Belonging:
The Science of Creating Connection and Bridging Divides on College Campuses

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Team

The Power of the Situation

And Our Ability to Shape It

There was no obvious reason for being cagey. In my short time at the school, I'd seen no bullying or manifest contempt of that kind and never did. Yet it seemed to me that the Jewish boys, even the popular ones, even the athletes, had a subtly charged field around them, an air of apartness . . . . This apartness did not emanate from the boys themselves, from any quality or wish of their own, but from the school—as if a guardian spirit had risen from the walkways and weathered stone and breathed that apartness upon them.

T. Wolff, *Old School*

Once, a classmate suggested that I was only elected as a student leader for diversity's sake, not because I was actually deserving. Or, another time, a teacher assumed I was studying for general chemistry, when in fact, I was enrolled in AP. It's hard to pinpoint what exactly is wrong in these moments—taken on their own.

But when you add them up—and they happen all the time—it builds to this sense that I don't belong.

Mali Dandridge, *Perspectives,* KQED Radio

Belonging uncertainty:
A common predicament

First generation college students

LGBQ individuals

Physically disabled individuals

Conservative students on liberal campus

Liberal employees at conservative firm

Ethnic minority students and employees

Threatening belonging in Cyberball
(Kip Williams et al.)

Students' self-reported belonging prospectively predicts college persistence

Table 1
Coefficients and Standard Errors From Multivariate Regressions

	4-Year Colleges				2-Year Colleges			
	Academic Outcomes		Other Outcomes		Academic Outcomes		Other Outcomes	
	Persistence Year 2	Persistence Year 3	Use of Campus Services Year 3	Self-Reported Mental Health Year 3	Persistence Year 2	Persistence Year 3	Use of Campus Services Year 3	Self-Reported Mental Health Year 3
Sense of belonging	.019***	.021***	.014**	.050***	.008	−.000	.004	.027
	(.006)	(.006)	(.005)	(.013)	(.011)	(.011)	(.009)	(.021)
Public/private institution (public = 1)	.055***	.046***	−.046***	.042	.033	.014	.019	.061
	(.014)	(.012)	(.011)	(.029)	(.056)	(.055)	(.061)	(.120)
URM (Black, Hispanic, Native)	.018	.026	.042**	.070	−.002	.008	.068**	.036
	(.013)	(.017)	(.013)	(.042)	(.028)	(.027)	(.023)	(.047)
Asian	.033	.053*	.051*	−.128*	.069	.033	−.044	.135
	(.023)	(.024)	(.025)	(.058)	(.061)	(.061)	(.043)	(.105)
Two or more races	−.005	−.006	.026	−.093	.084	.007	.050	.064
	(.026)	(.029)	(.019)	(.058)	(.050)	(.062)	(.057)	(.115)
First-generation	−.042**	−.046*	−.019	.009	−.011	−.049	−.027	.048
	(.015)	(.018)	(.031)	(.026)	(.030)	(.031)	(.026)	(.049)
Sex (female = 1)	.042***	.042***	.004	−.134***	.045	.041	.024	−.180**
	(.009)	(.011)	(.010)	(.031)	(.027)	(.024)	(.019)	(.058)
High school GPA	.042**	.045***	.000	.045	−.004	.009	.050*	.072*
	(.013)	(.012)	(.012)	(.038)	(.020)	(.021)	(.021)	(.032)
First-year GPA	.081***	.076***	.012	.037	.101***	.098***	−.009	−.015
	(.011)	(.012)	(.008)	(.026)	(.012)	(.012)	(.015)	(.027)
R^2	.11	.11	.07	.21	.05	.05	.07	.16
N observations[a]	10,500	10,500	6,800	10,500	5,130	5,130	1,900	5,130

Note. Standard errors in parentheses. All estimates are unstandardized but weighted to adjust for the BPS: 12/14 complex survey design: Analysis weight (WTA000) and bootstrap variance estimation using replicate weights (WTA001-WTA200) to adjust for poststratification weight adjustment. To economize on space, we report on coefficients and standard errors on key variables only. All specifications also include students' ACT/SAT scores, socioeconomic status, first-year GPA, and a measure total debt burden, as noted in main text and Appendix (available on the journal website). We also controlled for self-reported first-year use of campus services and self-reported mental health in the models predicting third-year use of campus services and third-year self-reported mental health outcomes. URM = underrepresented racial-ethnic minority students.
[a]Sample size rounded to the nearest 10 as per data set guidelines.
*$p < .05$. **$p < .01$. ***$p < .001$.

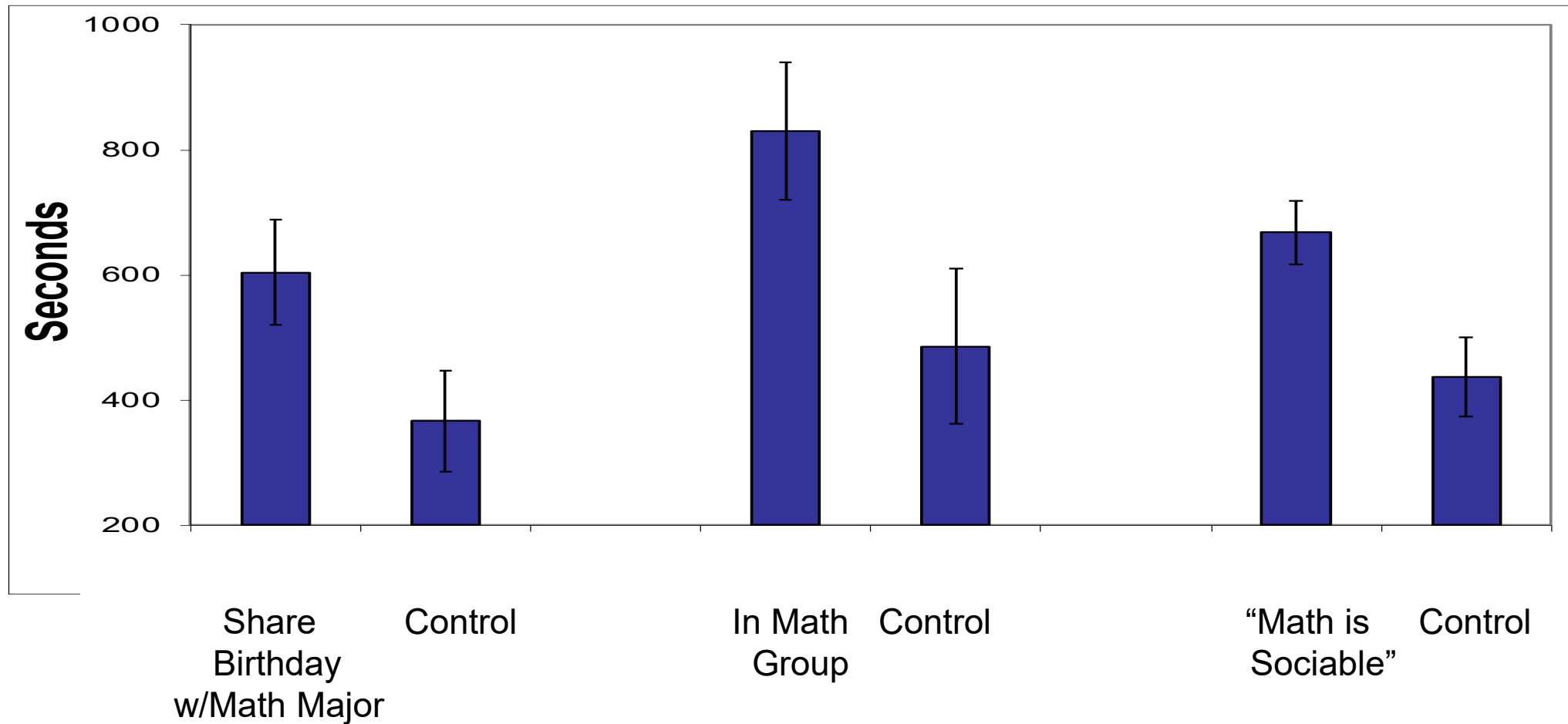Source: Gopalan & Brady, *College Students' Sense of Belonging: A National Perspective*, Educational Researcher, 2019

How can we foster a sense of belonging?

How can we foster a sense of belonging?

By changing the situation.

