

**HOW DOES CONTENDING
WITH SOCIETAL STEREOTYPES AFFECT
STUDENT PERFORMANCE?**

Geoffrey Cohen
Stanford University

High Tech High Graduate School of Education, Oct. 6, 2010

Background

Problem of underperformance

Social psychological perspective

How students are affected when an identity they hold is under threat in the classroom

“I simply decided it would be better not to [mention my Jewish background]. 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 [T]his apartness did not emanate from any quality or wish of their own, but from the school—as if some guardian spirit, indifferent to their personal worth, had risen from the fields and walkways and weathered stone and breathed that apartness upon them.”

T. Wolff, *Old School*

Stereotype Threat

Fear of confirming a negative stereotype about one's group

Examples—

College transfer student

Stereotype Threat

Fear of confirming a negative stereotype about one's group

Examples—

College transfer student

Female science student

Stereotype Threat

Fear of confirming a negative stereotype about one's group

Examples—

College transfer student

Female science student

New teacher

Stereotype threat can cause stress, self-doubt, mistrust

→ Undermine performance

Stereotype Threat

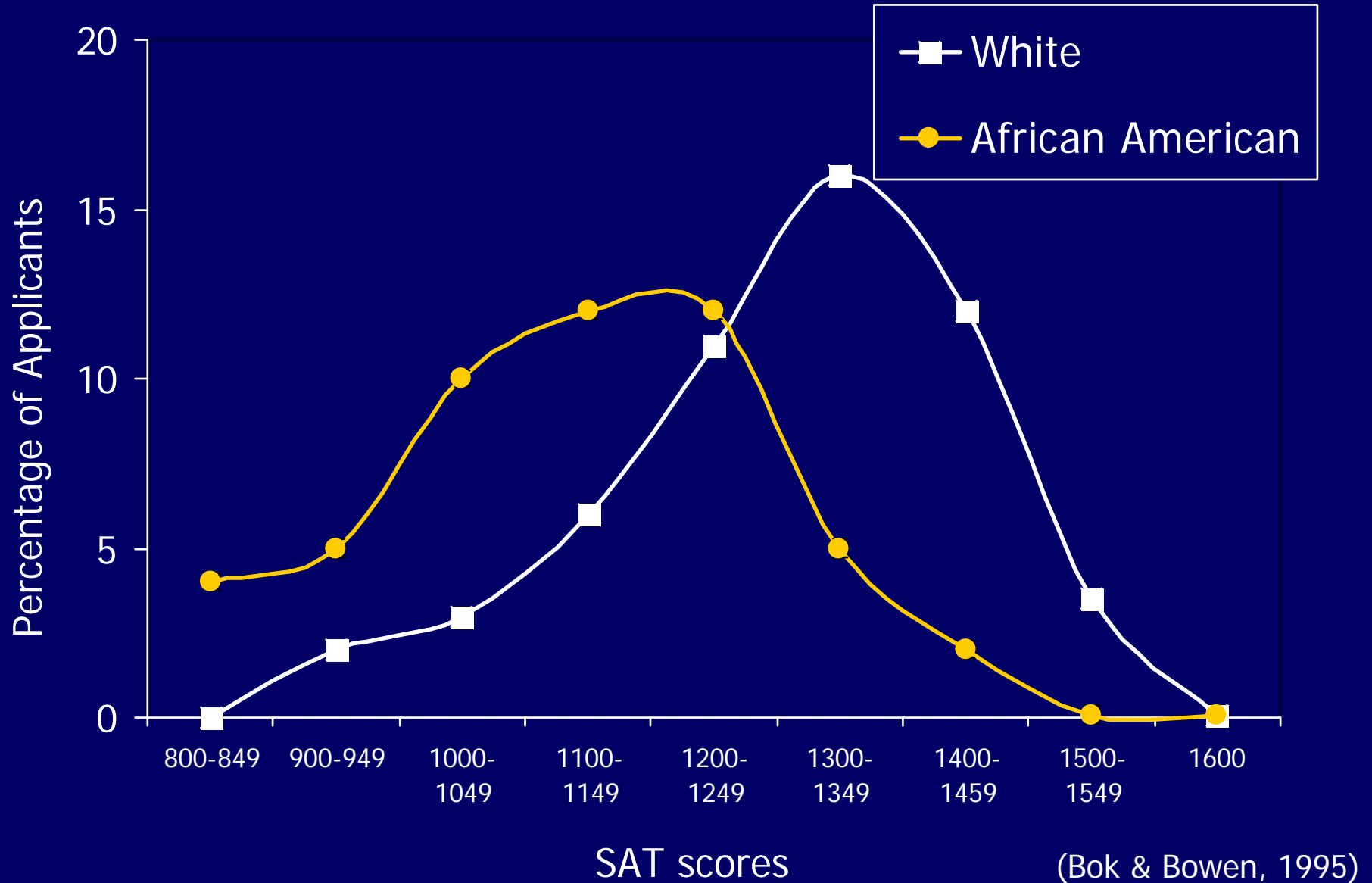
May be experienced by African Americans, Latino Americans, and Native Americans in school.

