



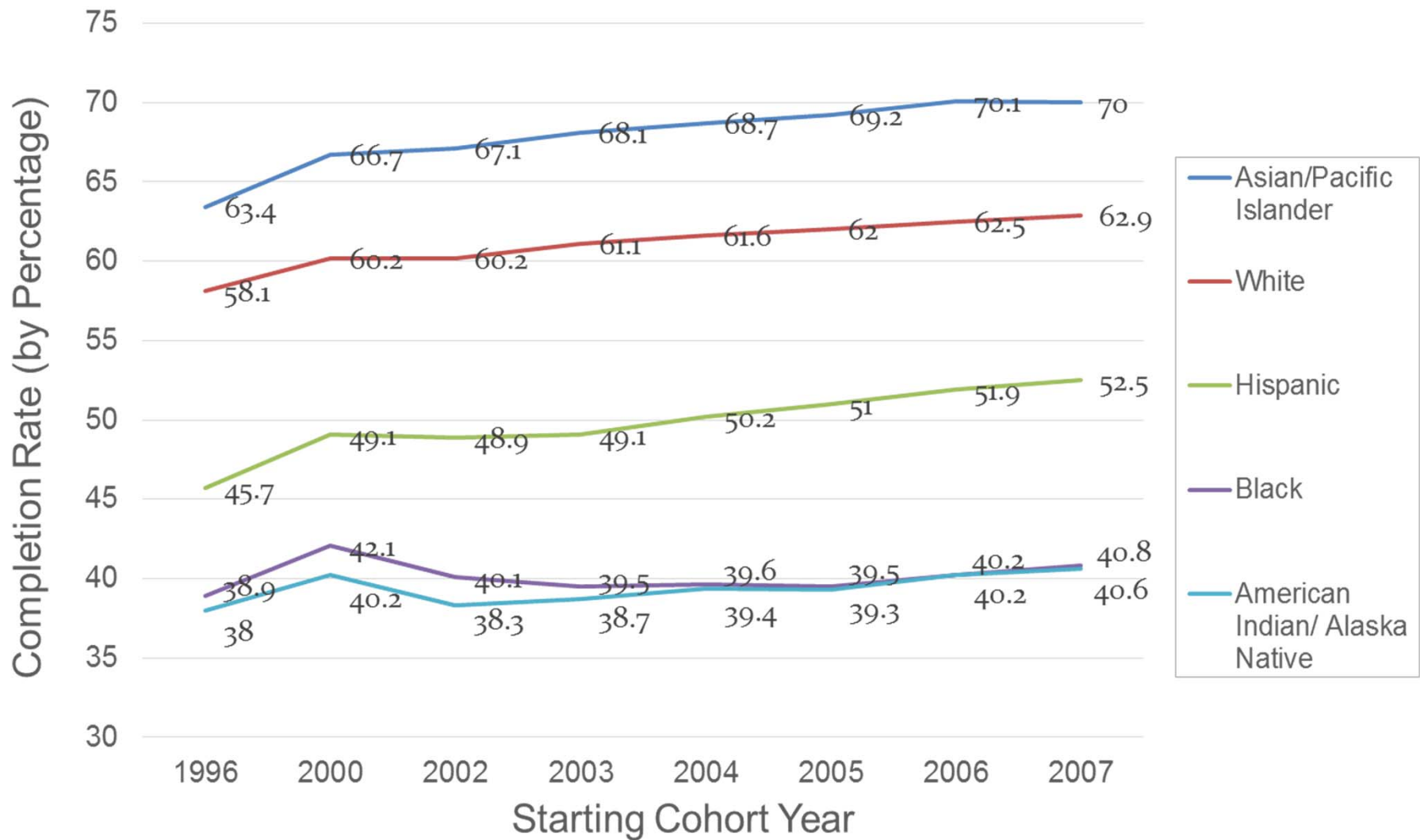
# **Research on Access and Inclusion: Emerging Practices and Perspectives**

**Sylvia Hurtado, Professor  
UCLA**

# Towards Access, Inclusion and Success

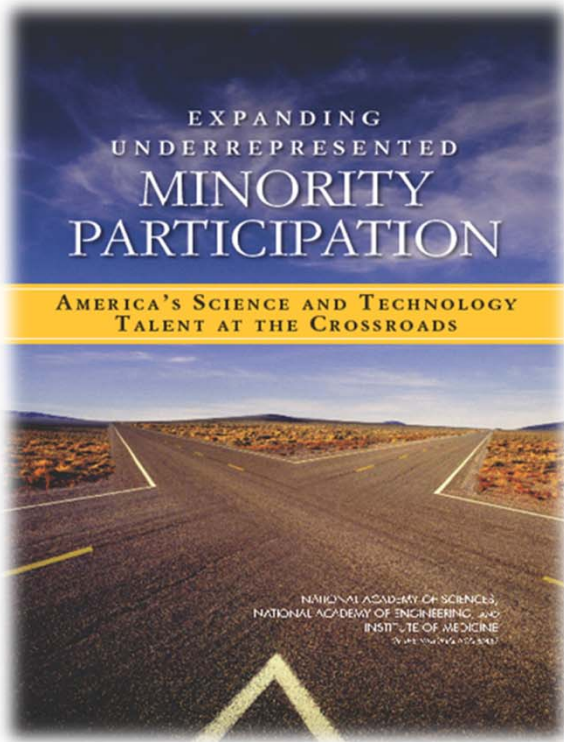
- Increasing college participation rates (NCES data)
- Access where and for whom?
- High social skills and non-routine analytic skills characterize the highest paying jobs (David Deming)
- What kinds of skills are related to college success?
- Research evidence about the importance of interactions across groups in college that result in cognitive and democratic outcomes (Denson, Bowman)
- How to create conditions for student success in diverse learning environments?