The science and art of situation-crafting

Creating Belonging:
Laboratory Experiments

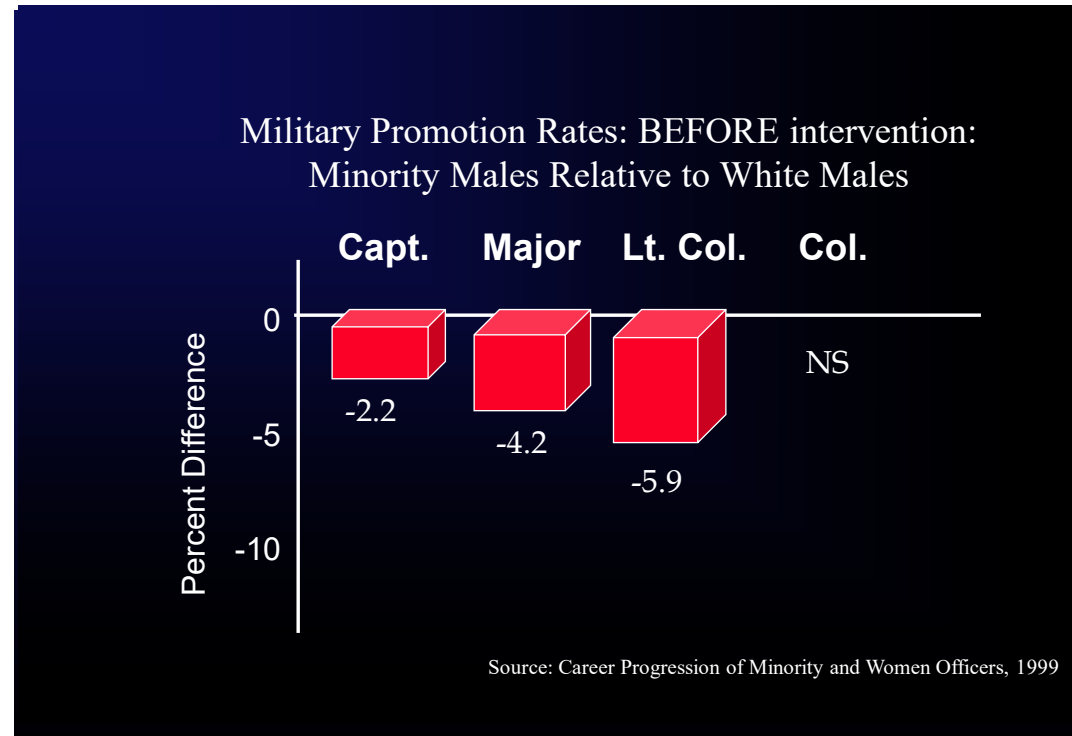Source: Walton et al., *Mere Belonging: The Power of Social Connections,* JPSP, 2012

Examples of Situation-Crafting
at the Institutional Level

Promoting diverse hiring by changing decision architecture (Jack Dovidio, Emilio Castilla)
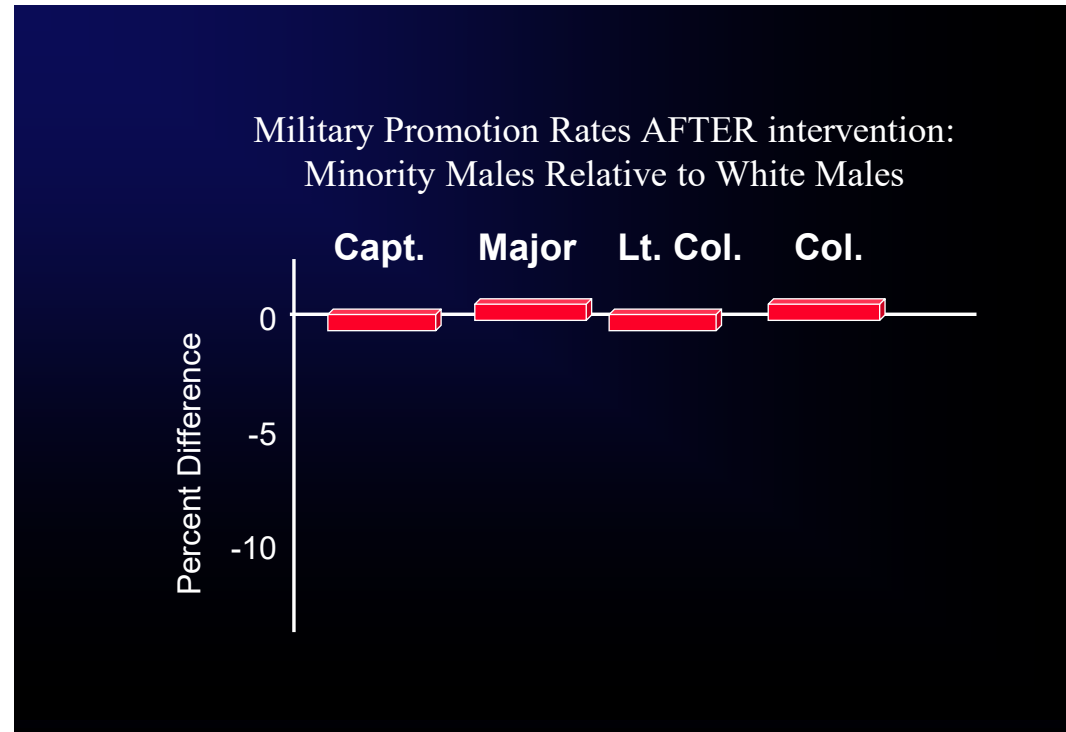
Color Consciousness
+ Accountability Intervention:

Discrimination BEFORE Intervention

Military Promotion Rates: BEFORE intervention:
Minority Males Relative to White Males

Source: Career Progression of Minority and Women Officers, 1999

Color Consciousness
   + Accountability Intervention:

Discrimination AFTER Intervention

Color Consciousness
   + Accountability Intervention:

Discrimination AFTER Intervention ENDED
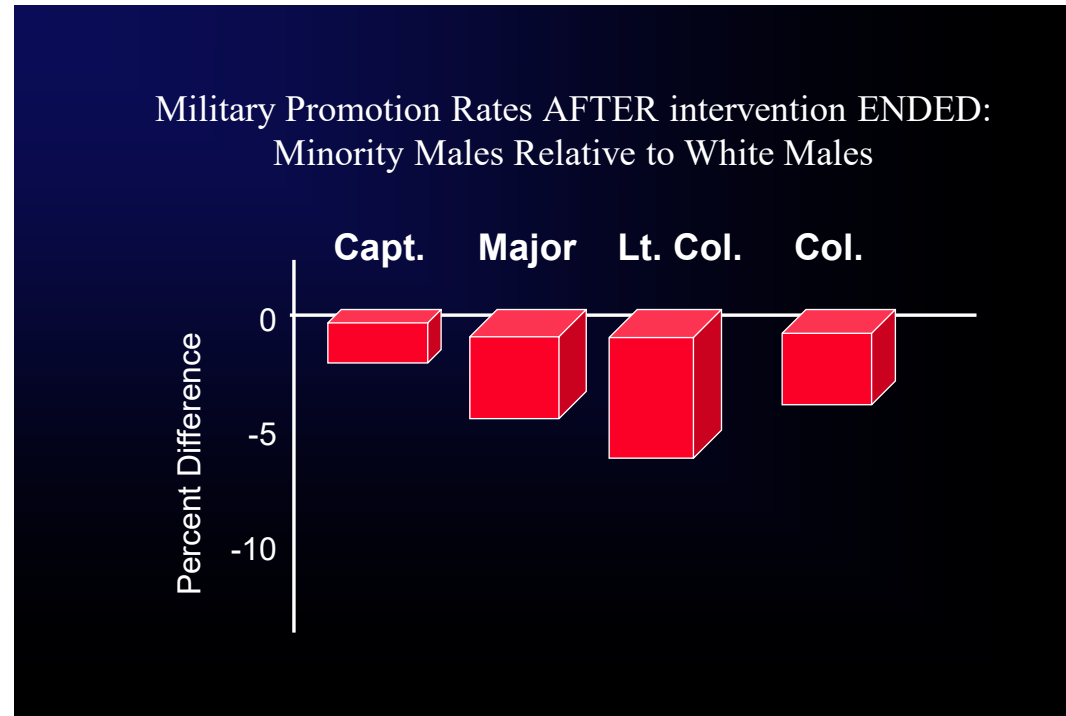
Examples of Situation-Crafting at the Institutional Level

Promoting diverse hiring by changing decision architecture (Jack Dovidio, Emilio Castilla)

Raising awareness of bias and concrete actions to combat it (Jessi Smith, Patricia Devine, Christine Rubie-Davis)

Situation-Crafting in the Classroom

The most important principle is to appreciate that different people experience the same situation differently.

Situation-Crafting in the Classroom

Three Examples:

Wise Criticism

Social-Belonging Intervention

Values-Affirmation

Wise Criticism

The typist home at teatime, who ~~begins~~
~~to~~ clear ~~away)))))))))~~ away her (broken) breakfast, lights
Her stove, and lays out squalid food ~~in tins;~~
Prepares the room and sets the room to rights.

Out of the window perilously spread
Her drying combinations meet the sun's last rays,
And on the divan (piled,(at night her bed),
Are stockings, dirty camisoles, ~~and stays.~~

A (bright) kimono wraps her as she ~~sprawls~~
In ~~harmless~~ ~~tor~~por on the (window seat;)
A touch of art is given by the false
Japanese print, ~~purchased in Oxford Street.~~

I Tiresias, old man with wrinkled dugs,
Perceived the scene, and foretold the rest,
~~Knowing the manner of these crawling bugs,~~
I too awaited the expected guest.

~~A youth of twenty-one,~~ spotted about the face,
~~One of those simple loiterers whom we say~~
~~We may have seen in any public place~~
~~At almost any hour of night or day.~~

~~Pride has not fired him with ambitious rage,~~
His hair is thick with grease, and thick with scurf,
~~Rashly~~ his inclinations touch the stage -
~~Not sharp enough to associate with the turf.~~

He,'s the young man carbuncular, (will stare)
~~Boldly about,~~ in "London's one cafe",
And he will tell her, (with c sual air,)
(grandly) "I have been with Nevinson today".

~~Perhaps a cheap house agent's clerk,~~ who flits
Daily, from flat to flat, with one bold stare;
One of the low on whom assurance sits
As a silk hat on a Bradford millionaire.

