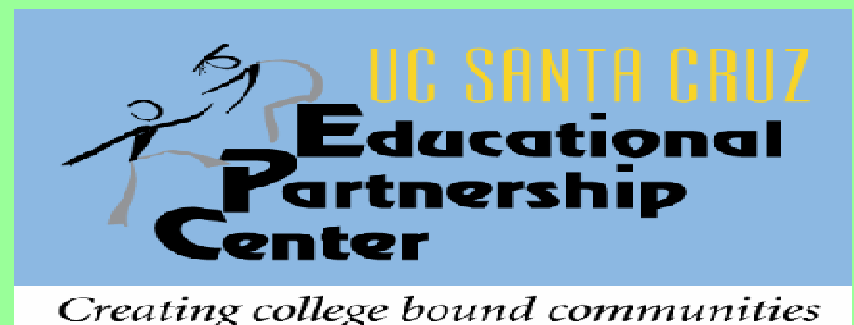


Understanding Science Support Programs: A Theory-Driven, Interdisciplinary, Multi-Method Approach

Martin M. Chemers

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University of California, Santa Cruz



My Research Mantra

- Focus
- Theory
- Competencies

- Focus:
 - You can't study everything at once.

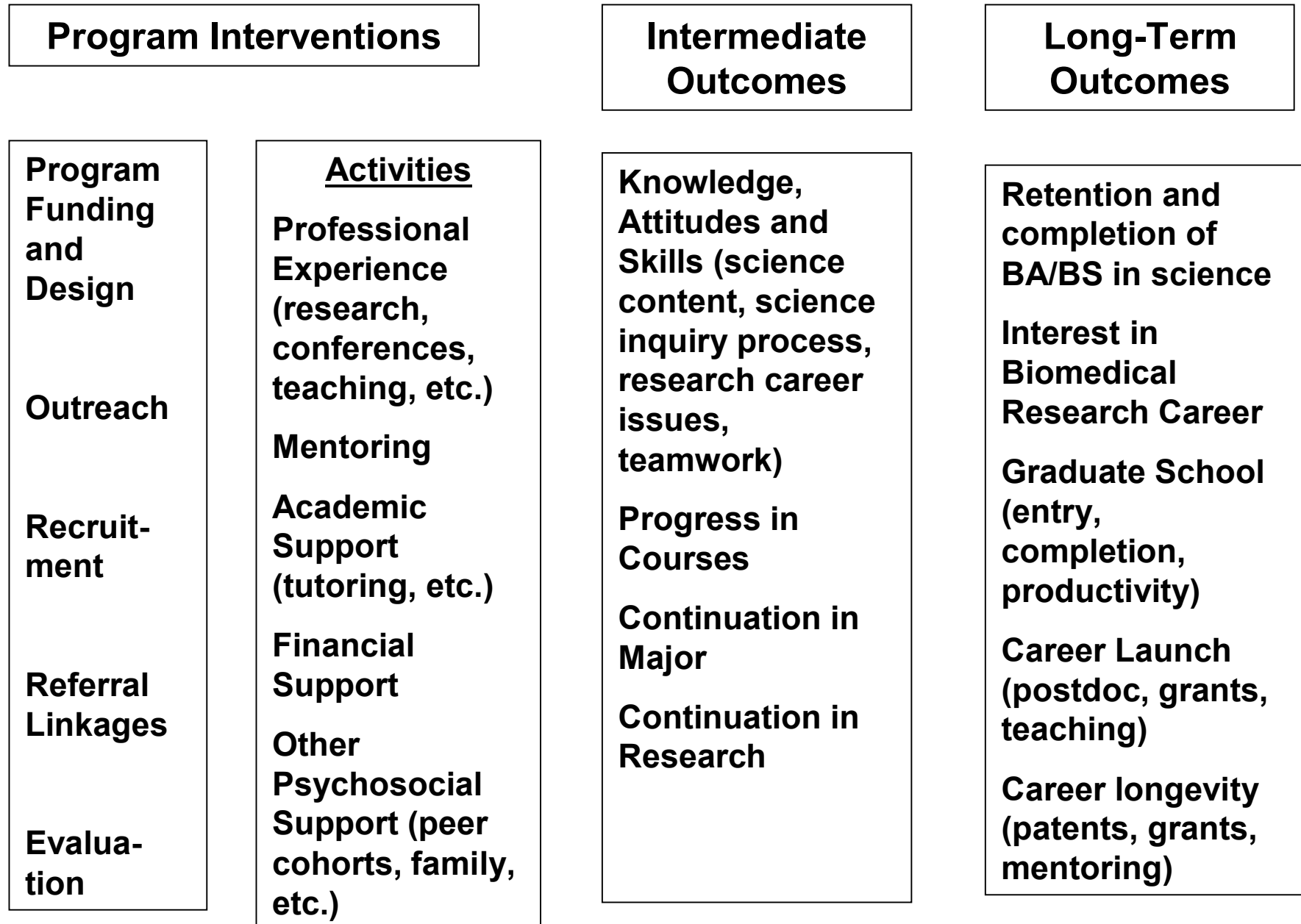
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- Focus:
 - You can't study everything at once.
- Theory:
 - Without a theory, you don't know what to study.
- Competencies:
 - Unless you already know everything, bring the relevant expertise to your team.