# Six-Year Completion Rate by Race/Ethnicity\*

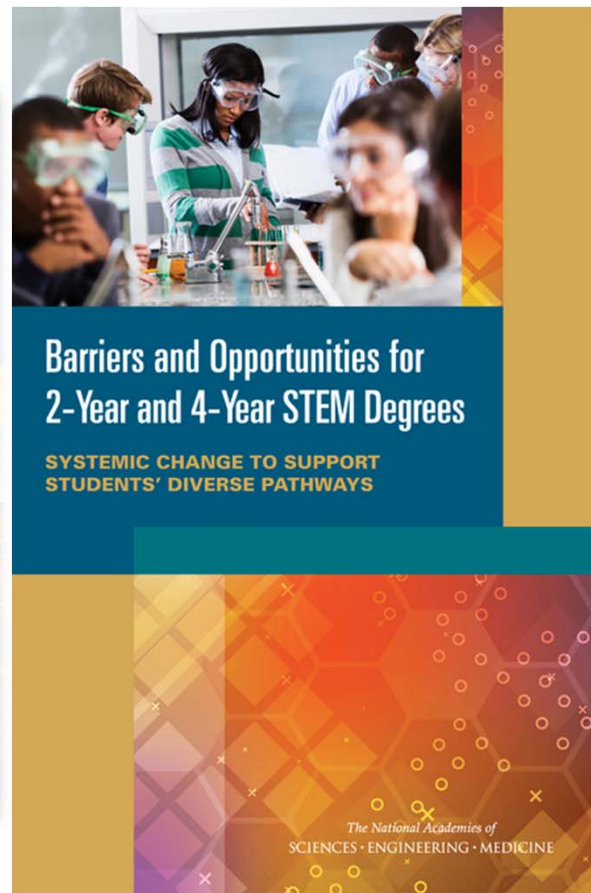


\*SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2002 and Spring 2007 through Spring 2015, Graduation Rates component; and IPEDS Fall 2008, Institutional Characteristics component.