He munches with the same persistent stare,
He knows his way with women (and that's that!)
Impertinently tilting back his chair
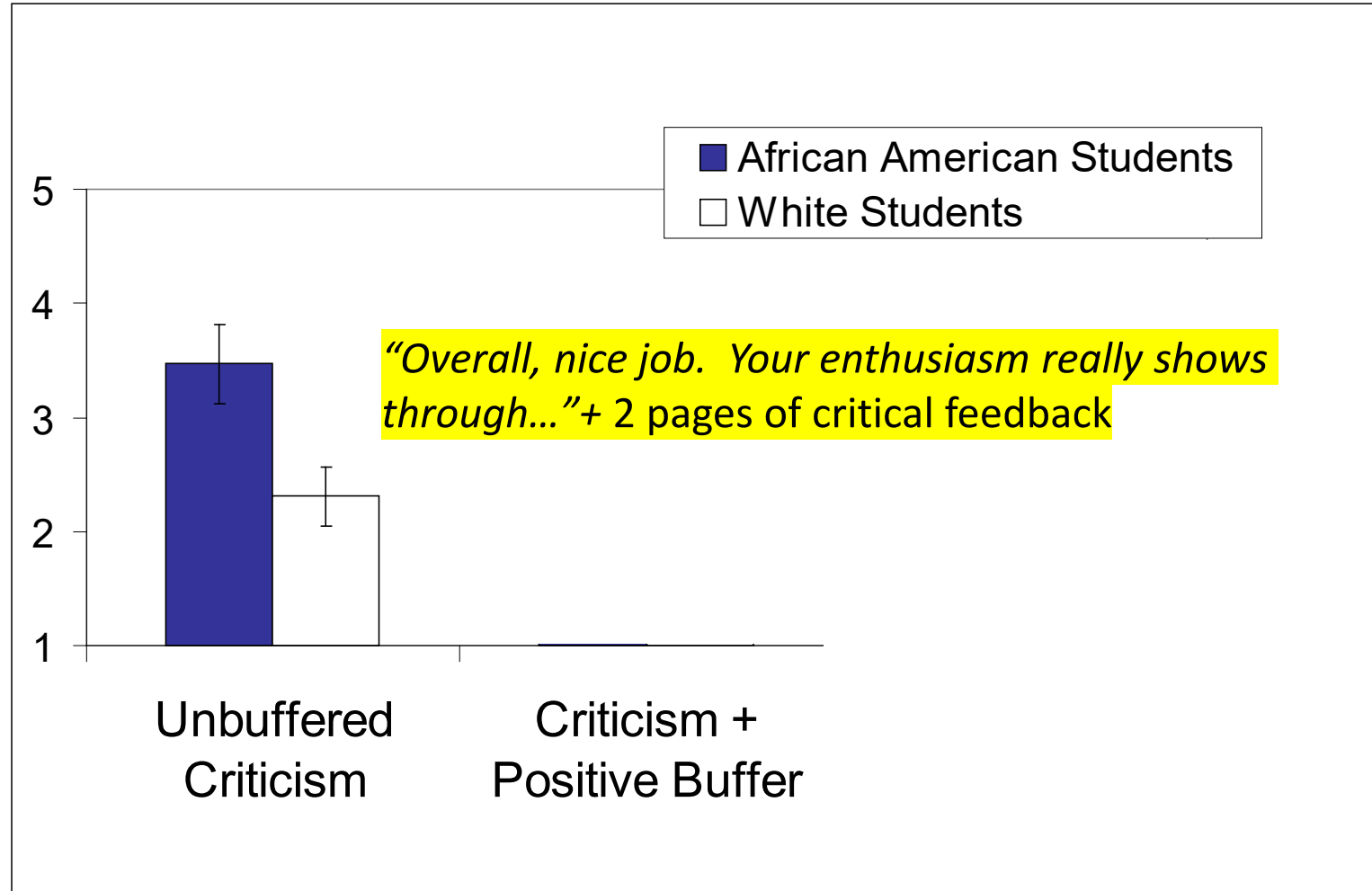And dropping cigarette ash on the mat.