Can occur regardless of the actual level of prejudice in the environment.

“I knew I was just as intelligent as everyone else For some reason I didn’t score well on tests. Maybe I was just nervous. There’s a lot of pressure on you, knowing that if you fail, you fail your race.”

-Rodney Ellis, African American
State Senator (Texas), 1997

Combined SAT score by race



Stereotype Threat Experiment

Stereotype Threat Experiment

- African American students and White students
- Completed difficult GRE test

Ability Diagnostic Condition

“Test tells us something meaningful about your ability.”

Stereotype Threat Experiment

- African American students and White students
- Completed difficult GRE test

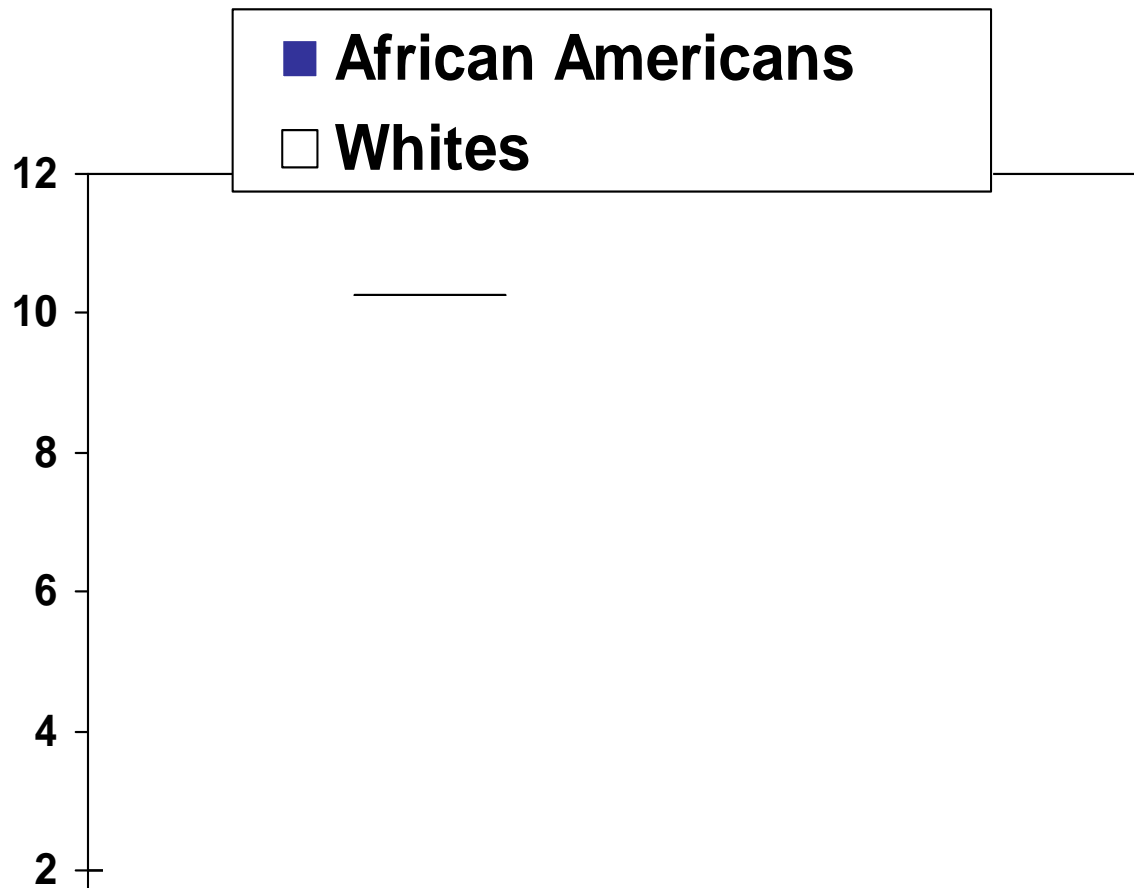
Ability Diagnostic Condition

“Test tells us something meaningful about your ability.”