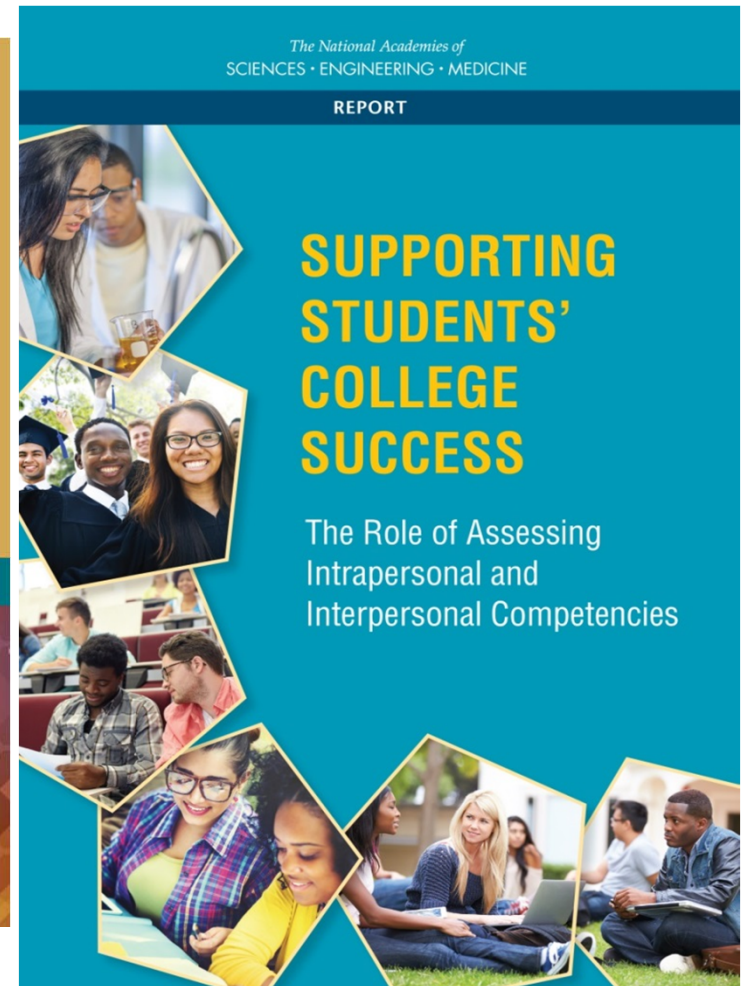
# National Academies Reports



2011



2016



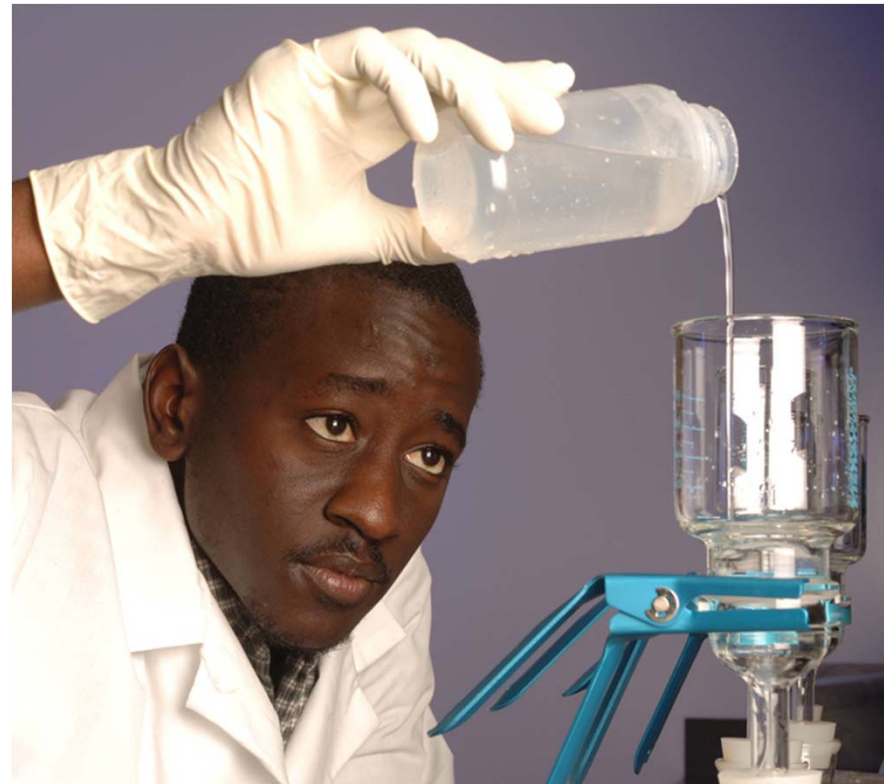
2017, just released

National Academies Press [nap.edu](http://nap.edu)

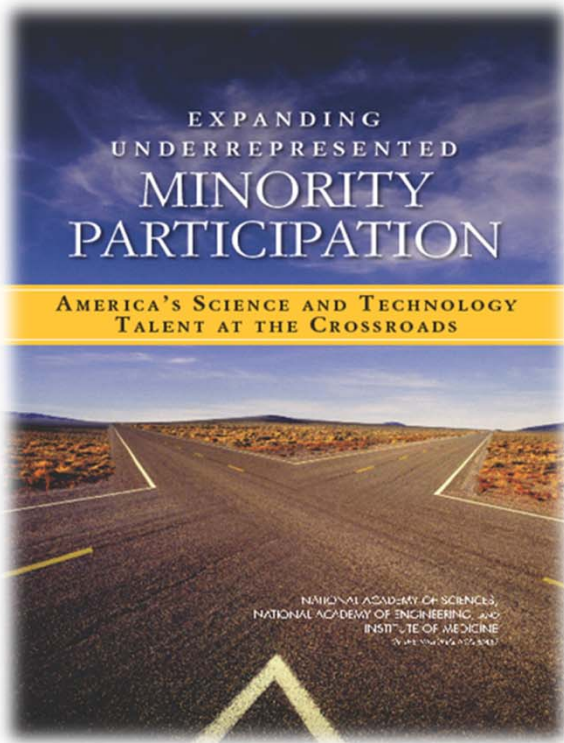
# A National Imperative

## National Academies (2011) Report *Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads*

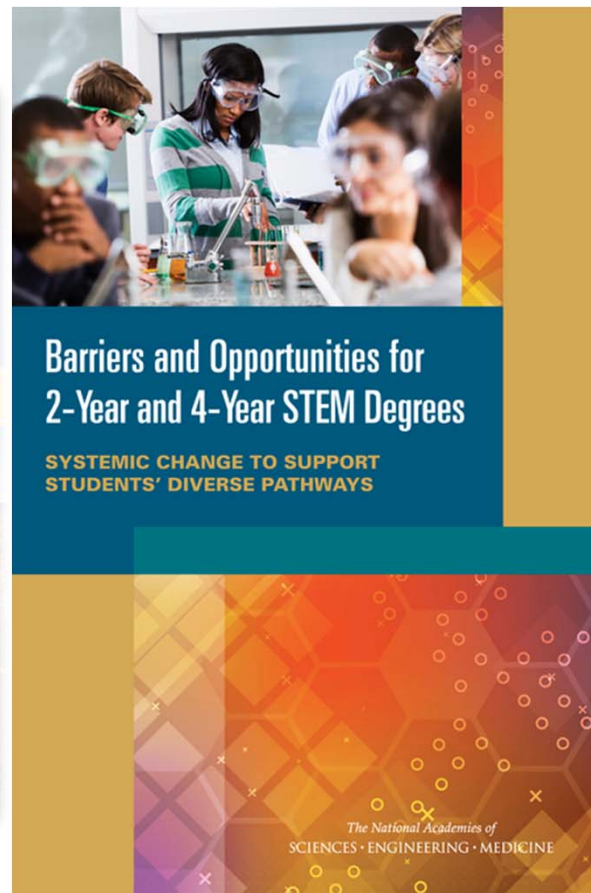
- Most of the growth in the new jobs will require science and technology skills
- “Those groups that are most underrepresented in S&E are also the fastest growing the general population” (National Academies, 2011, p. 3).
- To achieve long-term parity in a diverse workforce, they recommend a near term, reasonable goal of improving institutional efforts to double the number of underrepresented minorities receiving undergraduate STEM degrees.