The time is now propitious, as he guesses,
The meal is ended, she is bored and tired;
Endeavours to engage her in caresses,
Which still are unreproved, if undesired.
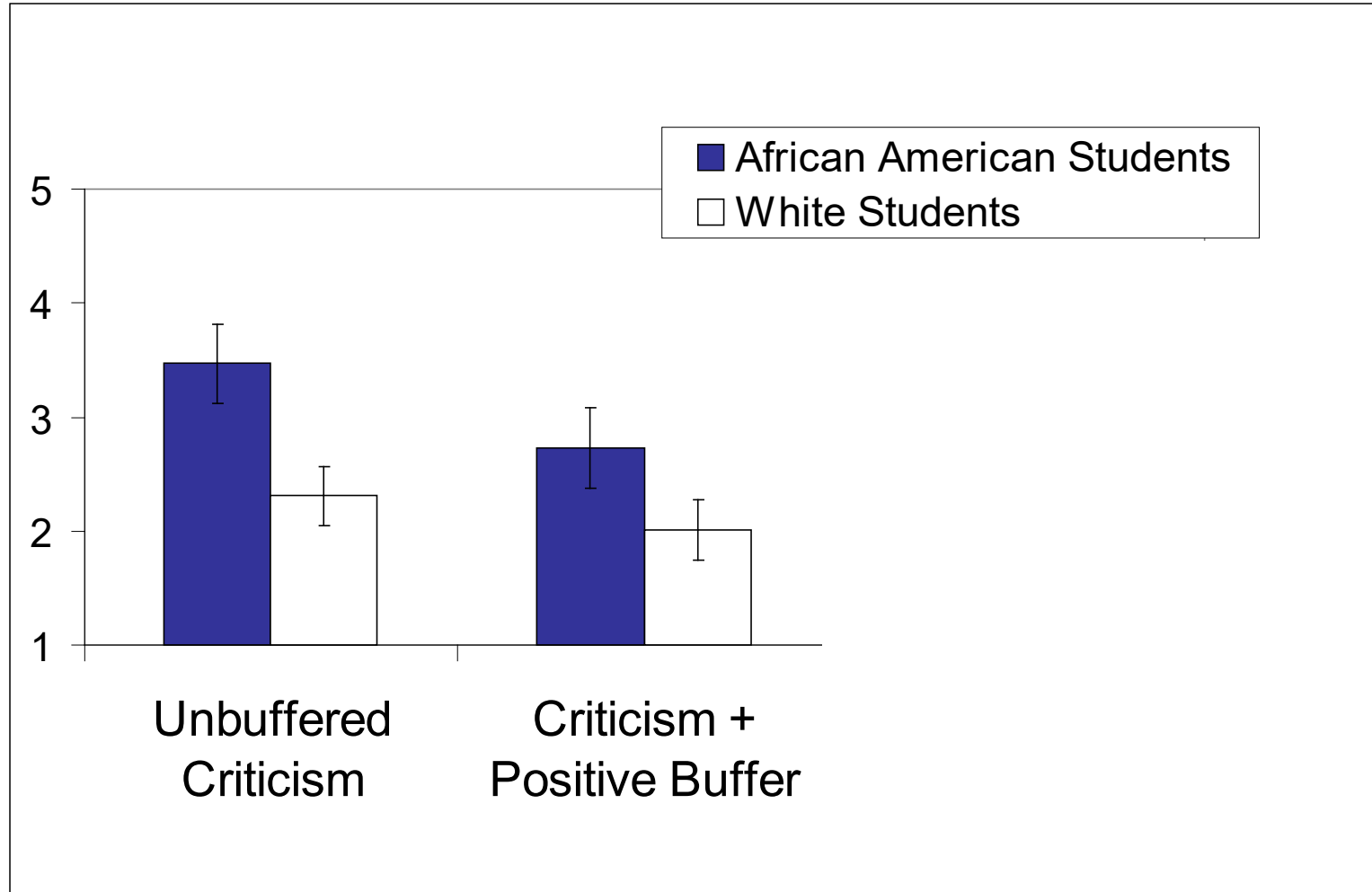
Perceived Instructor Bias
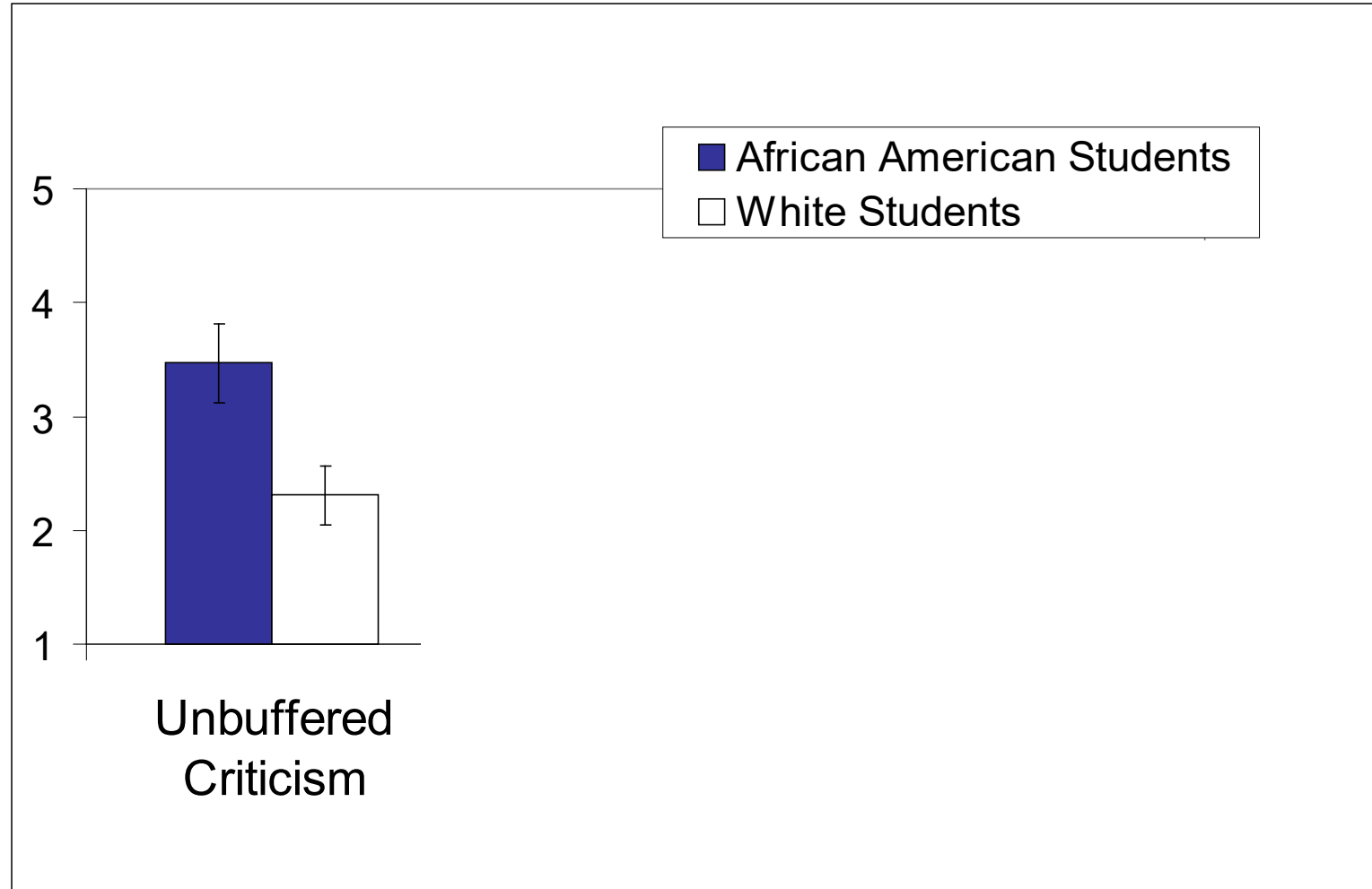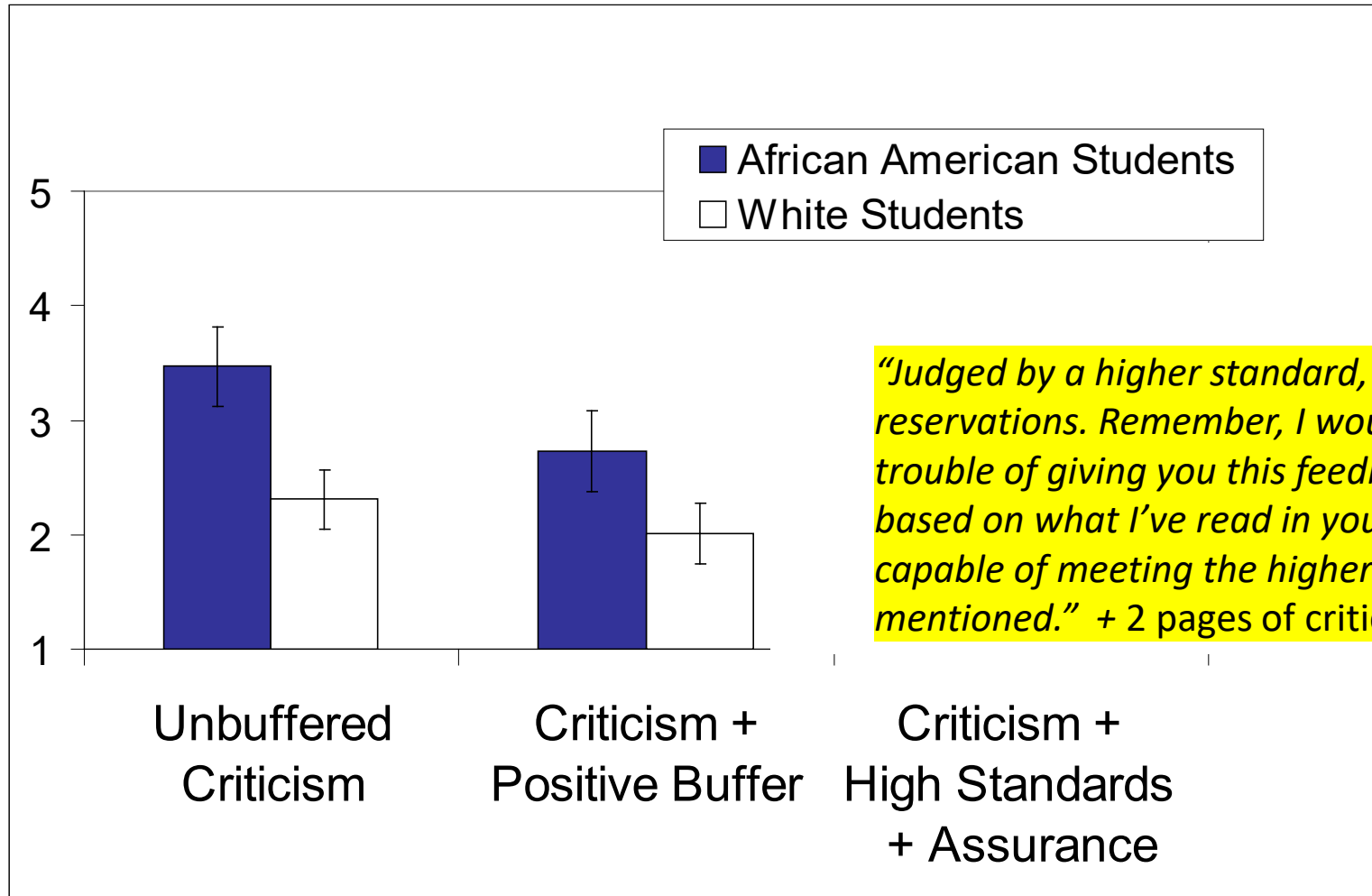

Scale range: 1-7

Perceived Instructor Bias

Scale range: 1-7

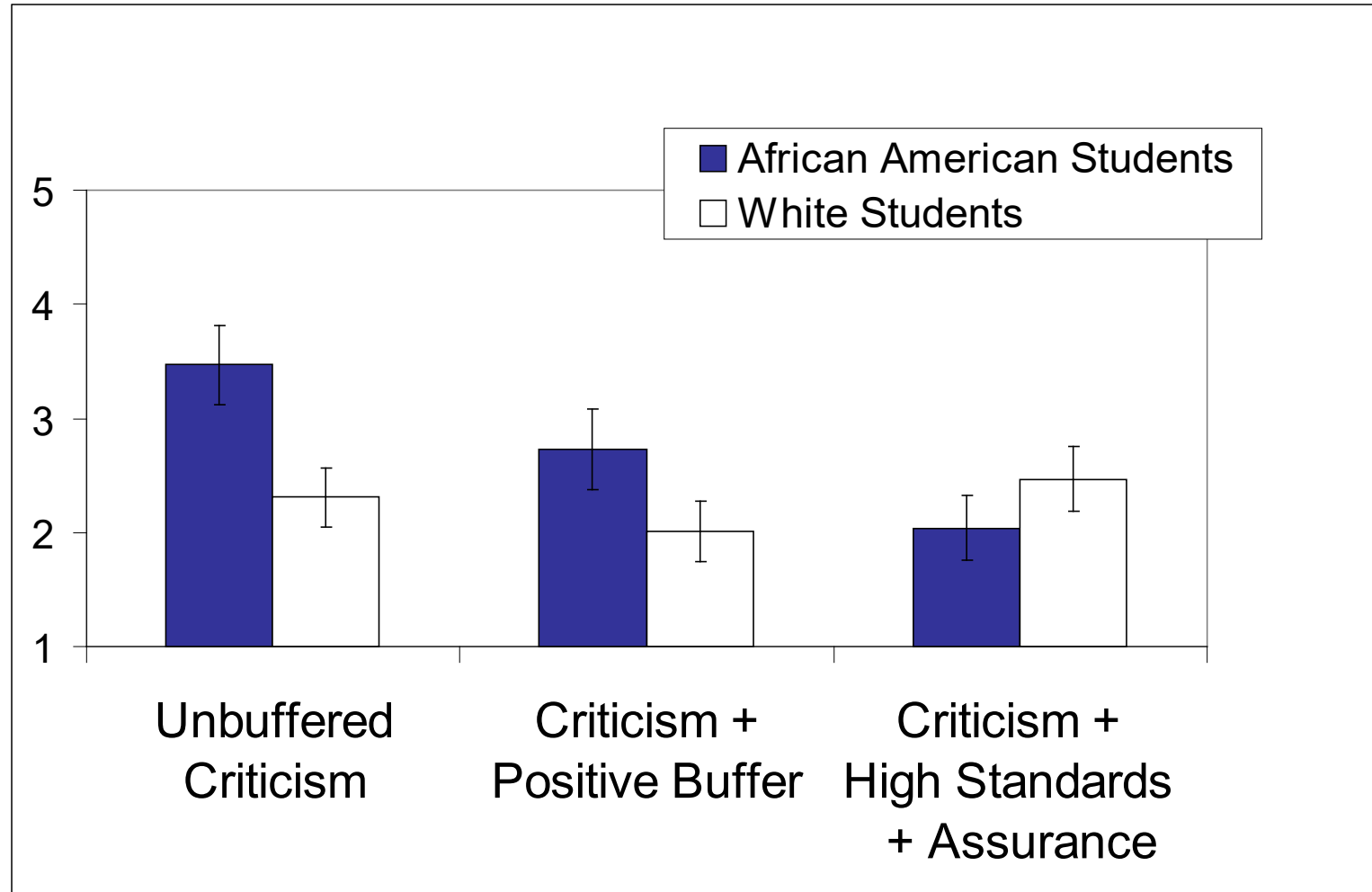# Perceived Instructor Bias

Scale range: 1-7

Perceived Instructor Bias

Legend:
- ■ African American Students
- □ White Students

"Judged by a higher standard, I have serious reservations. Remember, I wouldn't go to the trouble of giving you this feedback if I didn't think, based on what I've read in your letter, that you are capable of meeting the higher standard I mentioned." + 2 pages of critical feedback

