pre/ Post	Knowledge Assessment Scale (%)					Increase in Competency
		None	Beginner	Competent	Proficient	Expert	
Cybersecurity Career Landscape	Pre	25.0	53.6	13.6	6.4	1.4	30.9%
	Post	15.4	32.3	38.5	12.3	1.5	
Cybersecurity Work Roles	Pre	23.8	48.8	19.6	6.4	1.4	23.4%
	Post	16.9	32.3	36.9	12.3	1.6	
Cybersecurity Academic Programs	Pre	26.2	50.0	16.2	6.2	1.4	31.6%
	Post	13.8	30.8	41.5	12.3	1.6	
NCAE-C Programs	Pre	46.8	25.8	19.8	6.2	1.4	24.9%
	Post	15.4	32.3	38.5	12.3	1.5	
Cybersecurity Certifications	Pre	25.0	50.0	17.4	6.2	1.4	33.5%
	Post	12.3	29.2	43.1	13.8	1.6	
Transfer Agreements	Pre	57.0	21.6	13.8	6.2	1.4	20.1%
	Post	20.0	38.5	30.8	9.2	1.5	

- Additional slides forthcoming...

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