The NIH Initiative Goals

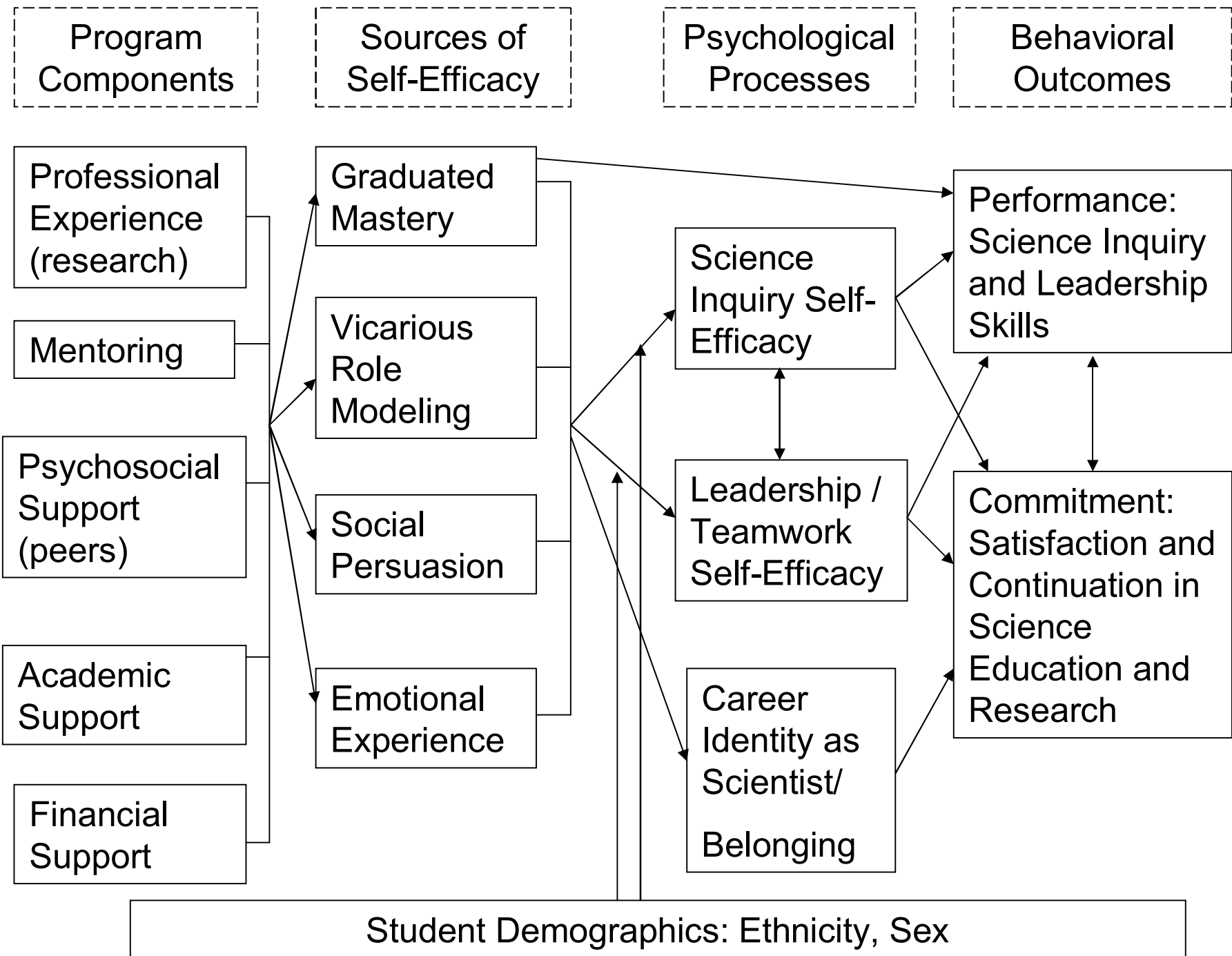
- To increase students' (particularly underrepresented students') entry and success in biomedical research careers
- To test assumptions regarding interventions
 - Engaging in research with appropriate support and mentorship motivates students
 - This leads to improved academic and career skills
- To make evidence-based recommendations to reinforce and/or improve practice

