Greg Walton

Professor i psykologi ved Stanford University

Questions of Belonging: How Understanding them and answering them can help student thrive



Questions of Belonging

How Understanding them—and Answering Them—Can Help Students Thrive

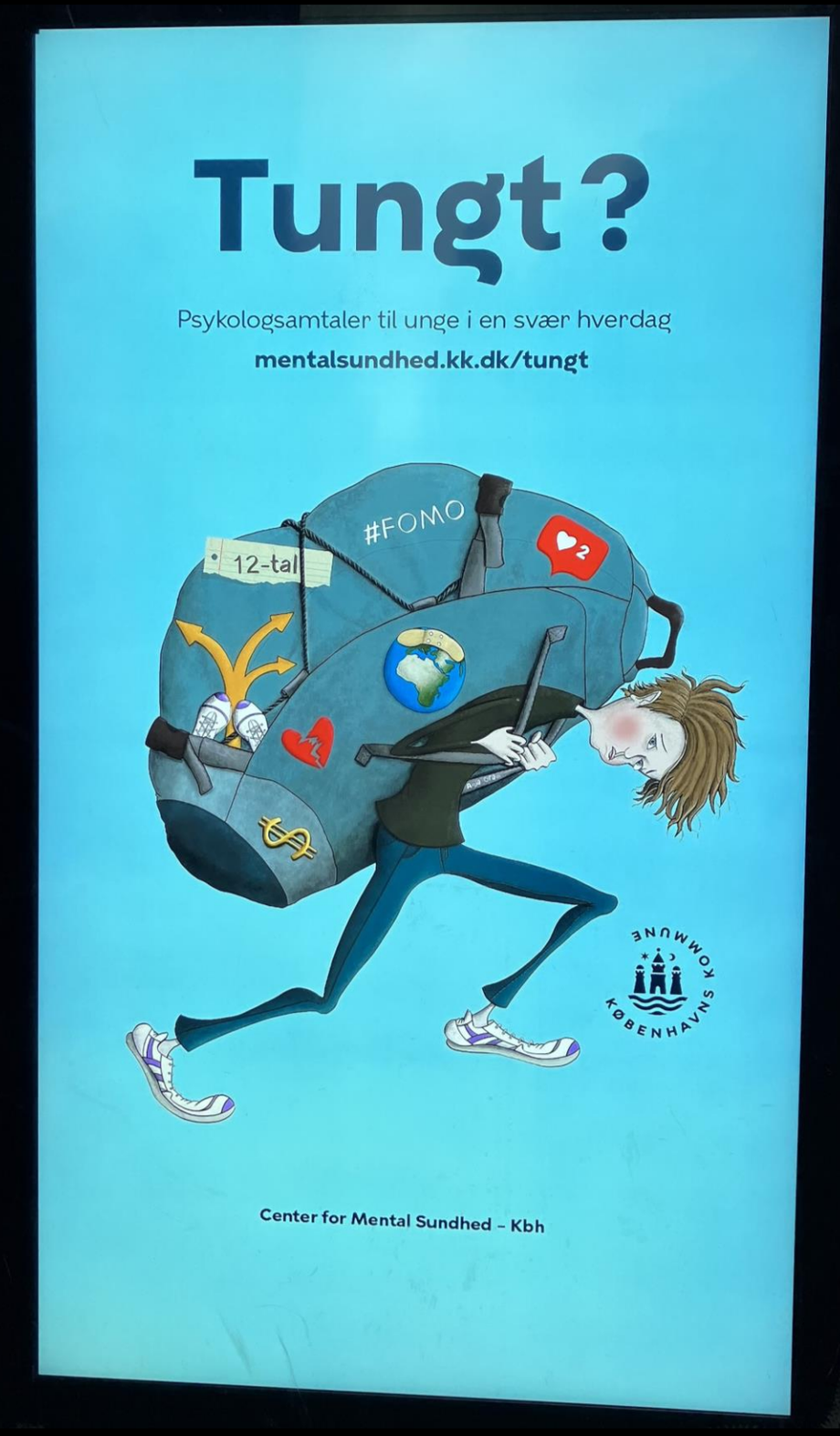
Greg Walton
Stanford University

http://gregorywalton-stanford.weebly.com/

Find an intervention! www.wiseinterventions.org


The Happiness Museum
The Happiness Museum


Hey Captain
Social Sailing
What has the biggest impact on how happy we are with our lives - good health or strong social ties?
A GOOD HEALTH IS 5X MORE IMPORTANT
B THEY HAVE THE SAME IMPACT
C STRONG SOCIAL TIES ARE 5X MORE IMPORTANT
Join a tour to find the answer
Hey Captain
SOCIAL SAILING
Ranked #1 boat tour
(2022 figures on Tripadvisor)
Your captain will ask personal questions along the tour so we get to know each other and share experiences.
Hey Captain
Ferry


Tungt?
Psykologsamtaler til unge i en svær hverdag
mentalsundhed.kk.dk/tungt
#FOMO
12-tal
KØBENHAVNS KOMMUNE
Center for Mental Sundhed – Kbh

ple have in school

Do I belong?

When I feel lonely (or disrespected, etc.), does it mean I don't belong?

Can I do it?

When it's hard, does it mean I can't do it?

Does it matter?

When it's boring, does it mean there's no reason to try?

Sociocultural Contexts Raise Questions;

Ca[illegible]nd
suc[illegible]a]?



Sociocultural Contexts Raise Questions;



Sonia Sotomayor

[At Princeton, I felt like] a visitor landing in an alien land . . . I have spent my years since Princeton, while at law school, and in my various professional jobs, not feeling completely a part of the worlds I inhabit.

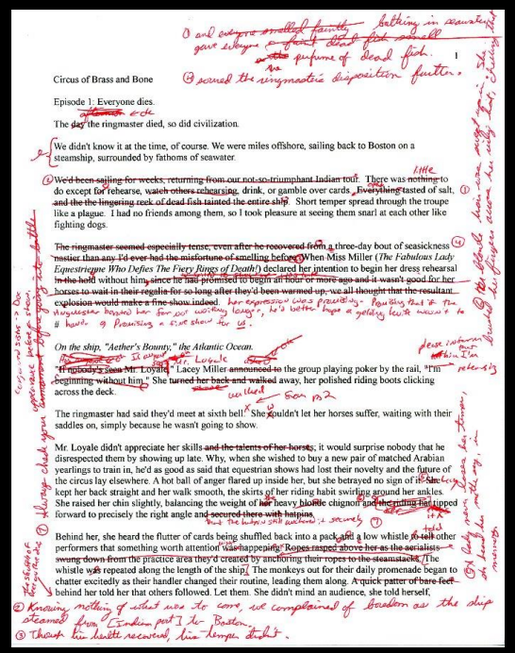
- Sonia Sotomayor (memoir)

Sociocultural Contexts Raise Questions;

Can people like me belong and succeed in school [in America]?

Questions Inform Meanings





Circus of Brass and Bone

Episode 1: Everyone dies.

The day the ringmaster died, so did civilization.

We didn't know it at the time, of course. We were miles offshore, sailing back to Boston on a steamship, surrounded by fathoms of seawater.

We'd been sailing for weeks, returning from our not-so-triumphant Indian tour. There was nothing to do except for rehearse, watch others rehearsing, drink, or gamble over cards. Everything tasted of salt, and the lingering reek of dead fish tainted the entire ship. Short temper spread through the troupe like a plague. I had no friends among them, so I took pleasure at seeing them snarl at each other like fighting dogs.