Categories (x-axis):
- Unbuffered Criticism
- Criticism + Positive Buffer
- Criticism + High Standards + Assurance

Scale range: 1-7

Perceived Instructor Bias

Scale range: 1-7

"Wise feedback" group:
I'm giving you these comments because I have high standards and I know that you can meet them.

Finally Dr. King is my hero because when he was tested he did not complain instead he over came the worst. Dr. King had many good reasons to quit what he was doing and curse everyone, but he didn't. In the worst of times Dr. King kept his chin up. When King's home was bombed all he said was "We must learn to meet hate with love" Dr. King was a great man and he helped change our world as we know it.

In conclusion Dr. Martian Luther King JR is my hero because he had courage. He is a testimony to me and to others. Also he over came his troubles when he was tested.

"I have a dream that little black boys and little black girls will be able to join hands with little white boys and little white girls and walk together as sisters and brothers."

define hero

give more detail

what do you mean by testimony?

freedom to fight from what

say more about the

good — use this earlier w/ courage maybe

say more about the change

use this in the essay.

Control group:
I'm giving you these comments so you have feedback on your essay.

Percentage of students revising their essay:

- White students, both conditions: 75%
- Black students, control: 17%
- Black students, wise criticism: 71%

Percentage of students attending 4-year college:

- White students, both conditions: 48%
- Black students, control: 45%
- Black students, wise criticism: 64%

The Social-Belonging "Intervention"

Gregory Walton, Shannon Brady, David Yeager, Geoffrey Cohen

Hardships Reported by Students in College Diary Study

- My teacher returned my paper covered in red ink.
- Everyone is going out without me, and they didn't consider me when making their plans
- My teacher cancelled her meeting with me.
- A peer didn't email me back.
- I haven't gone on any dates.
- I wasn't recognized at awards dinner.
- Dumped by girlfriend.
- My boyfriend didn't call.
- I'm working on a paper that is due tomorrow and I have writers block.
- Found a dead mouse under a pile of my clothes.

The Social Belonging Intervention at the College Transition:
Stories shared with participants in intervention condition:

After winter break, I realized that all my good friends were at home. I didn't have friends like that at school. But I got involved in extra-curriculars, and met people who had common interests. I also got to know people in class who later became close friends. But this took time. And before I found my niche here, there were times when I felt quite lonely.

-Respondent # 77, senior, White female

I worried that I was different from other students . . . . Now it seems ironic. Everybody feels they are different freshman year from everybody else, when really in at least some ways we are all pretty similar.

-Respondent, #23, African American female

Survey [Intervention materials shown to participants]

504 ** Juniors and Seniors completed survey materials . Participants were randomly sampled from the population of all [school name] Juniors and Seniors. Percentages are accurate within +/- 4 percentage points …

Results were consistent across class year and across racial and gender groups.

During their freshman year, many if not most students worry about whether other people at [college name] accept them.

- 73% – 86% of upperclassmen reported that, during their freshman year, they:
- "sometimes" or "frequently" worried whether other students would accept them in the context of classes and coursework.
- "sometimes" or "frequently" felt intimidated by professors.

But after their freshman year, most students come to feel confident that other people at [college name] accept them.

- 82% – 97% of upperclassmen reported that, since their freshman year
- they are "confident" or "certain" that most other students accept them
- "sometimes" or "frequently" felt their comfort in the academic environment at ** has improved "some" or "a lot."
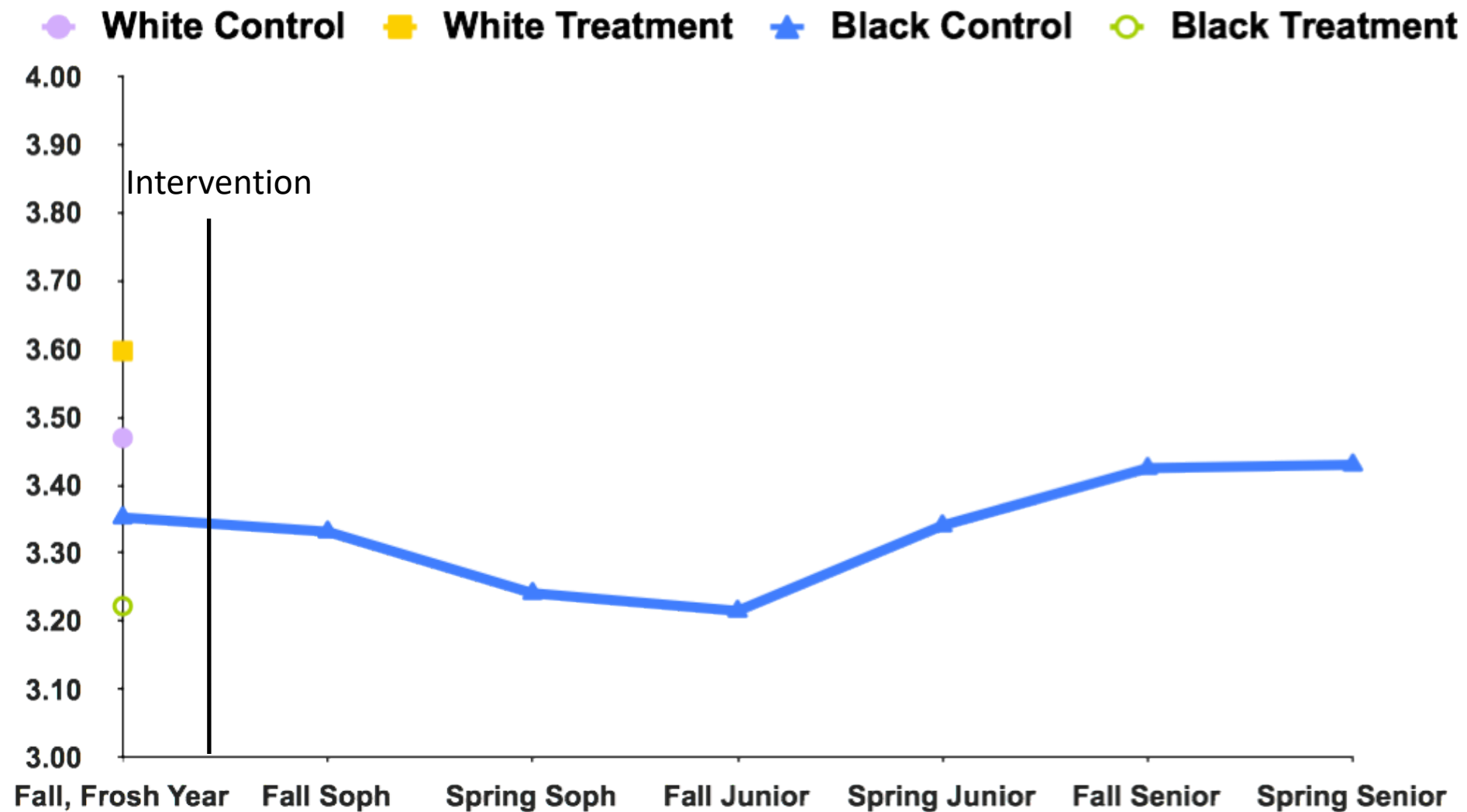
Results