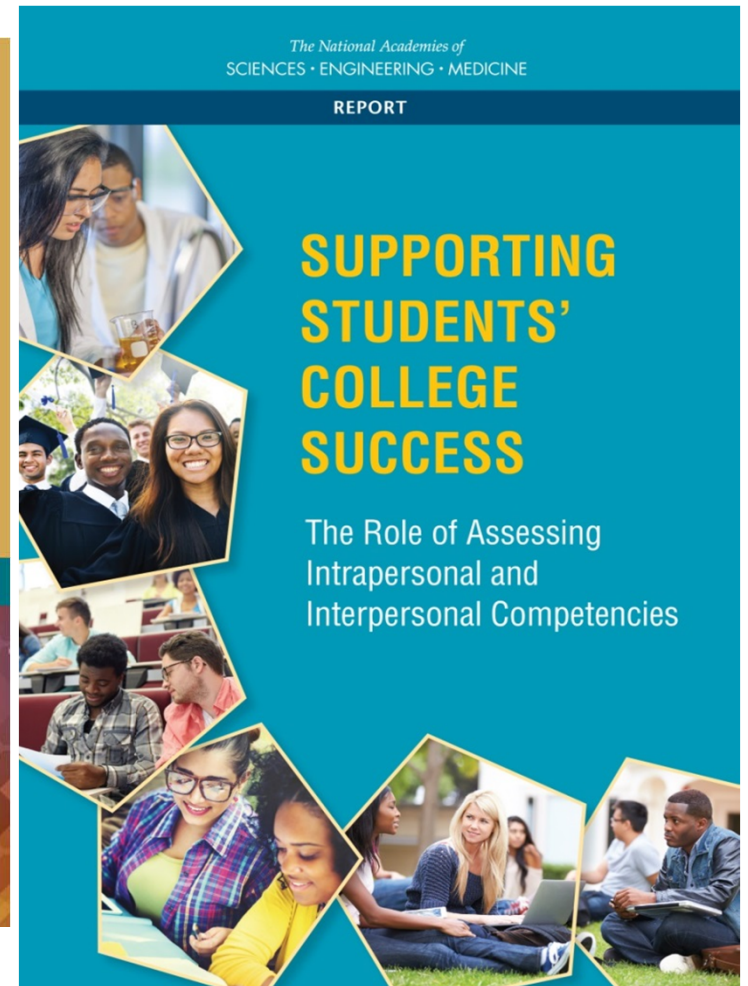
# National Academies Reports



2011



2016



2017, just released

National Academies Press [nap.edu](http://nap.edu)

# Trait: Conscientiousness

- Correlational research suggests that **dispositional conscientiousness** is a robust predictor of college success.
- However, the broad trait of conscientiousness is deeply ingrained and difficult to change.
- Nevertheless, a few interventions targeting **specific behaviors associated with** conscientiousness have shown significant but small effects on developing these behaviors.

Trait involves self-control, hard work, responsibility to others, persistence, and an achievement orientation but it is very difficult to change a personality trait.

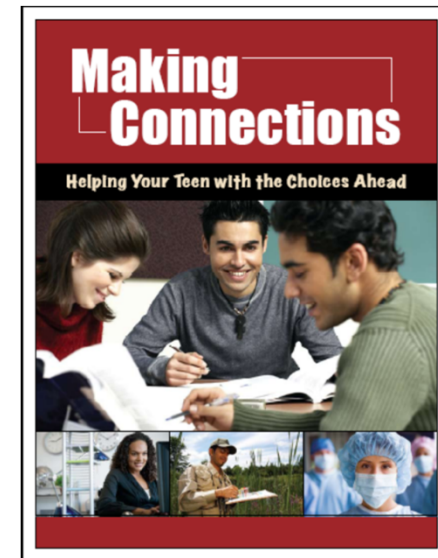
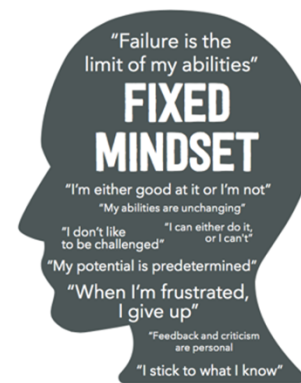
# Identified Intrapersonal and Interpersonal Competencies

- *Sense of belonging*
- *Growth mindset-a belief that one's intelligence is not fixed.*
- *Utility goals and values-personal goals linked to a future, desired end*
- *Behaviors related to conscientiousness*
- *Intrinsic goals and interest*
- *Academic self-efficacy*
- *Prosocial goals and values-desire to promote the well-being of others*
- *Positive future self*



# Three Promising Competencies

*Conclusion: The limited intervention studies conducted to date have generated promising evidence that the competencies of **sense of belonging, growth mindset, and utility goals and values** are related to college success and are malleable in response to interventions.*



# Research Needs-URM Students

*Conclusion: Low-cost interventions aimed at developing sense of belonging, growth mindset, and utility goals and values have sometimes generated the largest benefits for underrepresented student groups at risk for academic failure. Further research is needed to replicate and extend it.*



# Attention to College Environments

**Recommendation 4:** To help reduce disparities in college success among student groups, institutions of higher education should evaluate and improve their social and learning environments to support the development of the eight identified competencies, especially among underrepresented student groups.