The ringmaster seemed especially tense, even after he recovered from a three-day bout of seasickness rustier than any I'd ever had the misfortune of smelling before. When Miss Miller (*The Fabulous Lady Equestrienne Who Defies The Fiery Rings of Death*) declared her intention to begin her dress rehearsal in the hold without him, since he had promised to begin an hour or more ago and it wasn't good for her horses to wait in their regalia for so long after they'd been warmed up, we all thought that the resultant explosion would make a fine show indeed.

On the ship, "Aether's Bounty," the Atlantic Ocean.

"If nobody's seen Mr. Loyale," Lacey Miller announced to the group playing poker by the rail, "I'm beginning without him." She turned her back and walked away, her polished riding boots clicking across the deck.

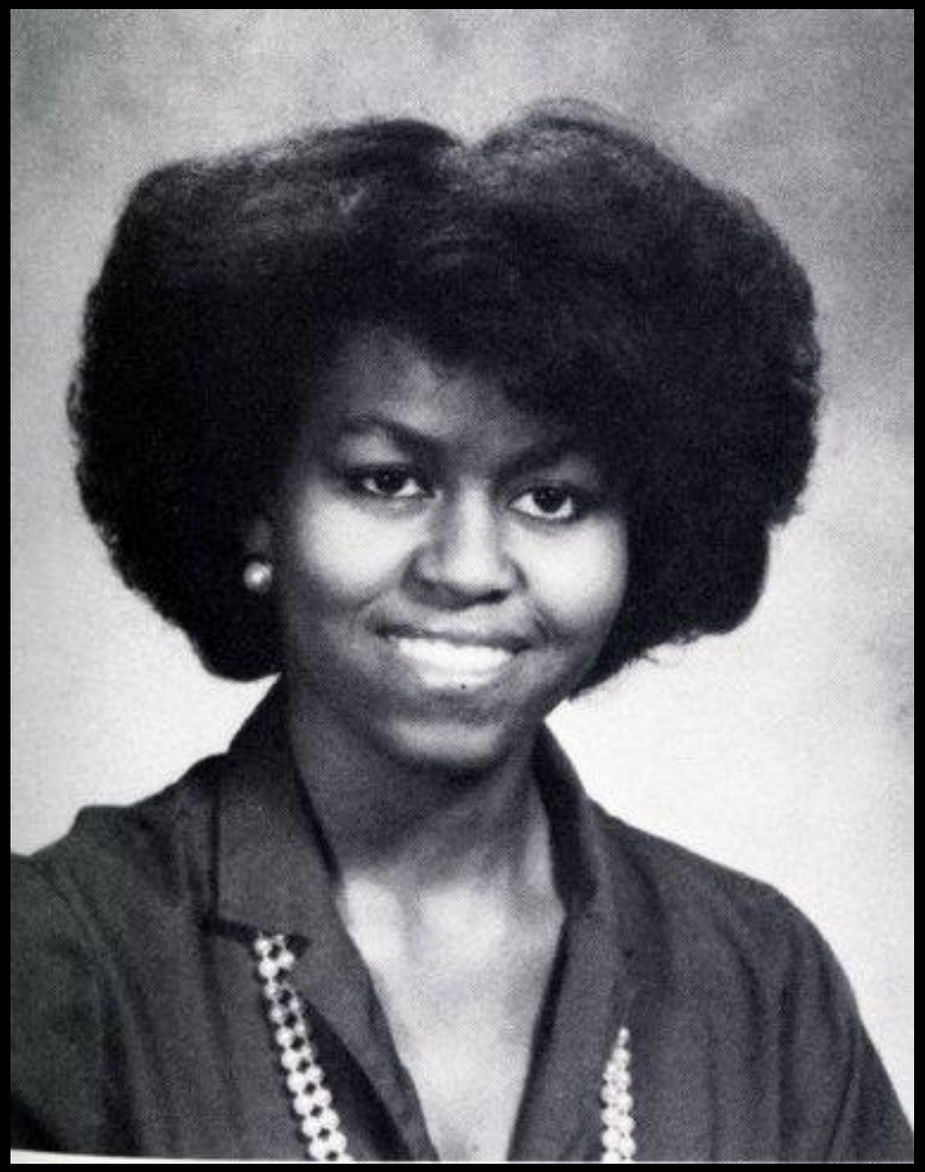
The ringmaster had said they'd meet at sixth bell. She couldn't let her horses suffer, waiting with their saddles on, simply because he wasn't going to show.

Mr. Loyale didn't appreciate her skills and the talents of her horses; it would surprise nobody that he disrespected them by showing up late. Why, when she wished to buy a new pair of matched Arabian yearlings to train in, he'd as good as said that equestrian shows had lost their novelty and the future of the circus lay elsewhere. A hot ball of anger flared up inside her, but she betrayed no sign of it. She kept her back straight and her walk smooth, the skirts of her riding habit swirling around her ankles. She raised her chin slightly, balancing the weight of her heavy bloodie chignon and the pins that tipped forward to precisely the right angle and secured there with hairpins.

Behind her, she heard the flutter of cards being shuffled back into a pack, and a low whistle to tell other performers that something worth attention was happening. Ropes rasped above her as the aerialists swung down from the practice area they'd created by anchoring their ropes to the stanchions. The whistle was repeated along the length of the ship. The monkeys out for their daily promenade began to chatter excitedly as their handler changed their routine, leading them along. A quick patter of bare feet behind her told her that others followed. Let them. She didn't mind an audience, she told herself.



Sociocultural Contexts Raise Questions; People Construct Answers Through Experience, Even From Subtle Cues



Michelle Robinson

When I first arrived at school as a first-generation college student, I didn't know anyone on campus except my brother. I didn't know how to pick the right classes or find the right buildings. I didn't even bring the right size sheets for my dorm room bed. I didn't realize those beds were so long. So I was a little overwhelmed and a little isolated.

-Michelle Obama (2014)

http://www.whitehouse.gov/the-press-office/2014/01/16/remarks-president-and-first-lady-college-