The social-belonging intervention improved the 4-year cumulative GPA of Black students, halving the gap between them and their White peers.
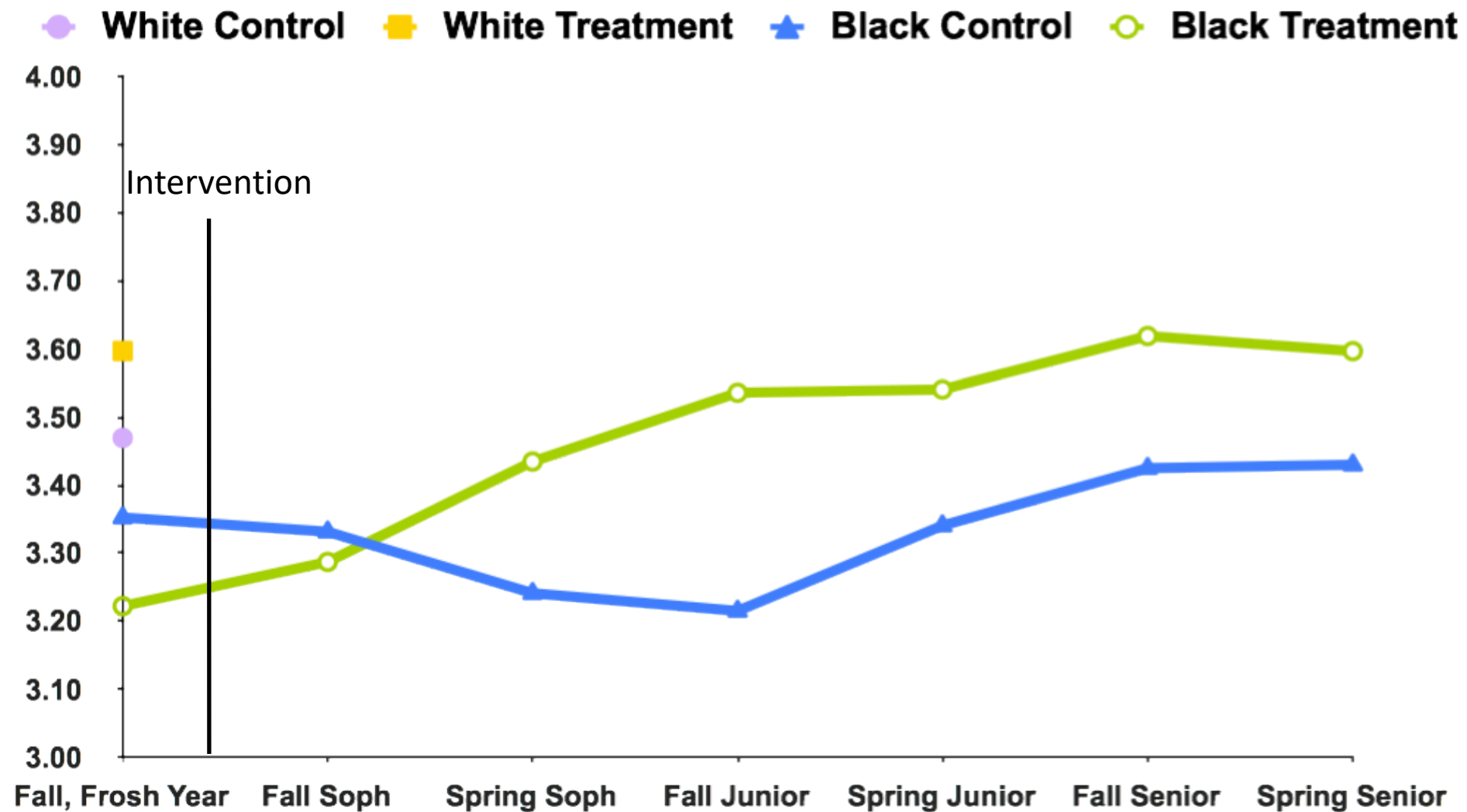
College grade point average by year

Walton & Cohen (2011, *Science*)

College grade point average by year

Walton & Cohen (2011, *Science*)
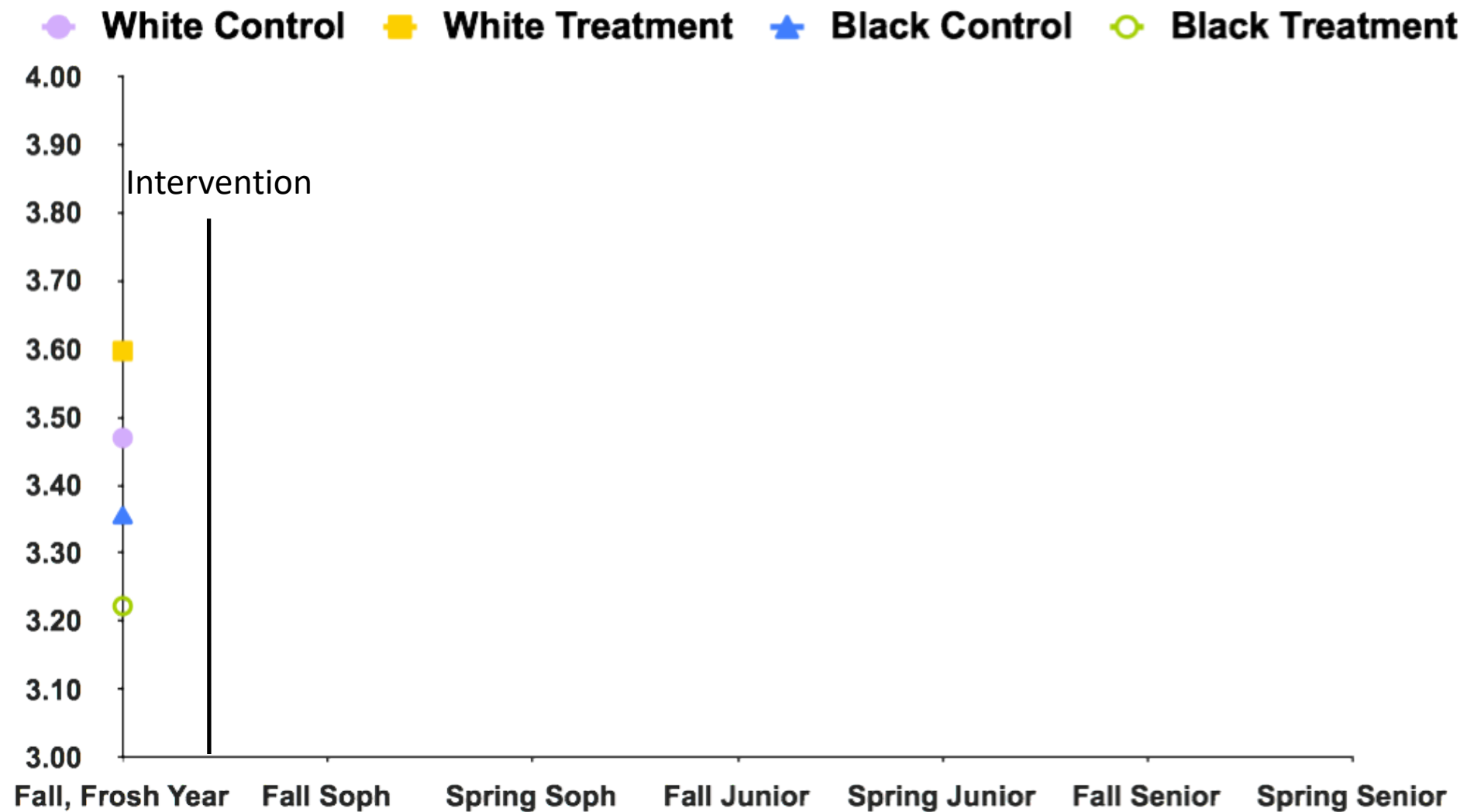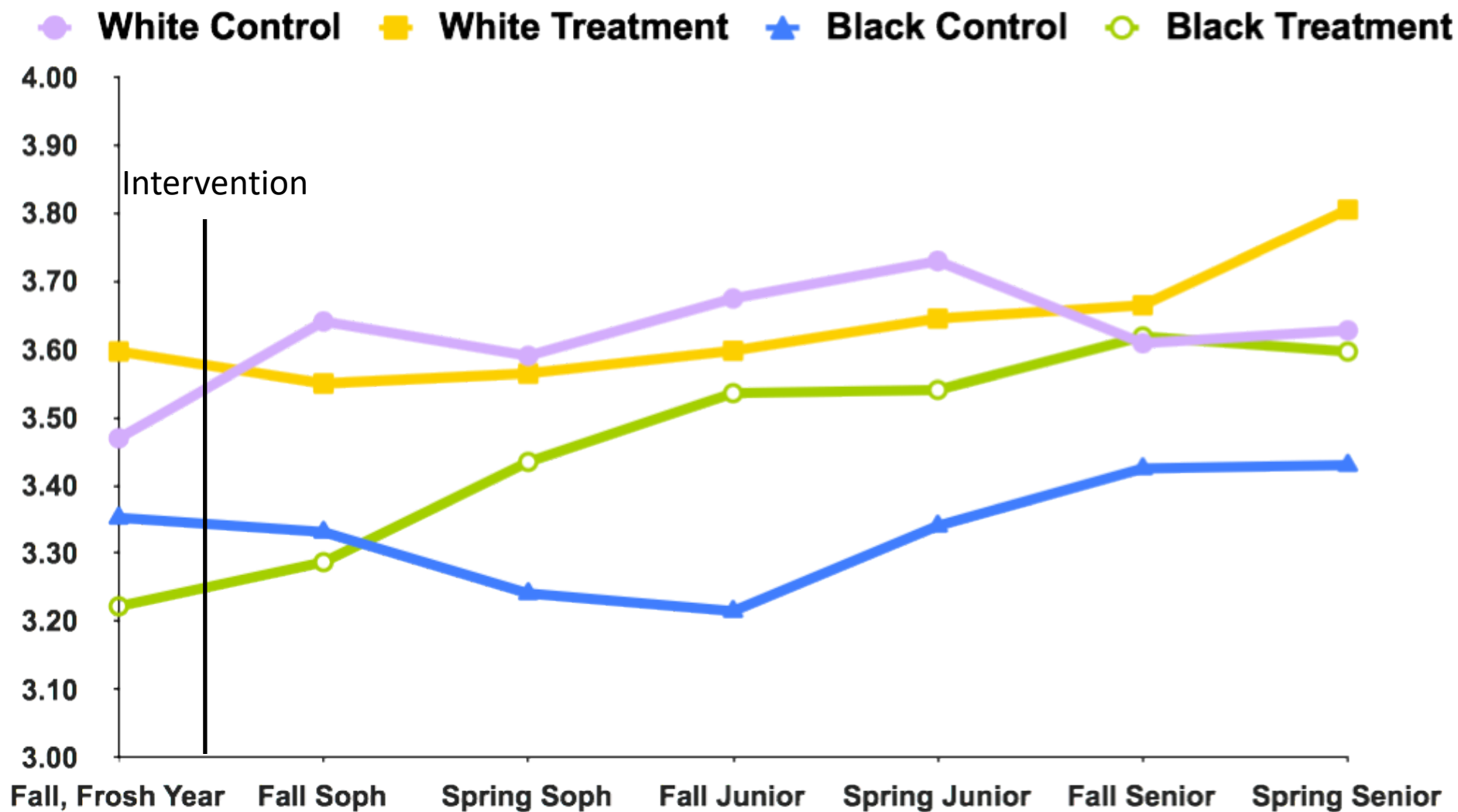
College grade point average by year