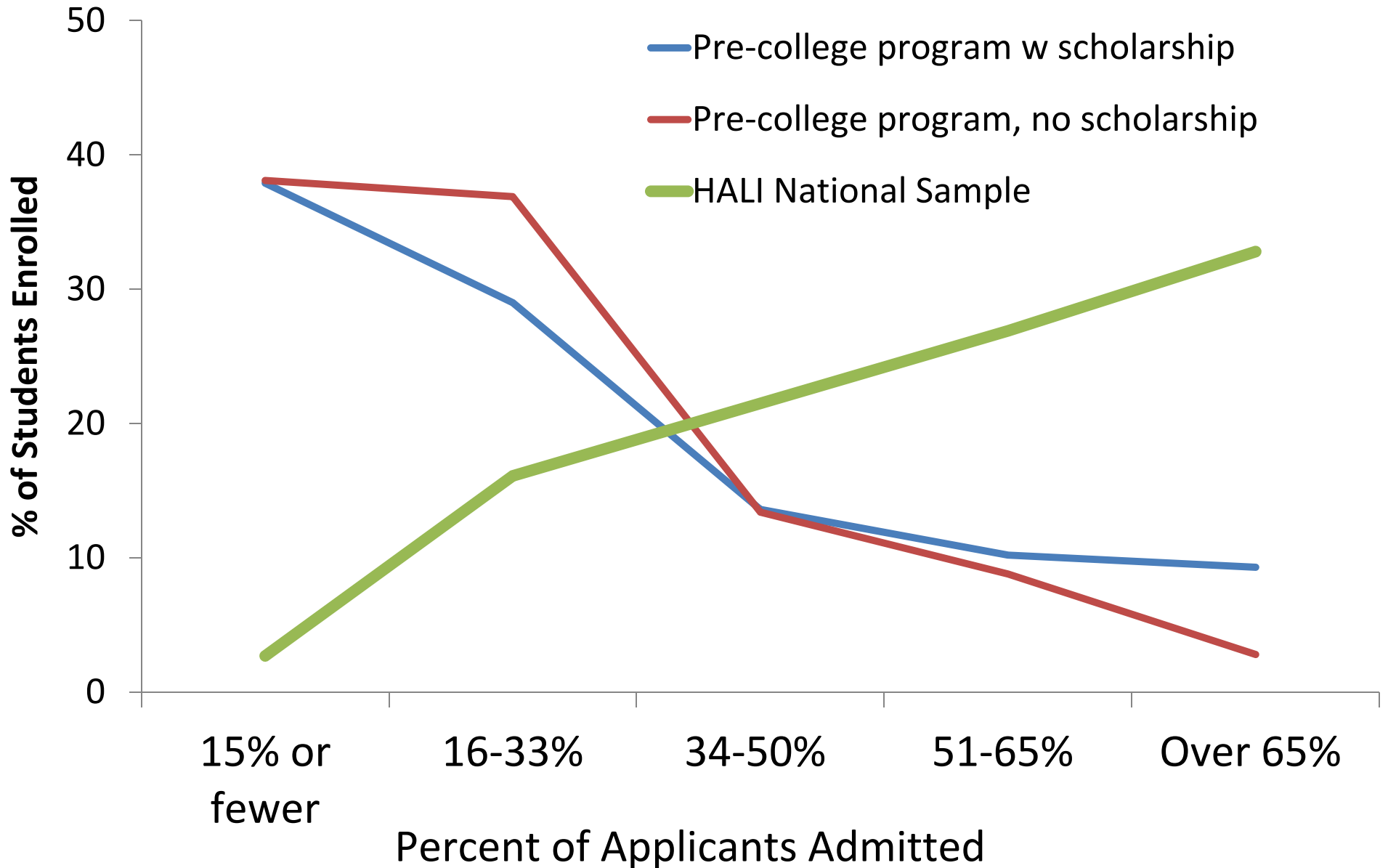


# Programs and Interventions Can Make a Difference

One example of reversing opportunities based on focused student support for high-achieving, low-income students (HALI students)