Biomedical Research Career Support Programs' Theory of Action



Overarching Research Questions

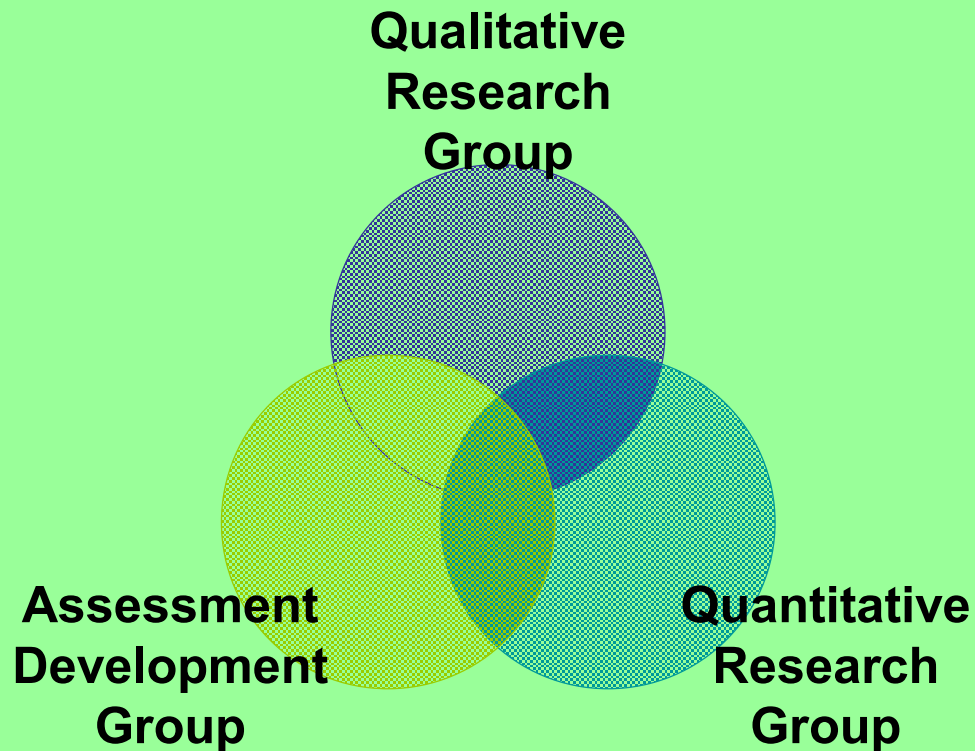
- How do activities implemented by biomedical research career support programs (especially research and mentoring) influence:
 - skills in science inquiry and scientific team leadership and membership,
 - beliefs in efficacy and collective efficacy regarding these skills, and
 - stage-appropriate educational and career outcomes?
- Are these influences similar for minority and non-minority students?



Overview of Methods and Timeline

	04-05	05-06	06-07	07-08
Qualitative Assessment of Program Experience & Active Ingredients	→			
Retrospective Surveys of Past Participants' Perceptions	→	→		
Longitudinal Case Studies		→		
Develop Performance-Based Assessments		→		
Longitudinal Studies of HS and Undergraduate Students' Skills, Efficacy, & Identity Development		↔	↔	
Survey of SACNAS Participants			→	
Integration & Final Dissemination				→

A ScILS Research Team



- Overlapping Membership
- Integrated at Full-Team Level
- Interdisciplinary

ASeILS Research Team

- Melissa Baynes, Graduate Student, Psychology
- Steve Bearman, Graduate Student, Psychology
- Martin Chemers, Principal Investigator, Professor Psychology
- Faye Crosby, Professor Psychology
- Elizabeth Espinoza, Graduate Student, Chemistry
- Barbara Goza, Educational Partnership Center, Director Research & Evaluation
- Lisa Hunter, Center for Adaptive Optics, Associate Director Education and Human Resources
- Carrol Moran, Educational Partnership Center, Director
- Elizabeth Morgan, Graduate Student, Psychology
- Deborah Kogan, Evaluation Consultant
- Refugio Rochin, Educational Partnership Center, Dir. Of Research and Evaluation
- Kristina Schmukler, Graduate Student, Psychology
- Julie Shattuck, Evaluation Consultant
- Jerome Shaw, Assistant Professor Education
- Moin Syed, Graduate Student, Psychology
- Eileen Zurbriggen, Associate Professor Psychology

- Former members:
 - Graduate Students: Lisa Algee, Education; Christy Rowe, Earth Sciences;
 - Undergraduate Students: Isai Baltezar, Jaime Jarvis, and Zavi Smith, Psychology; Marcia Soriano, Bioinformatics
 - Others: Stephen Mello, Educational Partnership Center, Policy Analyst;; Gloria Williams, Educational Partnership Center, Data Manager