Belonging Uncertainty

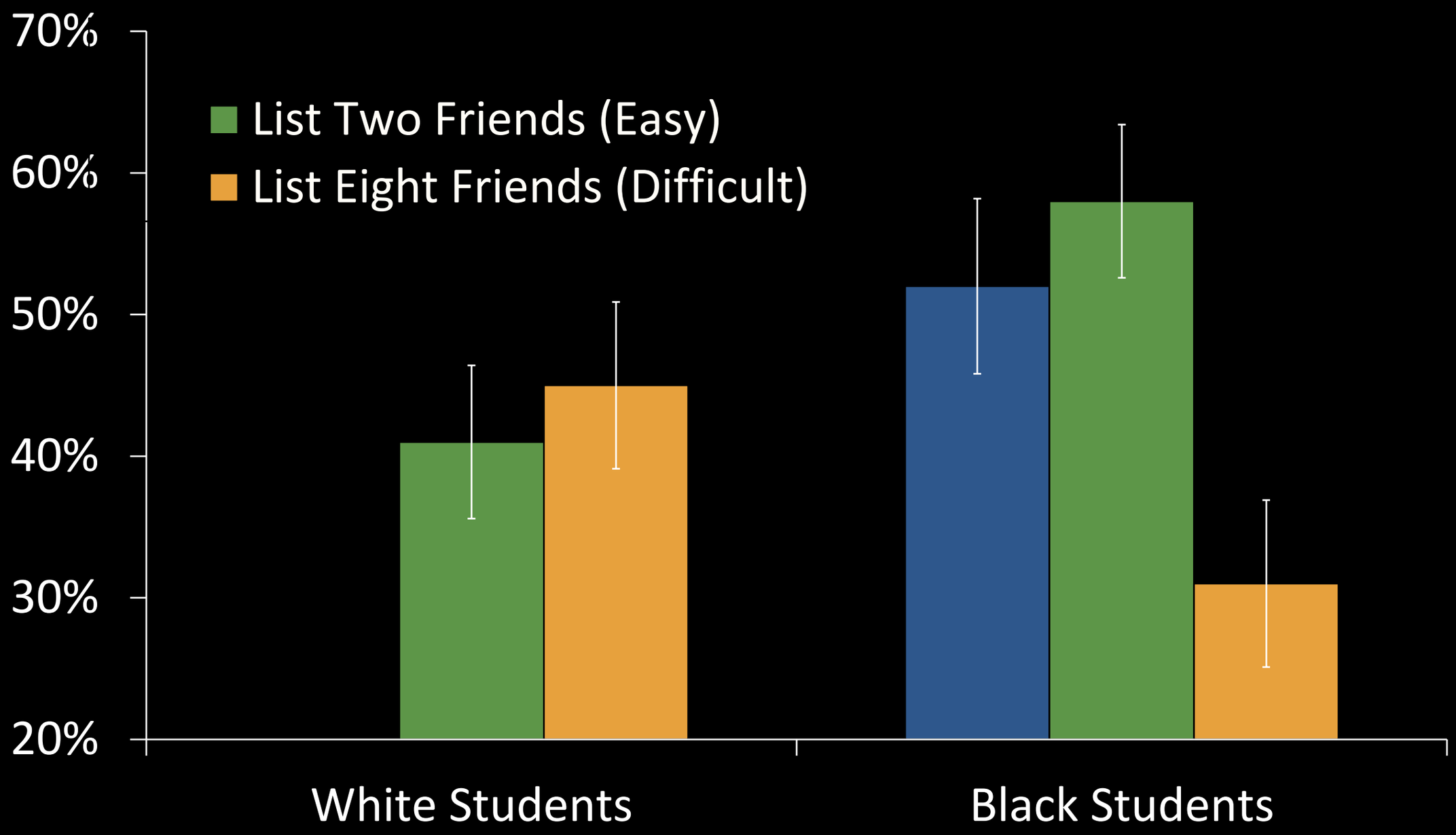
(Walton & Cohen, 2007)

List 2 friends who would fit in well…(easy)

List 8 friends who would fit in well…(hard)

Walton & Cohen, 2007

Self-Assessed Potential to Succeed



Walton & Cohen, 2007

How does it work? A model from multiple studies

Membership in an under-represented or stigmatized group in a school context

Experiences of challenge or setback (e.g., critical feedback, low exam score, feelings of loneliness)

If the student believes this experience is not typical …

BELIEF ABOUT BELONGING

"I / people like me don't belong / can't fit in / can't succeed at my college."

PSYCHOLOGICAL INTERPRETATION

Withdrawal from the social / academic environment

BEHAVIORAL RESPONSE

Weaker friendship ties, teacher and mentor relationships

RELATIONAL OUTCOMES

Worse achievement, persistence and completion

ACADEMIC OUTCOMES

Brady et al., 2020
Walton & Cohen, 2007, 2011
Yeager, Walton, Brady, et al., 2016

The Social-Belonging Intervention

Can we construct experiences in school that prevent global inferences of non-belonging in response to common adversities?

Social-Belonging:
From Fixed Quality to Process

Yes/No

- Do I belong or not?
- Does this event mean I don't belong?

Process

- It takes time and effort
- How will I develop my belonging?

How does it work? A model from multiple studies

Membership in an under-represented or stigmatized group in a school context

Experiences of challenge or setback (e.g., critical feedback, low exam score, feelings of loneliness)

If the student believes this experience is not typical …	**BELIEF ABOUT BELONGING**	If the student believes this is typical and it's normal to worry about whether you belong at first…
"I / people like me don't belong / can't fit in / can't succeed at my college."	**PSYCHOLOGICAL INTERPRETATION**	"It's common to go through challenges like this and overcome them."
Withdrawal from the social / academic environment	**BEHAVIORAL RESPONSE**	Sustained engagement in the social / academic environment
Weaker friendship ties, teacher and mentor relationships	**RELATIONAL OUTCOMES**	Stronger friendship ties, teacher and mentor relationships
Worse achievement, persistence and completion	**ACADEMIC OUTCOMES**	Higher achievement, persistence and completion

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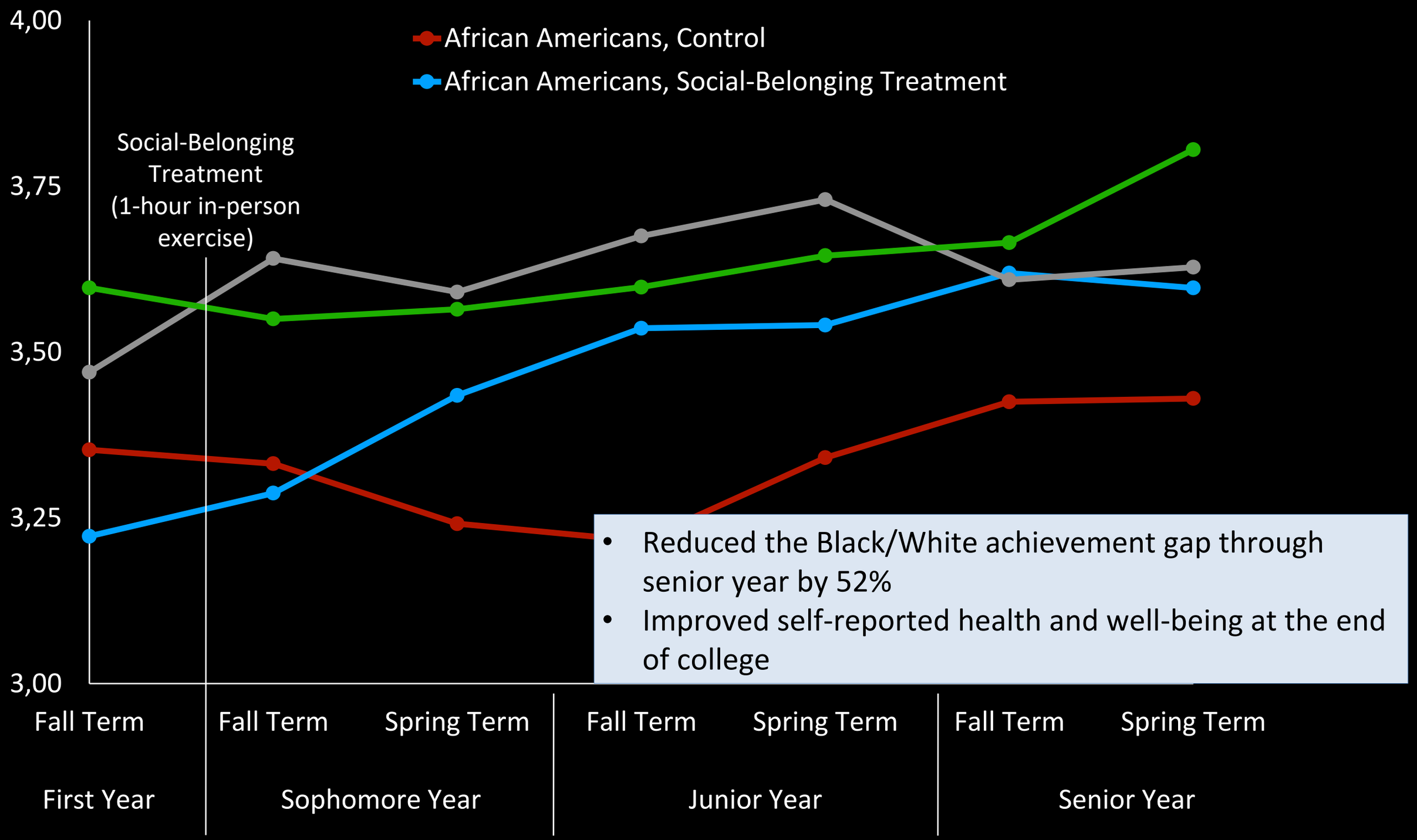
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Brady et al., 2020
Walton & Cohen, 2007, 2011
Yeager, Walton, Brady, et al., 2016