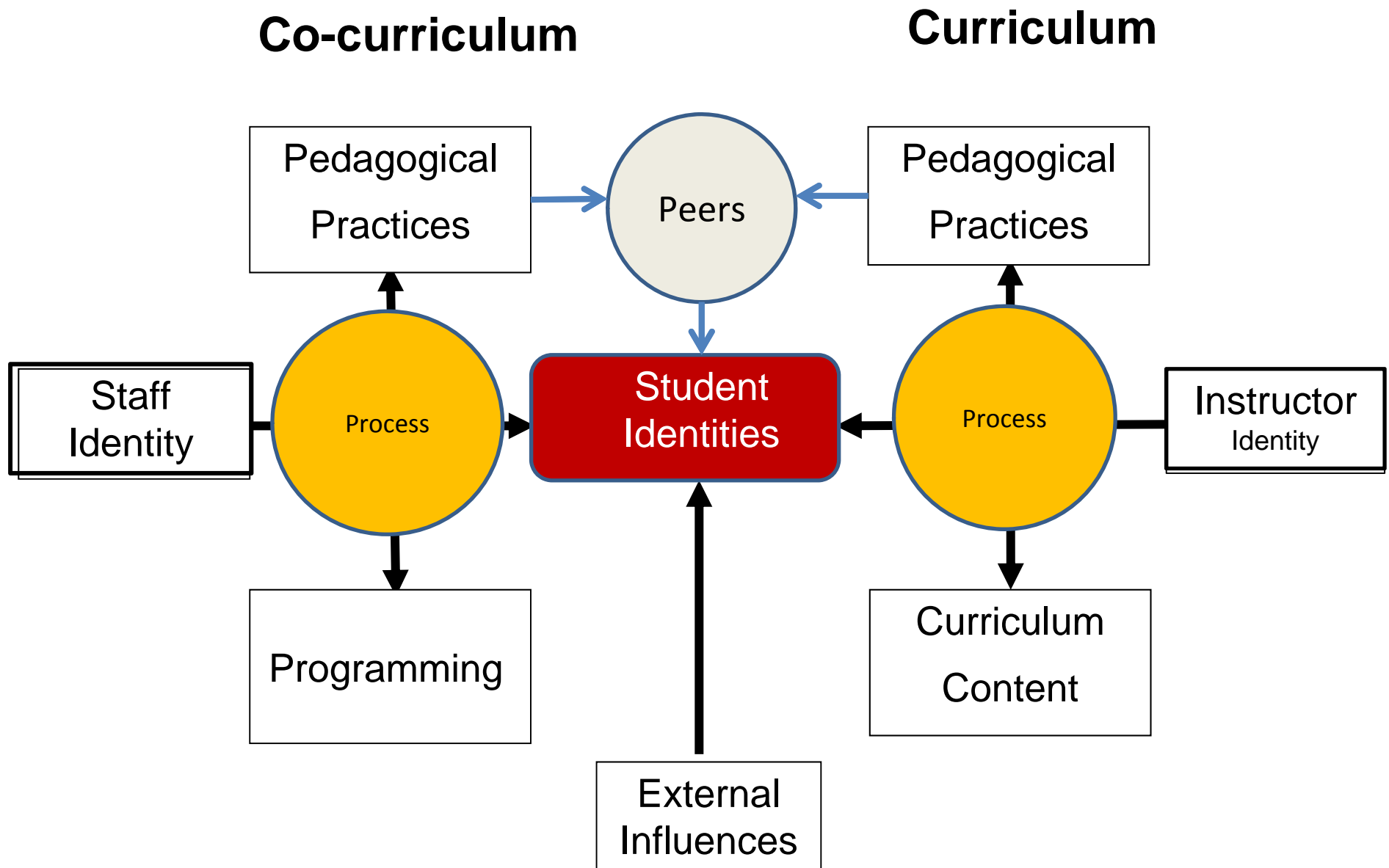


# HALI Students' Access by Admission Rate



## Competency Proving and Stereotyping

I definitely feel like when I walk into a classroom, I'm not necessarily treated with the same type of intellect that other students are treated with. **I come in with a mentality that, "All right, let me prove that I'm a good student," as opposed to walking in and knowing I'm a good student and the teacher acknowledging that,** just as a baseline. I always feel like there's a standard that I always have to live up to as opposed to just being a student in class. (African American Female Undergraduate)



Adapted Multi-Dimensional Model for Diverse Learning Environments, Hurtado et al., 2012

# Placing Student Identity at the Center

We would acknowledge:

- Differences race, ethnicity and national origin and how their needs differ
- Pressures to conform and assimilate, at the same time students are developing their identities and sense of purpose
- Diversity in the classroom and use it as an asset in learning
- Cultural affinity groups and structures as legitimate spaces for sense of belonging, growth and development

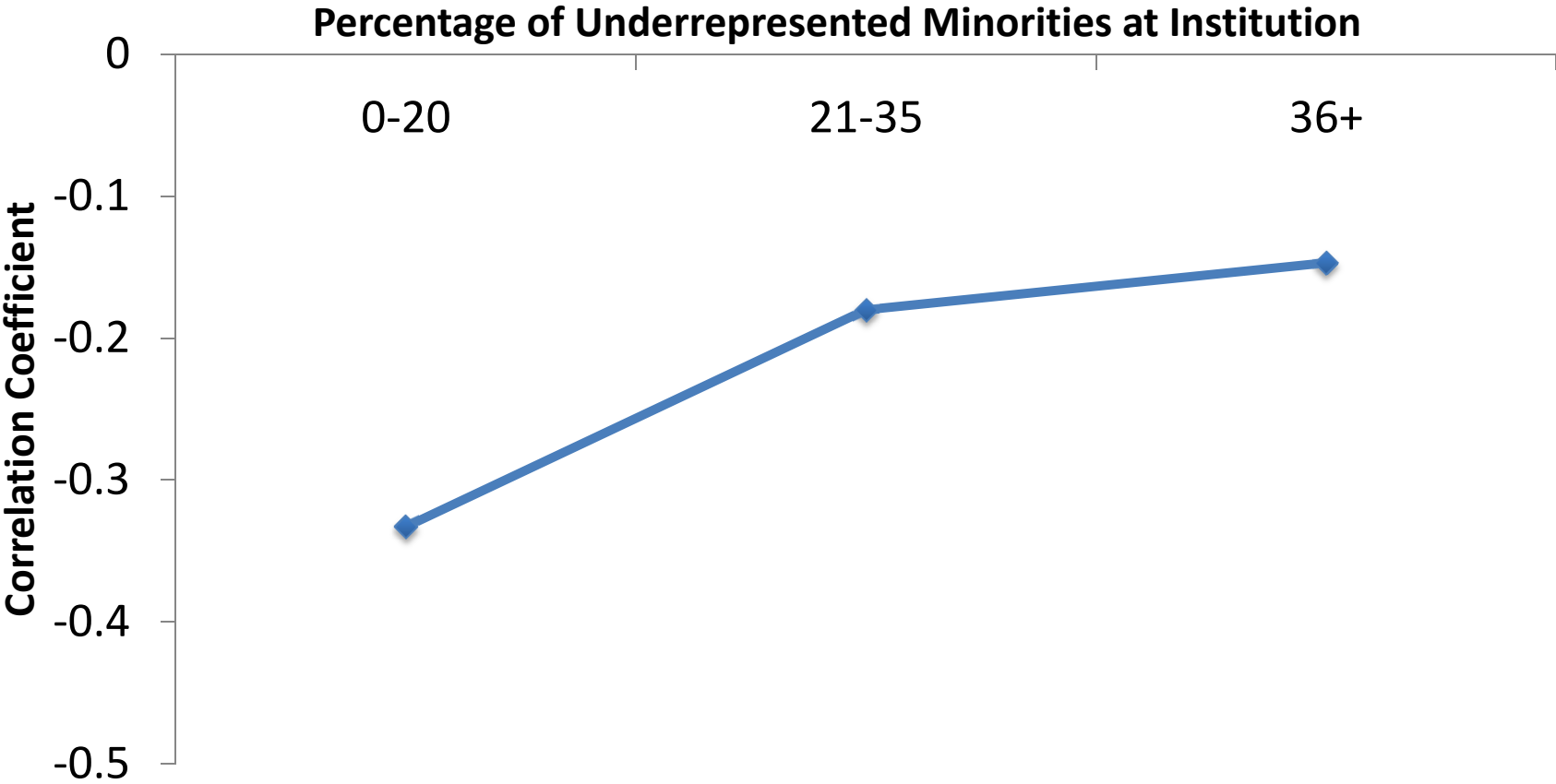


# Key Processes

- Talent Development
- Sense of Belonging
- Validation – Academic and Interpersonal
- Socialization for professions