College grade point average by year

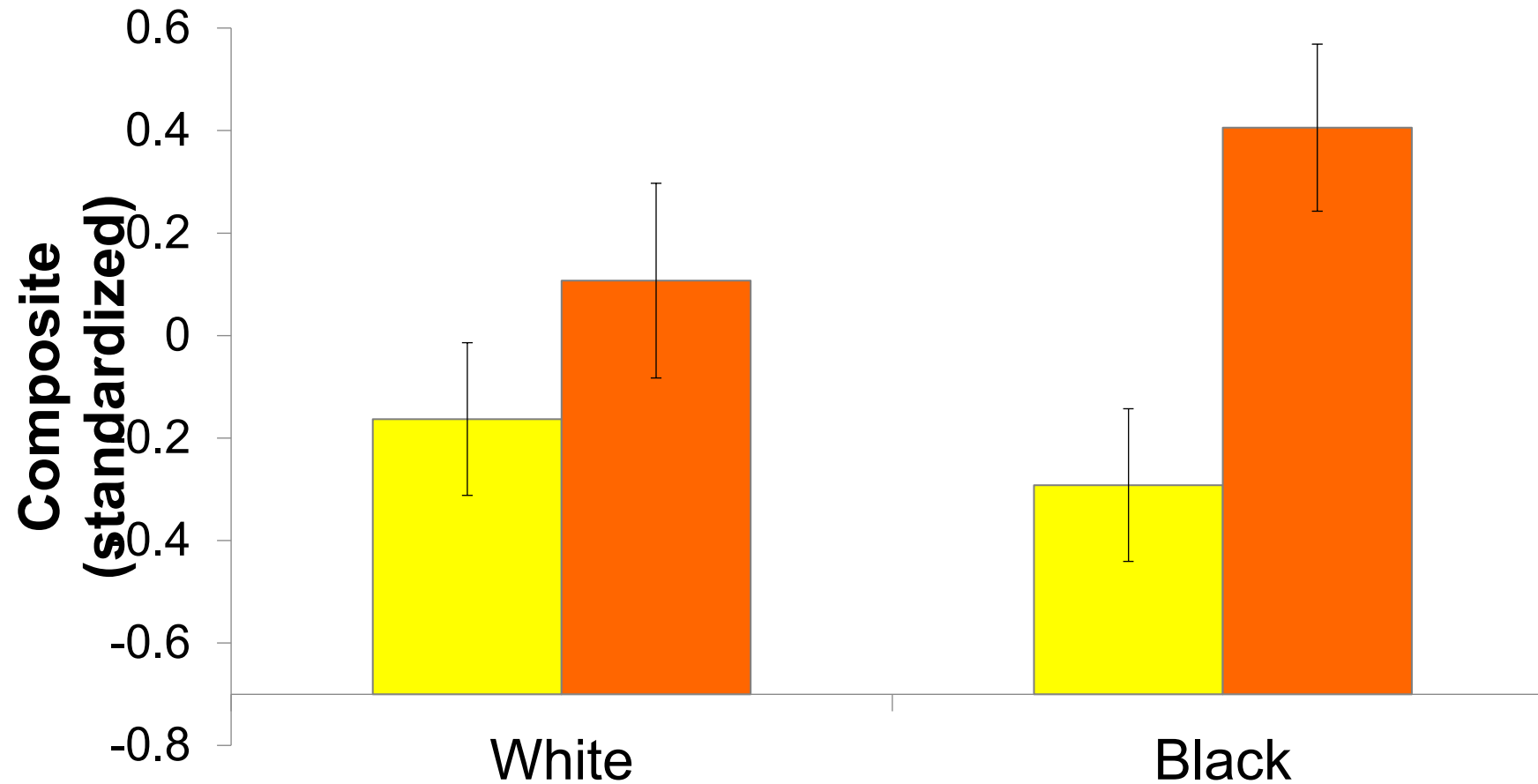*Condition effect for Blacks: b = .24, p = .01; Race X Condition, b=-.31, p = .027*

Walton & Cohen (2011, *Science*)

Seven years later…
Career satisfaction and belonging

What changed?

Less belonging uncertainty

More mentoring relationships

INTERVENTION, EVALUATION, AND POLICY STUDIES

Replicating a Scalable Intervention That Helps Students Reappraise Academic and Social Adversity During the Transition to Middle School

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[a]Graduate School of Education, Stanford University, Stanford, California, USA; [b]Mary Lou Fulton Teacher's College, Arizona State University, Tempe, Arizona, USA

ABSTRACT

Recent evidence suggests that helping students reappraise common social and academic worries during the difficult transition to middle school can improve their academic achievement. To further test this outcome, we conducted a pre-registered randomized controlled trial at scale among students transitioning to middle school in seventh grade (N = 2,171). The intervention increased students' seventh-grade grade point average, the sole confirmatory outcome proposed in preregistration, and reduced course failures when compared to controlgroup students. Differences in effects between those found for white students and for other racial/ethnic groups were not statistically significant. These results reinforce previous findings suggesting that reappraising stressful school situations during the transition to middle school may improve academic achievement for students across all demographic groups.

Belonging is psychologically essential, is socially and interpersonally derived and influences emotion and cognition (Baumeister & Leary, 1995). Attachment to an environment through strong and enduring bonds with others influences not only how an individual feels about that environment thereafter, but influences how the individual interacts socially with others in that environment (Okonofua et al., 2016; Walton & Brady, 2017). Feelings of belonging can be uncertain, as individuals often necessarily derive them from indirect and abstract cues in their surroundings. Being unsure about belonging in a situation can thus be threatening; undergoing any transition from the familiar to the unknown may cause the experience of *belonging uncertainty*, or anxiety resulting from being unsure of one's social place in an environment (Walton & Cohen, 2007). When an individual fails to make friends within a new social space or has difficulty adjusting to new institutional expectations, one may question his or her competence and fit (Murphy et al., 2007). These questions often guide individuals' emotions, as elements experienced in the environment either confirm or refute their questions of belonging

For more information on scale-ups of the social-belonging intervention and how to participate, see https://collegetransitioncollaborative.org and this paper by Greg Walton and Shannon Brady: https://studentexperienceproject.org/wp-content/uploads/2019/11/WaltonBrady2019.pdf

For a guide by Greg Walton, see https://s3.wp.wsu.edu/uploads/sites/2111/2018/05/Walton-A-Social-belonging-Intervention.pdf

Values Affirmation

[VALUES AFFIRMATION EXERCISES]

WHAT ARE YOUR PERSONAL VALUES?

<u>Remember that there are no right or wrong answers to any of these questions.</u>
<u>Please read this list carefully. Then circle the **TWO or THREE** things that are MOST important to you.</u>

Enjoying Sports
Being Good at Art
Being Creative
Being Independent
Living in the Moment (or Enjoying Today)
Belonging to a Social Group   (such as your community, racial group, or school club)
Listening to Music or Playing Music
Following Politics or Government
Being with Friends or Family
Being Religious
Having a Sense of Humor

**Affirmation
Condition Worksheet**

WHAT ARE YOUR PERSONAL VALUES?

Directions

1) Look at the value you picked as most important to you (the value you ranked as #1 on the previous page).

2) Think about times when this value was or would be very important to you.

3) Describe why this value would be important to you.

Focus on your thoughts and feelings and don't worry about spelling, grammar, or how well written it is.