The Social Belonging Intervention

Stories + “Saying-Is-Believing”

Highly Selective College
College Grade Point Average by Year



- Reduced the Black/White achievement gap through senior year by 52%
- Improved self-reported health and well-being at the end of college

Walton & Cohen (2011, *Science*)

A Deleterious Interpretation of Social Adversity

Everyone is going out without me, and they didn't consider me when making their plans. At times like this I feel like I don't belong here and that I'm alienated.

-Black female, control condition

Walton & Cohen (2011, *Science*)

A Deleterious Interpretation of Social Adversity

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<u>Statistical mediation:</u>

This *change in social construal* statistically mediated the 3-year gain in academic performance.

Walton & Cohen (2011, *Science*)

A Decade Later



Shannon Brady
Wake Forest University

- Participants surveyed at about age 27
  - 7-11 years after participation, 3-5 years after college
  - 87% retention
- Focus: Major life outcomes
  - Career satisfaction and success
  - Life satisfaction and well-being
  - Community leadership

Brady, Cohen, Jarvis, & Walton (2020, *Sci Adv*)

Young Adulthood

Among African Americans:

	Control Condition	Treatment Condition
Career Satisfaction & Success: **e.g., *Self-Rated Potential To Succeed in the Future***	53rd percentile	**69th percentile**
Psychological Well-Being: **e.g., *Life Satisfaction***	4.44 (7-point scale)	**5.41***
Community Leadership: **e.g., *# of Domains "Very" Involved In***	0,35	**1,00**

Sample measures; Composite indices yield same effects (*Ps*<0.05)
* Gain equivalent to winning $2,500,000 in the lottery

Brady, Cohen, Jarvis, & Walton (2020, *Sci Adv*)

How did students get there?

- Higher grades?
  - No. Grades do not predict these outcomes
- Mentorship?

Among African Americans:

	Control Condition	Treatment Condition
Did you have an academic mentor in college?	43 %	**84 %**
Did this mentorship continue after college?	4 %	**37 %**

Greater mentorship statistically mediates the long-term gains in career success and life satisfaction

Brady, Cohen, Jarvis, & Walton (2020, *Sci Adv*)

Spend a couple of minutes writing about your current life, including what you are doing (both the positives and the negatives), and what is important to you

Control Condition	Treatment Condition
Life is just ok--it ebbs and flows…right now it is not great…I will have an uphill battle securing a good [medical] residency…I also feel like I have few friends or people I can turn to when I am stressed and that when I do look to them for advice, I tax them so much that they don't really want to be around me	I dreamed of working with notable environmental law professors to study environmental justice issues and creating policy at EPA to address climate change. Fast forward to now, and I work at EPA crafting environmental justice and climate change policy and have a year left before graduating from law school, having studied environmental law with renowned professors that are now my mentors. Through a lot of hard work and some luck I've achieved the goals I set for myself years earlier

Brady, Cohen, Jarvis, & Walton (2020, *Sci Adv*)

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Brady, Cohen, Jarvis, & Walton (2020, *Sci Adv*)

Replications and Extensions

Multiple Randomized Field Trials Demonstrate a Potential for Efficacy

(see Walton & Brady, 2020)

- 12+ published RCTs
  - Diverse groups facing disadvantage
  - Diverse school contexts (middle school, high school, college)
  - Varied delivery strategies
  - Diverse psychological, behavioral, and relational mechanisms
  - Diverse outcomes

Full-Scale Preparatory Interventions

- Can we give students helpful theories about challenges in the college transition in advance?
- A road map for meaning
- Value for application and for theory
- Potential for large-scale dissemination
- Opportunity for learning about contextual heterogeneity

Yeager, Walton, Brady et al. (2016, *PNAS*)

Scaling Up, Using Online, Pre-Matriculation Modules (≈ 30-minutes)

Trial #9	**Graduates of urban charter school networks** attending diverse colleges (Yeager, Walton, Brady, et al., 2016 Expt. 1)	Online module in May of senior year of high school (*N*=584)	Raised **first-year full-time enrollment rate** for predominantly African American and first-gen students **from 32% to 43%.**
Trial #10	**Large public selective university** (Yeager, Walton, Brady, et al., 2016 Expt. 2)	Online module in summer, thru pre-college matriculation system (*N*=7,418)	Reduced the gap **in first-year full-time completion** with nonminority, continuing generation students **by 40%.**
Trial #11	**Selective private university** (Yeager, Walton, Brady, et al., 2016 Expt. 3)	Online module in summer, thru pre-college matriculation system (*N*=1,596)	Reduced the gap **in first-year GPA** with nonminority, continuing generation students **by 31%.**
Trial #12	**Large public selective university** (Broda et al., 2018)	Online module in summer, thru pre-college matriculation system (*N*=7,686)	**No gains** in first-year GPA or completion for Latino or African American students

From Whether and How To *Where*

Affordances

- Objective affordances
  - What an object or physical space allows an actor <u>to do</u> (Gibson, 1977)
  - *Gains in graduation rates depend on actual opportunities to earn a degree* (Brady, Goyer, Yeager, & Walton, in prep)
- Psychological affordances
  - What a context permits a person <u>to construe, believe, or interpret</u> (Walton & Yeager, 2020)
  - *Do gains depend on actual opportunities to belong?*

COLLEGE TRANSITION COLLABORATIVE



https://accelerateequity.org/

Founders and Social-Belonging PIs



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University of Waterloo



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Stanford University



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University of Texas at Austin

Co-Founder



Omid Fotuhi
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Executive Director (former)



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Rob Urstein
Board Member



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Alice Li
Mary Nowak

The College Transition Collaborative

CTC Belonging Trial: 22 Colleges, 39,855* Students

BGSU Bowling Green State University
California State University Northridge
Cornell University
Dartmouth
ALBION COLLEGE
A Beacon for Great Colleges Advancing Liberal Arts Education GLCA
Hope COLLEGE
ALLEGHENY COLLEGE
THE COLLEGE OF WOOSTER
KALAMAZOO COLLEGE
WABASH COLLEGE
DEPAUW UNIVERSITY
Indiana State University
INDIANA UNIVERSITY
Ohio Wesleyan University
Lewis & Clark College
Southern OREGON UNIVERSITY
UNIVERSITY OF CALIFORNIA SANTA CRUZ
UCA University of Central Arkansas
University of Pittsburgh
UNIVERSITY OF WATERLOO
Yale University
UNIVERSITY OF OREGON
California State University DOMINGUEZ HILLS

* 3 conditions: Control, Standard Belonging, Customized Belonging

PIs: Christine Logel, Mary Murphy, Greg Walton, & David Yeager
Lead Analysts: Parker Goyer, Kathy Emerson
Citation: Walton, College Transition Collaborative (in prep)

Understanding Identity

- Traditional methods
  - Focus on specific groups (e.g., African American students, women in STEM)
  - Treated as static
- But…
  - Identity-based experiences vary across contexts
  - Fail to define what it is that makes identity matter in a context

Local-Identity Groups (LIGs)

- Students with:
  - Your race-ethnicity
  - Your first-gen status
  - On your campus
    - In your cohort
- CTC trial: 374 LIGs
- Theoretically specify and empirically assess variation across LIGs predicted to moderate treatment effectiveness

Vulnerability and Opportunity*

Contexts that prompt questions about belonging, which undermine persistence

Contexts in which people can come to belong (i.e., *afford* belonging)

The sweet spot!

