

UMB RAMP: UMB Research And Mentoring Program to develop skills and promote interest in STEM fields through hands-on exposure to academic research among West Baltimore Youth

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Background and Methods

- This poster describes the implementation of a pilot curriculum introducing basic, clinical and translational research and hands on training for rising 11th- & 12th-graders in Baltimore City.
- Implemented over 5-weeks in the summer coinciding with YouthWorks.
- Near-peer mentors were recruited from undergraduate and graduate programs in the Baltimore area.
- Scholars received 5 hours of daily instruction led by various UMB faculty members and staff, and near-peer mentors.
- Pre- and post-surveys assessed research interest and sense of belonging.

Participant Characteristics

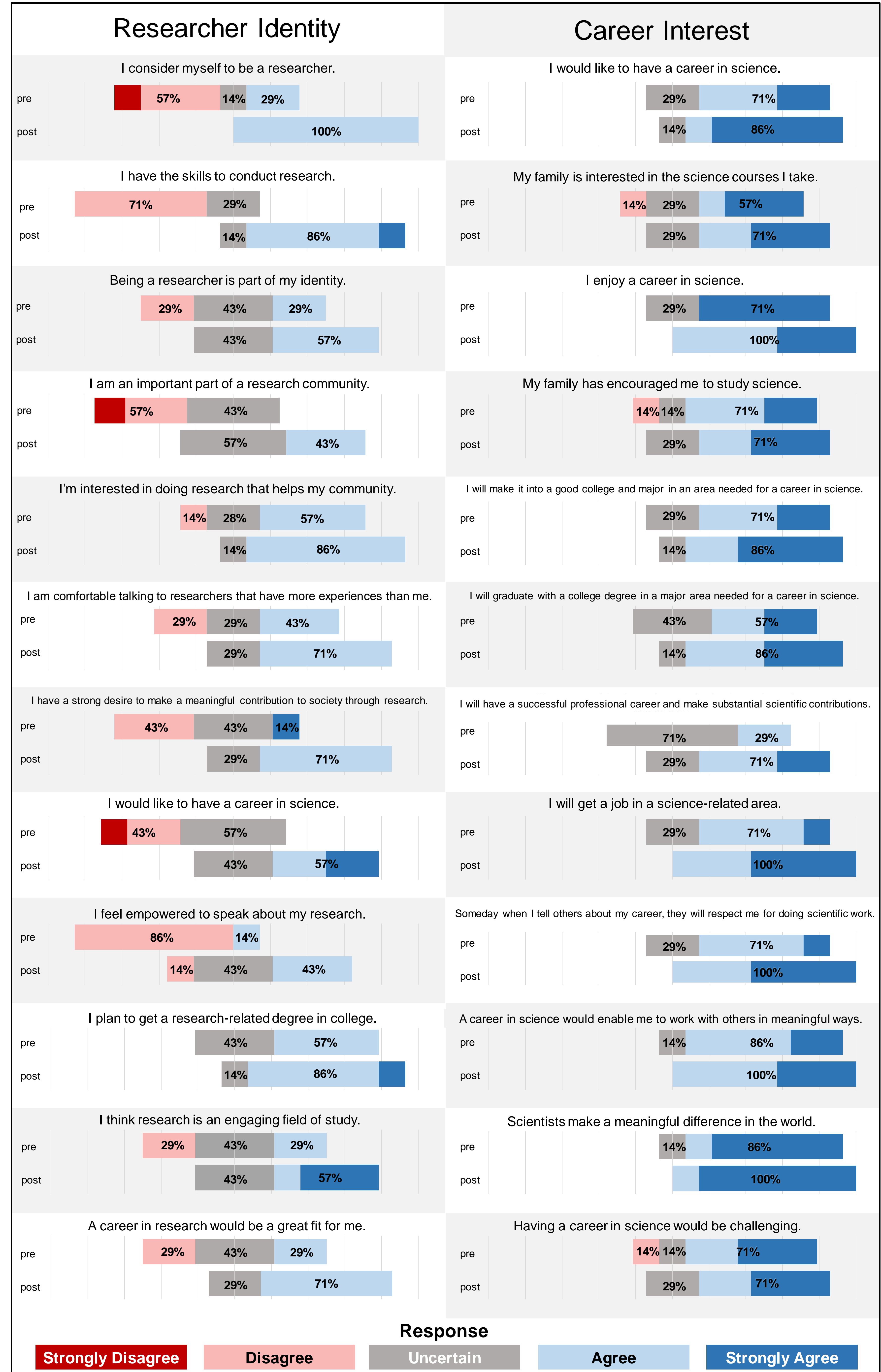
- Scholars**
- 8 enrolled; 7 completed the summer program
 - 4 males; 3 females
 - Graduation Year: 2023 (1); 2024 (3); 2025 (3)
 - Average attendance was 87% (22/25 total days)
- Mentors**
- 6 total, all completed the summer program
 - 5 female, 1 male
 - 1 college junior, 4 college seniors, 1 masters student

Partners and Funders

- University of Maryland Baltimore Professional Schools, Institutes, Centers & Offices**
- School of Medicine
 - School of Nursing
 - School of Pharmacy
 - School of Social Work
 - Graduate School
 - Institute for Genome Sciences
 - University of Maryland Greenebaum Comprehensive Cancer Center
 - Department of Physical Therapy and Rehabilitation Science
 - Department of Microbiology and Immunology
 - Department of Neurology
 - Department of Neurobiology
 - UMB CURE Scholars Program
 - Office of Student Research
 - General Clinical Research Center (GCRC)
 - Human Research Protections Office
 - Human Resource Services
 - Health Sciences and Human Services Library
 - Office of Emergency Management
- Cross-System Partnerships**
- VA Maryland Health Care System Baltimore Geriatric Research, Education, and Clinical Center (GRECC)
 - Towson University
 - University of Maryland, College Park
 - Loyola University
 - Stevenson University
 - University of Maryland, Baltimore County
- Business and Professional Community**
- Illumina
 - Beth Birago (Learn AHA CPR, First Aid, ACLS, & PALS)
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Pre- and Post-Survey Results



Summer Highlights

Laboratory Skills

Lab Skills Training with Near-Peer Mentors
 Left: learning to use a triple-beam balance
 Right: learning to micropipette

Field Trip to Illumina at UMB BioPark
 Left: preparing a sample for the DNA sequencer
 Right: micropipetting competition

Clinical Skills

Basic Life Support Training
 Left: CPR/AED
 Right: Heimlich Maneuver

Balance and Fitness Tests with Dr. Linda Horn
 Left: Four Square Step Test (FSST)
 Right: Static Balance Testing

Professional Skills

Independent Research Projects Presentations
 Left: group photo
 Right: scholar presenting her research project

Student Summer Research Forum
 Left: group photo
 Right: scholars practicing networking skills

“RAMP was an amazing opportunity for me to explore the world of research. I have learned so much about myself and those around me who are able to make a difference through research.”
 - Scholar

“Being a RAMP mentor really solidified for me that I want a career in research.”
 - Mentor

“It was a great opportunity to learn how to research information for things you want to be in life and it has given me great opportunities for careers and jobs.”
 - Scholar