# Bias Affects Sense of Belonging in College

**Negative Correlation Between Discrimination/Bias and Sense of Belonging**



# Validation and Institutional Agents

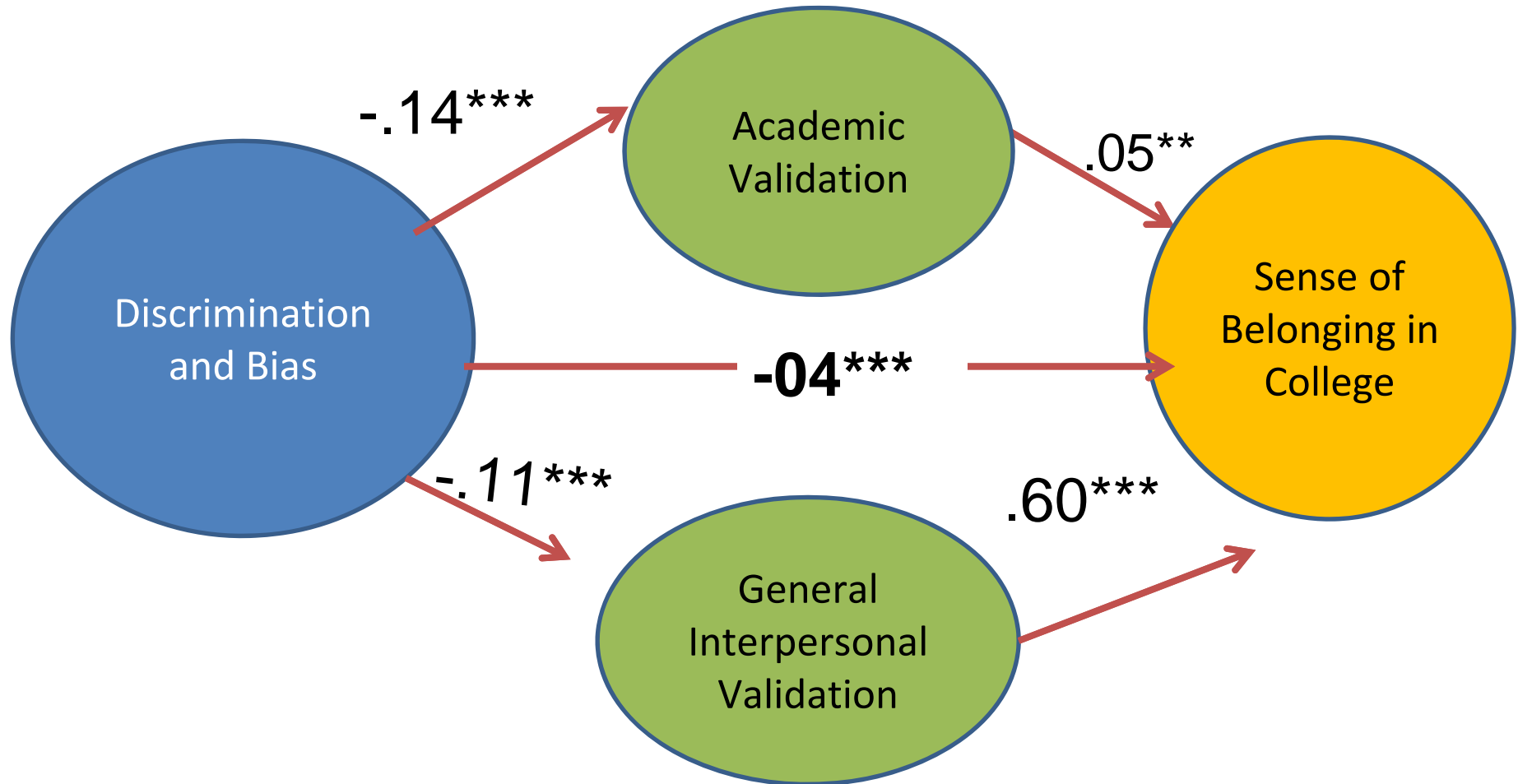
*Academic validation* occurs when agents actively assist students to “trust their innate capacity to learn and to acquire confidence in being a college student” (p. 40, Rendón 1994).

Agents foster *interpersonal validation* when they engage in students’ personal development and social adjustment to college as well as provide social capital to navigate the institution (Museus & Neville, 2012).

# Validation Mediates the Effect of Discrimination and Bias on Students' Sense of Belonging



# Validation Mediates the Effect of Discrimination and Bias on Students' Sense of Belonging



# Factors in Managing Academic Success in the 1st Year

Source: Predicting Transition and Adjustment, *Research in Higher Education* (2007)