Operationalized: LIGs with low levels of historic attainment of the outcome (1st year full-time completion rates)

- ***Cause*** **belonging worries**
- ***Reflect*** **challenges to belonging**
- **O*pportunity for* improvement**

Operationalized: LIGs with at least moderate levels of average belonging reported in the spring term, absent treatment

Not correlated

* see Walton & Yeager, 2020

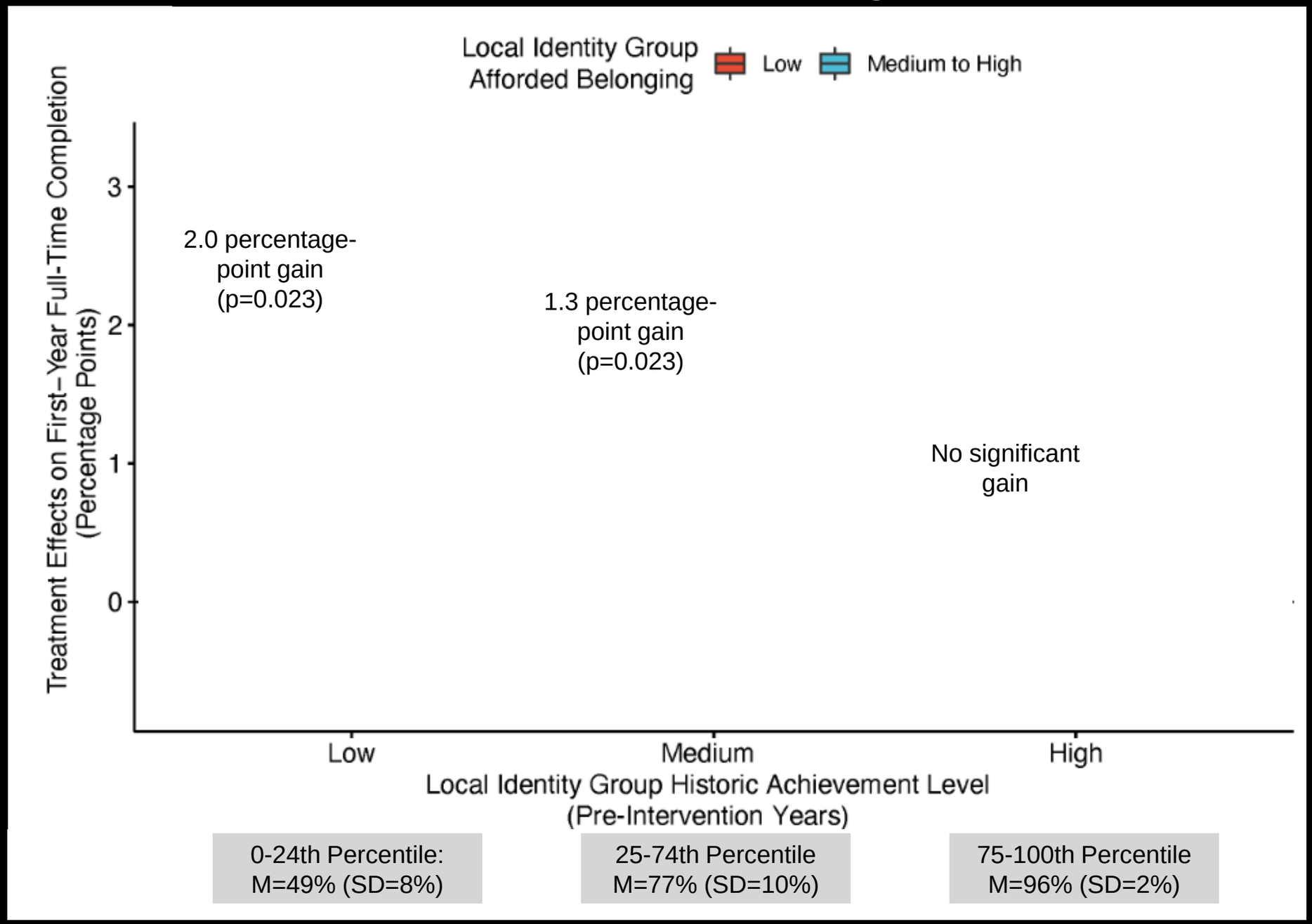
Our Goal

- Not high average effect size
- To identify populations and contexts where we can reliably anticipate meaningful treatment benefits (i.e., generalizability)

Analysis

- Rigor
  - Multistep preregistration; Intent-to-treat analyses
  - Robust to multiple alternative specifications (e.g., cut points, ways to construct measures)
- Predicted 3-way interaction
  - LIG historic achievement X LIG belonging affordance X condition
  - *b*=0.013 [0.004, 0.023], se = 0.005, *t*=2.81, *p*=0.005
- Bayesian Causal Forest
  - Conservative but flexible approach to identifying heterogeneity
  - Confirms heterogeneity, detects non-linearity

Social-Belonging Treatment Effect on Full-Time First Year Completion Rates



Intent-to-treat analyses
Multistep pre-registration
22 colleges and universities
Covariates: Gender, SAT/ACT
Plot depicts interquartile range of average treatment effect; Dark lines indicate medians; Whiskers indicate 95% percentile ranges; Bar widths reflect # of LIGs

Afforded belonging cut-points: -0.5 SD (based on BCF), 36th percentile
N=26,911 students (medium/high in afforded belonging: 22,833)
K=374 total groups (medium/high in afforded belonging: 239)
Generalizability sample: 1.02 million new students annually
Analyses robust to including weights from generalizability analyses, alternative cut-points

Walton et al. (2023 Science)



Generalizability Sample

- 749 4-year non-profit degree-granting colleges and universities in the United States (Tipton b index=0.887)
- Serve 5.54 million students annually
- Welcome 1.02 million new first-year students annually
- If used by each institution, an estimated 12,136 students would complete the first-year full-time enrolled each year

Walton et al. (2023 Science)

Change Requires Planting Good Seeds in Fertile Soil



Yeager et al., 2019 *Nature*
Yeager et al., 2022 *Psych Sci*
Walton & Yeager, 2020 *Current Directions*