How can one get by without friendship or family? I know I couldn't, I need that support, at times it can feel like the only thing I have that's real. At other times I don't need it, but love and comfort from relationships is something that is always nice... When in need I fall back on my support, friends and family, without that support I would never stop falling.
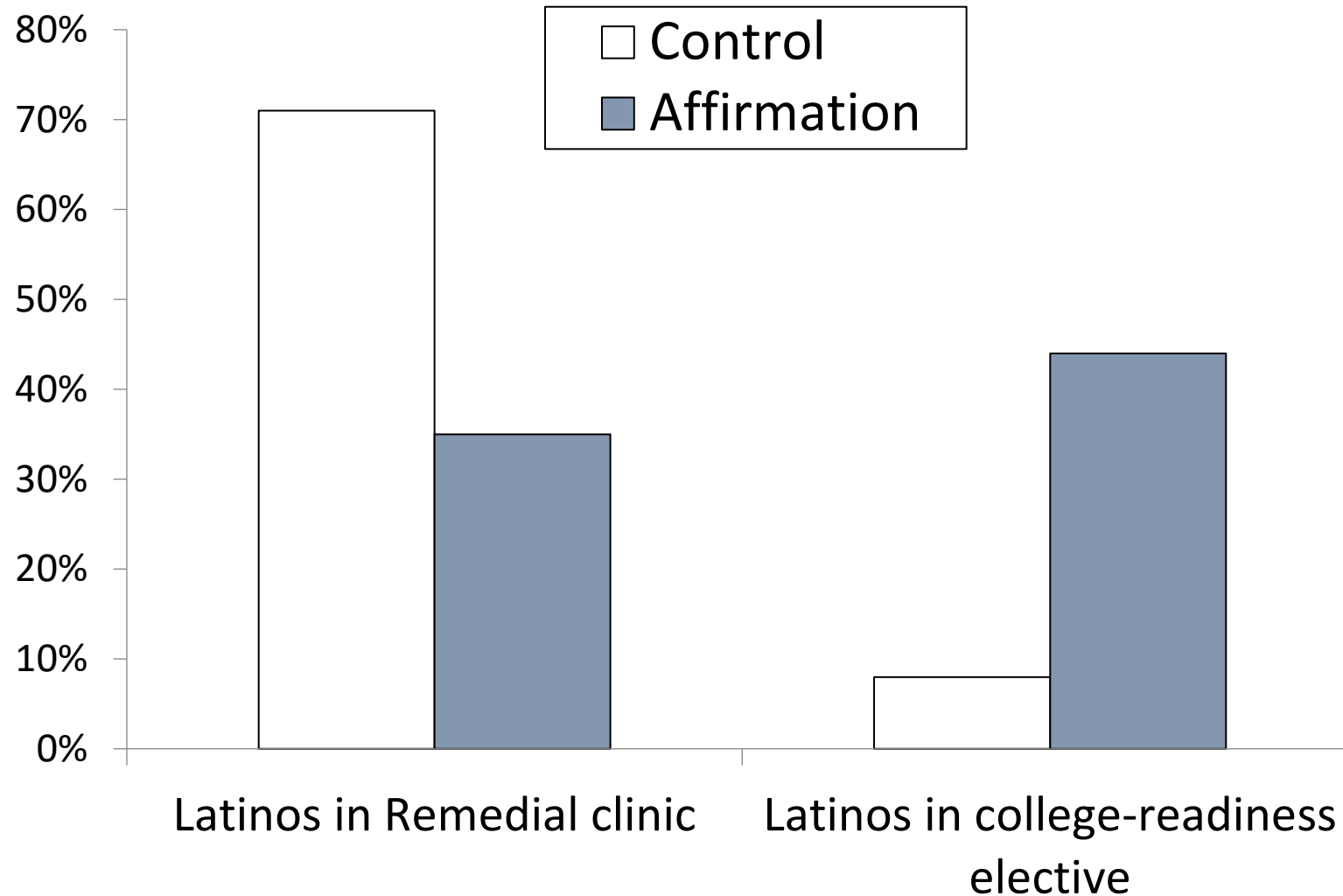
Original Study and Two Replications
in Northeastern Middle School
(GPA in semester after intervention)

Study 1

Study 2

Study 3
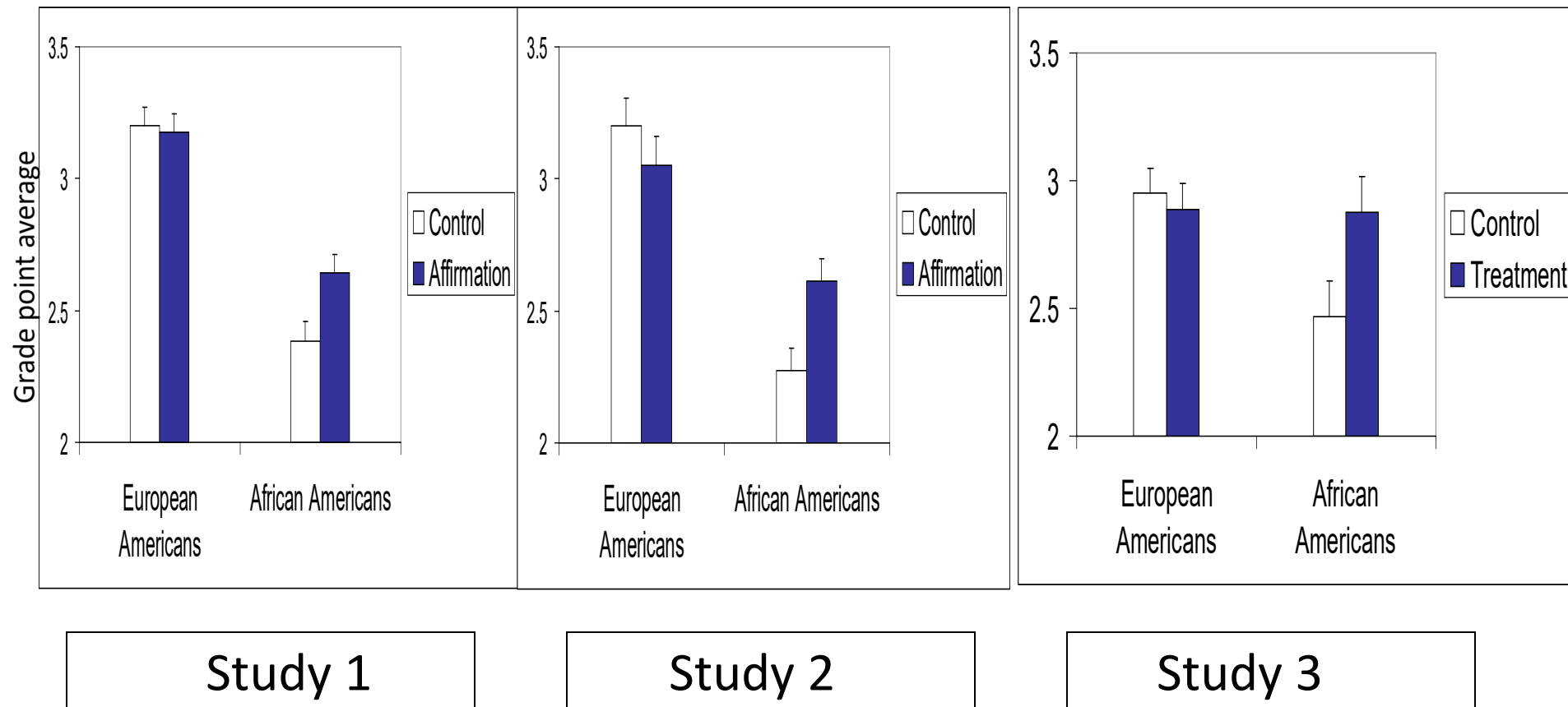
Source: Cohen, Garcia et al., 2006, *Science, 313*;
Cohen, Garcia, Purdie-Greenaway et al., 2009, *Science, 324*.

Replication with Disadvantaged Latino Middle Schoolers
Over three years
(Goyer et al. 2012, *PNAS*)

Goyer, et al. (2017) *Proceedings of National Academy of Sciences*

Values Affirmation in Middle School

Seven years after intervention, percentage of students in college:

- White students, both conditions   83%
- African American students, control   78%
- African American students, affirmation   92%*

*Comparison with control, p = 0.01

Goyer, et al. (2017) *Proceedings of National Academy of Sciences*

Successful applications of values-affirmations in college

First-generation students in an introductory biology sequence

Women in physics and in business school

White men with a low sense of belonging in school

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Social Issues
A Journal of the Society for the Psychological Study of Social Issues

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A meta-analysis of the effect of values affirmation on academic achievement

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We have no known conflict of interest to disclose. All study materials can be found on Open Science Framework https://osf.io/guxrc/.

Abstract
This meta-analysis assessed the impact of values affirmation on the academic achievement of students under social identity threats in actual classrooms. After a systematic search yielded 58 relevant studies, multilevel analyses identified an overall affirmation effect for identity-threatened students (Hedges' $g = .15$), not for identity-nonthreatened students (Hedges' $g = .01$). Heterogeneity in the affirmation effect was moderate to high for identity-threatened students, with effect sizes associated with (1) a larger covariate-controlled achievement gap between nonthreatened and threatened students in the control condition, suggestive of psychological underperformance, (2) the availability of financial resources in school, (3) more distal performance outcomes, and (4) the presentation of values affirmation as a normal classroom activity rather than a research study or a nonnormal classroom activity. Affirmation appears to work best when it is delivered as a normal classroom activity and where identity threat co-occurs with resources for improvement and time to await cumulative benefits.

Situation Crafting: General Principles

Consider the situation,

from the perspective of the student.

What are the elements of the situation that may be threatening belonging?

How can we weave messages of belonging into the day-to-day classroom or mentoring situation?

Expert tutors (Lepper & Woolverton, 2002)

Female peer mentors in STEM (Dennehy & Dasgupta, 2017)

Culturally relevant pedagogy (Gloria Ladson-Billings, Penner & Dee, 2021)

Structured pathways to success (Fisher, Mendoza-Denton, et al., 2019)

Thank you!