\* Indicates effect is stronger for URM STEM students

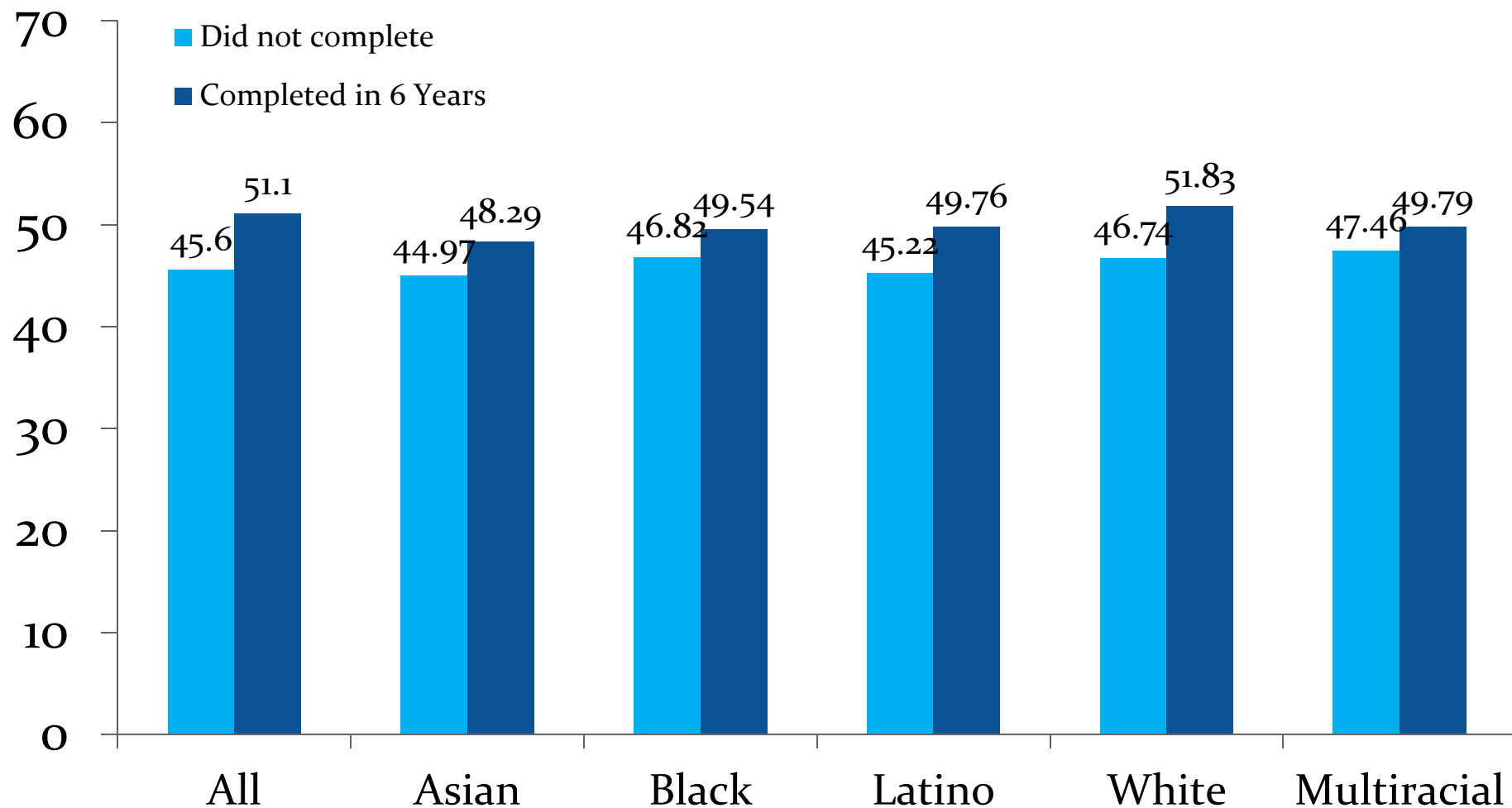
## NEGATIVE EFFECTS

- . Interfering family responsibilities
- . Concern about financing college\*
- . Perceptions of a competitive environment \*
- . Perceptions of a hostile racial climate\*
- . Institutional selectivity
- . Academic advice from a freshman peer \*

## POSITIVE EFFECTS

- . Self-rated ability to manage time
- . Best guess they will communicate with faculty
- . **Sense of belonging**
- . Worked with an academic advisor to select courses
- . Academic advice from a junior/senior and major/preprof clubs\*
- . Change in ability to conduct research

## Mean First-year Sense of Belonging by Completion and Race



Note: Differences significant at  $p < .001$  except for Multiracial, which was  $p < .01$ .

# Long Term Impact of Practices

(Quasi-experimental, Longitudinal Study)

- **Supplemental instruction as a way to establish a community of practice**
  - Strengthens students' STEM identity; particularly beneficial for URM STEM identity development
  - Boosts grades in introductory courses
  - Increases likelihood to plan to enroll in STEM graduate programs
- **Faculty Mentorship and Support**
  - Improved performance in STEM courses
  - Mentorship even more impactful for URM students' STEM identity development
  - Increases students' intentions to enroll in graduate school
  - Benefits of mentorship extend even after accounting for the types of students likely to receive or seek out mentorship





# Culturally Aware Mentoring

- Not a skill set but a mindset for research mentors—a way of being and perceiving one's self and one's mentee in the research mentoring relationship with cultural diversity matters at the center.
- Mentors critically self-reflect on and recognize their own personal cultural identity and worldviews
- Acknowledge mentees' cultural identity and worldviews, and make use of this cultural knowledge (of self and others) to promote effective research mentoring relationships.
- All of this takes place within a cultural context.

Angela Byars-Winston, (2014) The Case for Culturally Responsive Mentoring and Its Relevance to Scientific Workforce Diversity.

# Intergroup Dialogue on Campus as Identity-based Education

- Proactively addresses the climate for diversity
- Uses multiple-social identities and conflict as opportunities to learn
- Not simple race awareness workshops
- Empowers communities and individuals by *naming experiences* that previously were unrecognized:
  - Microaggressions
  - Cultural appropriation
  - Recognition bias

# Resources

- Diverse Learning Environment Survey and Research

<http://www.heri.ucla.edu/ford/>

Hurtado, S., et al., (2012 ). Higher Education: Handbook of Theory and Research, 27, 41-122.

- Hurtado, S. , Ruiz Alvarado, A. & Guillermo-Wann, C. (2015). Creating Inclusive Environments: The Mediating Effect of Faculty and Staff Validation on the Relationship of Discrimination/Bias to Students' Sense of Belonging. *Journal Committed to Social Change on Race and Ethnicity* Volume 1, Issue 1 (online NCORE journal)

<https://www.ncore.ou.edu/en/jcscore/outline/>

- Research on STEM undergraduate education

[www.heri.ucla.edu/nih](http://www.heri.ucla.edu/nih)