Change Requires Planting Good Seeds in Fertile Soil

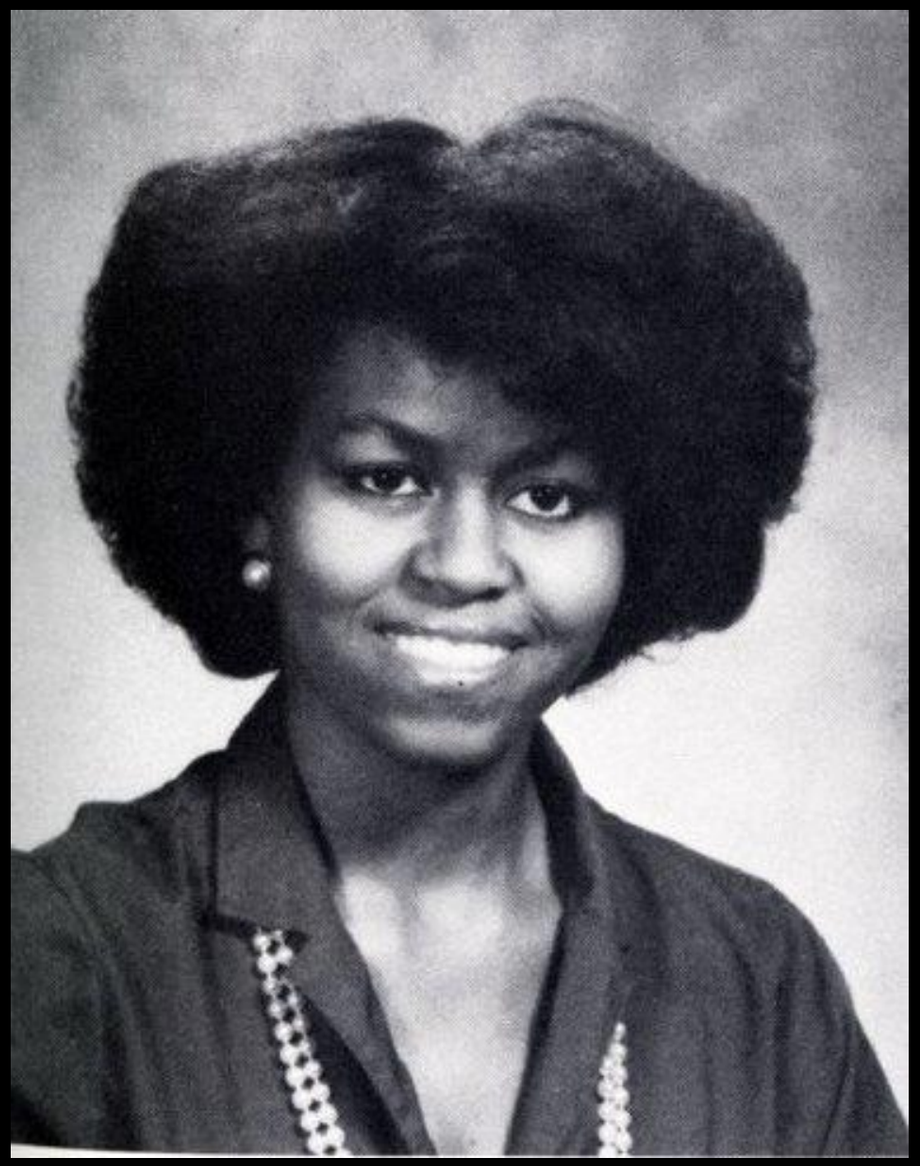


Yeager et al., 2019 *Nature*
Yeager et al., 2022 *Psych Sci*
Walton & Yeager, 2020 *Current Directions*

Psychological interventions *offer* people answers to troubling questions they face

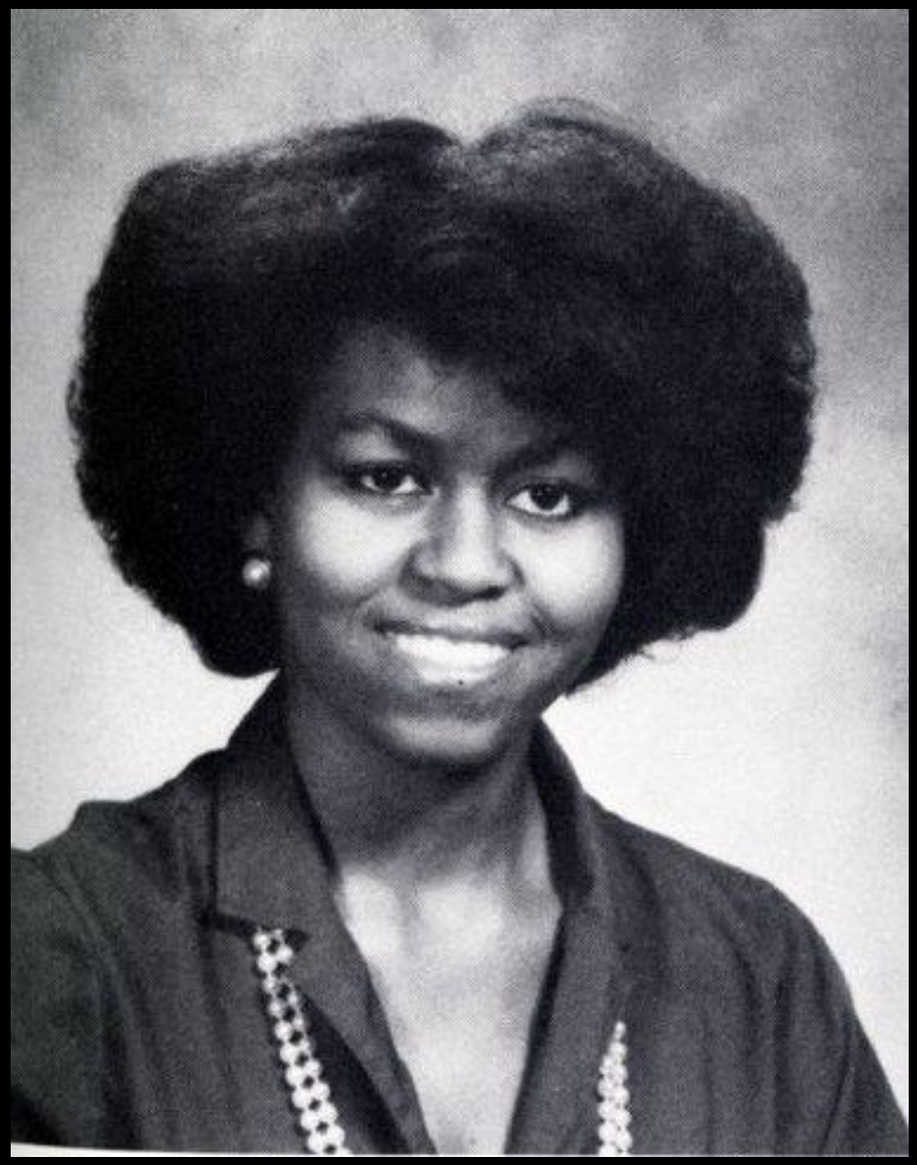
People can take up those answers, or not, depending on affordances in the context

(e.g., if they see those answers as legitimate and useful, as "locally true")

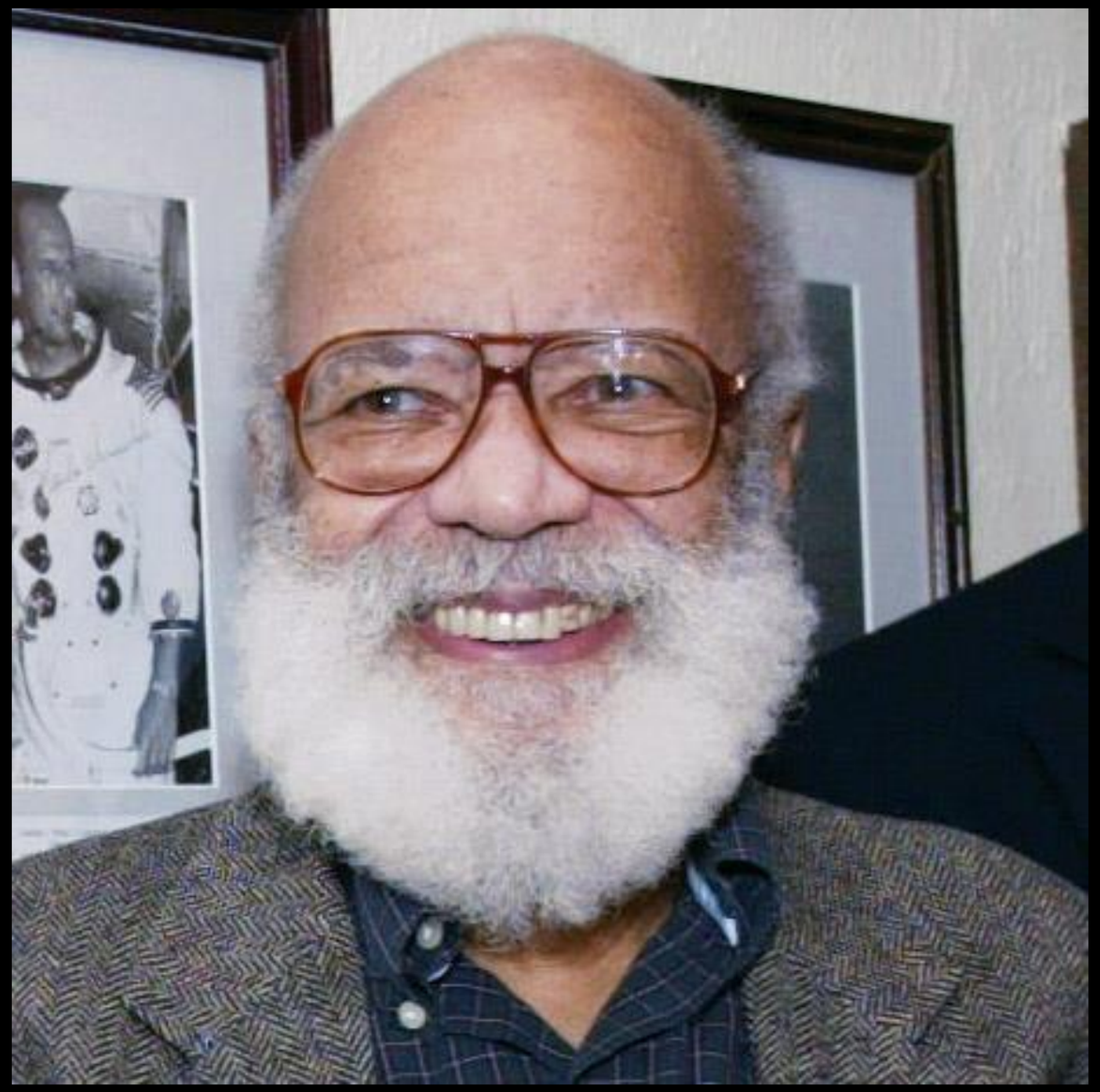


My experiences at Princeton have made me far more aware of my "Blackness" than ever before. I have found that at Princeton no matter how liberal and open-minded some of my White professors and classmates try to be toward me, I sometimes feel like a visitor on campus, as if I really don't belong…It often seems as if, to them, I will always be Black first and a student second.

-Michelle Robinson, "Princeton-Educated Blacks and the Black Community" (1985 Senior Honors Thesis)



Michelle Robinson



Walton L. Wallace
Professor of Sociology

“This thesis would not have been possible without the help and guidance of my advisor, Professor Walter Wallace. Thank-you Professor Wallace you have made me a much better student.”

What Do We Learn From the Belonging Intervention?

1. That concerns about belonging contribute to inequality in school achievement (and some about: *how*, *for whom*, and *where*)
   - Theory about a social problem
   - Theory about a psychological process (belonging uncertainty)
2. How to begin to remedy this inequality (an applied implication)

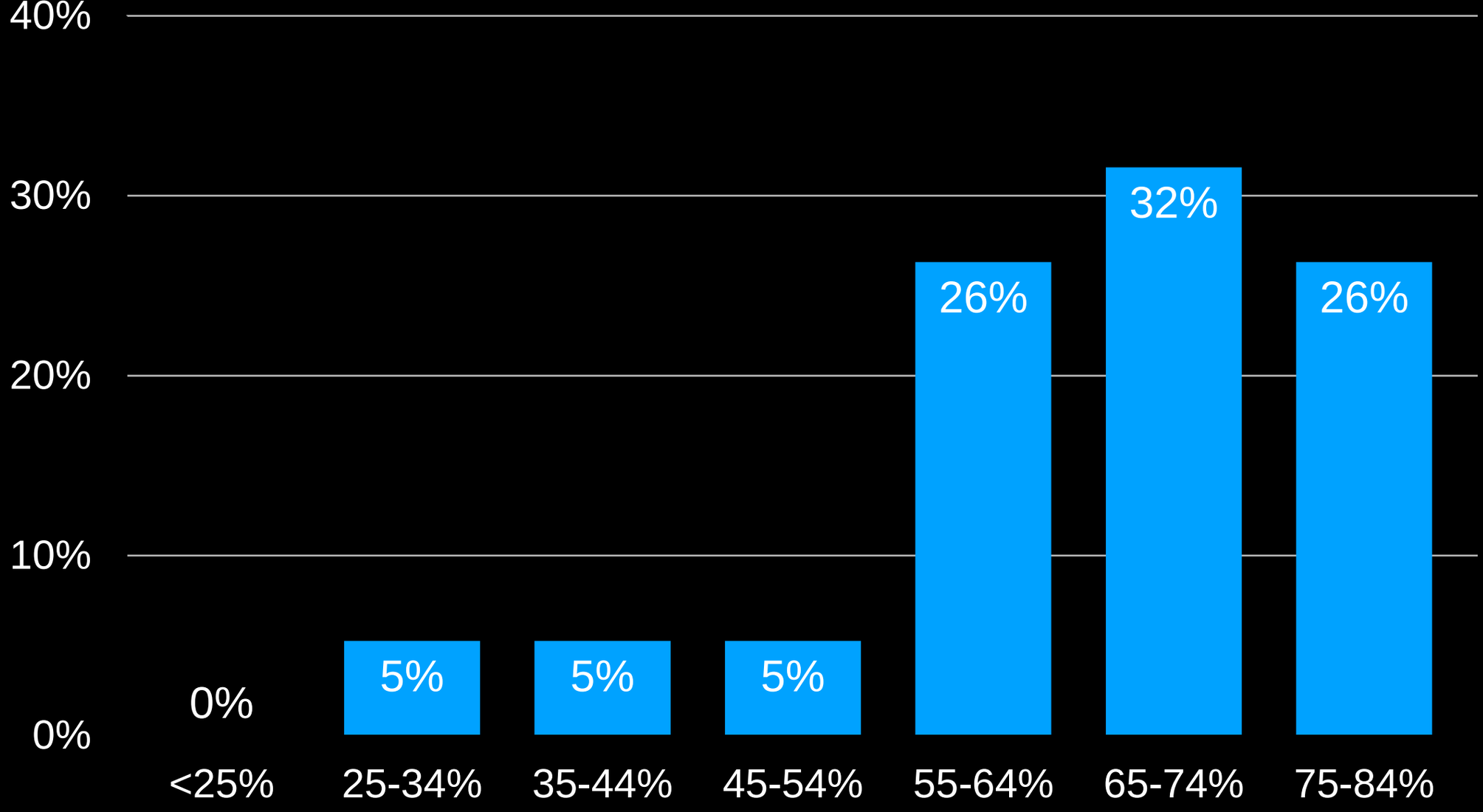
How can we improve settings?

What Can Institutions Do?

1. Convey the truth of the basic belonging message in powerful, redundant ways
2. Track belonging affordances by student groups

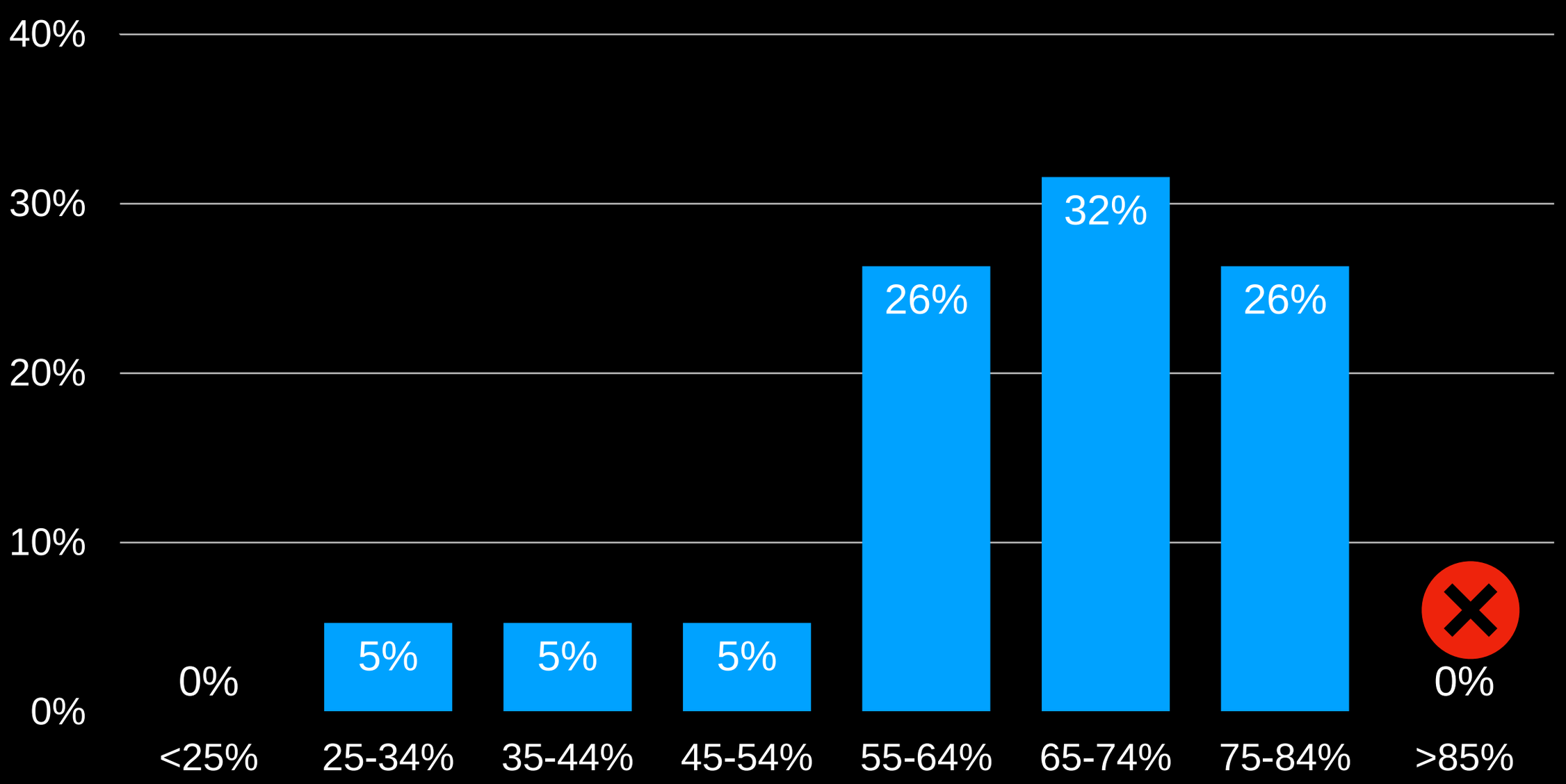
Most Institutions Are Doing All Right—

What % of LIGs Within College Cohort Had Medium/High Belonging Affordances?



Most Institutions Are Doing All Right—
But Every Institution Can Do Better

What % of LIGs Within College Cohort Had Medium/High Belonging Affordances?



Belonging Affordances Vary By Context

- Even for the same identity group
- Example: Belonging affordance for first-generation Hispanic/Latinx students, in two institutions (rank among college cohorts)

	2015	2016
Institution A: A Hispanic-Serving Institution in California	**#1** (out of 37 cohorts)	**#3** (out of 37 cohorts)
Institution B: A Hispanic-Serving Institution in California	**#37** (out of 37 cohorts)	**#18** (out of 37 cohorts)

And By Group

- Some groups are systematically better served than others

% of Sample Local Identity Groups with Medium/High Belonging Affordances

Hispanic/Latinx American Groups	90 %
White/European American Groups	67 %
Black/African/African American Groups	29 %
First-Generation College Student Groups	56 %
Continuing-Generation Student Groups	70 %

Institutional questions:

What groups are you serving well?

What groups are you not serving well yet?

What Can Institutions Do?

1. Convey the truth of the basic belonging message in powerful, redundant ways
2. Track belonging affordances by student groups
3. Expand belonging affordances, to ensure opportunities to belong for all student groups

What Predicts Belonging Affordances?

LIG-level predictors of LIG-level belonging

#1: Greater in-group representation (r=0.59)
Current proportional representation on campus

#2a: Better friendships (0.18<r<0.48)
More close friends, closer closer friends, less loneliness

#2b: More mentor relationships (0.15<r<0.20)
More students with a mentor, more students with a faculty or administrator mentor

#3a: Greater purpose (r=0.28)
e.g., “Right now, how much do you feel that your life at [school] has a sense of direction or meaning to it?”

#3b: Greater institutional growth mindset (r=0.19)
e.g., “So far, it seems that most people at [school] believe that students can’t really change how intelligent they are.” (RC)

#4a: Less identity threat (0.15<r<0.39)
e.g., Would people at your school be “surprised or not surprised if you or people like you succeeded in school?”

#4b: More inclusive culture (r=0.27)
e.g., Most people at [school] “want to make [school] a more inclusive place with regards to race and class”

#4c: Less bias (r=0.21)
“To what extent do minority-group students…experience bias, discrimination or other unfair treatment at [school]?”

#5: Greater well-being (0.14<r<0.24)
Greater well-being, greater life satisfaction, better mental health

Kroeper, Gopalan, Emerson, & Walton (in prep)

***In general, predictors remain predictive above and beyond in-group representation**

Five Drivers of Belonging

1. Representation

2. Relationships

3. Productive Learning

4. Inclusive Culture

5. Well-Being

What practices can YOU implement to support opportunities for belonging, especially for groups that aren’t yet well served?

Kroeper, Gopalan, Emerson, & Walton (in prep)

Thank you!