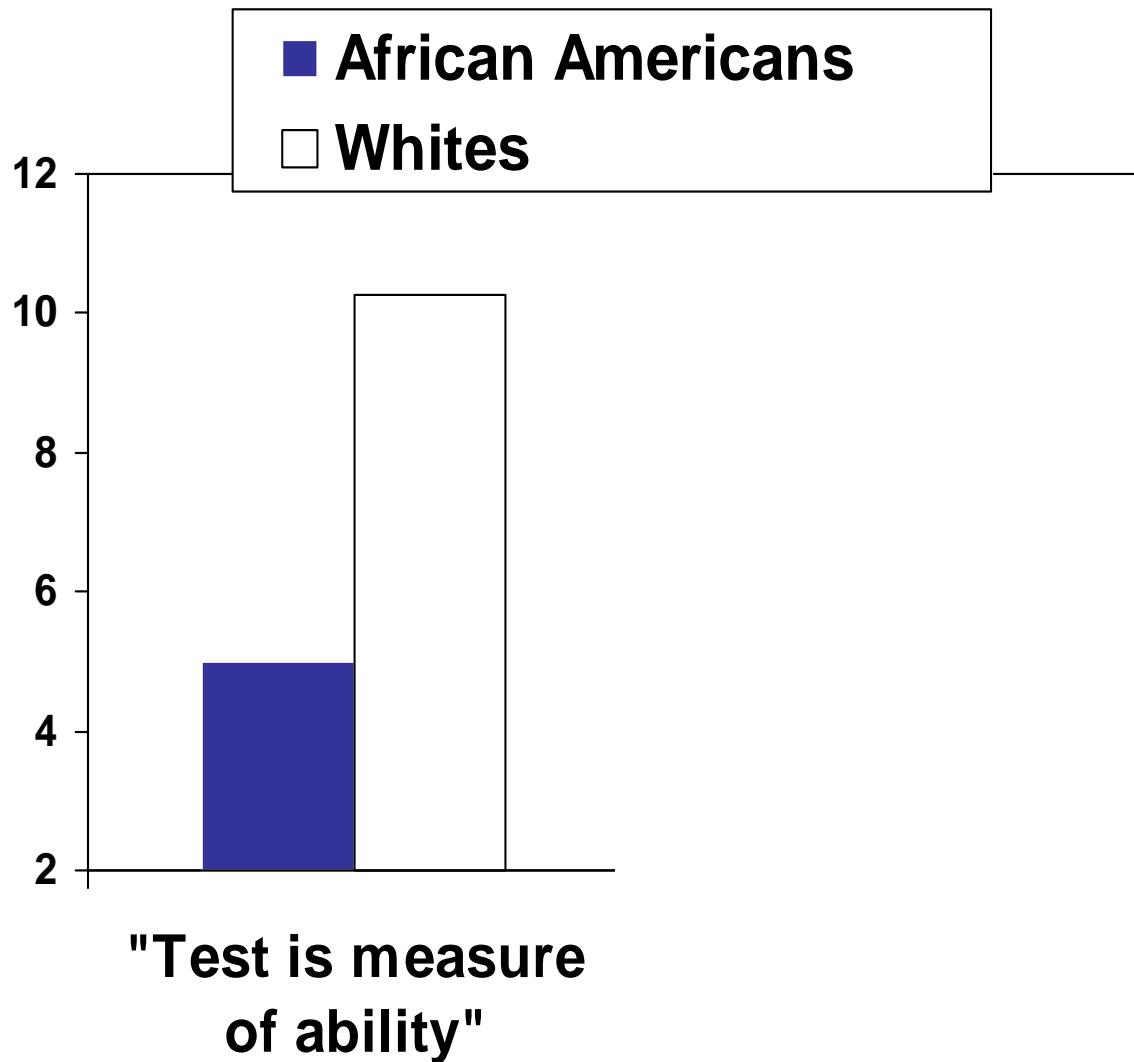
Non-Diagnostic Condition

“Test is a just an exercise to help us.”

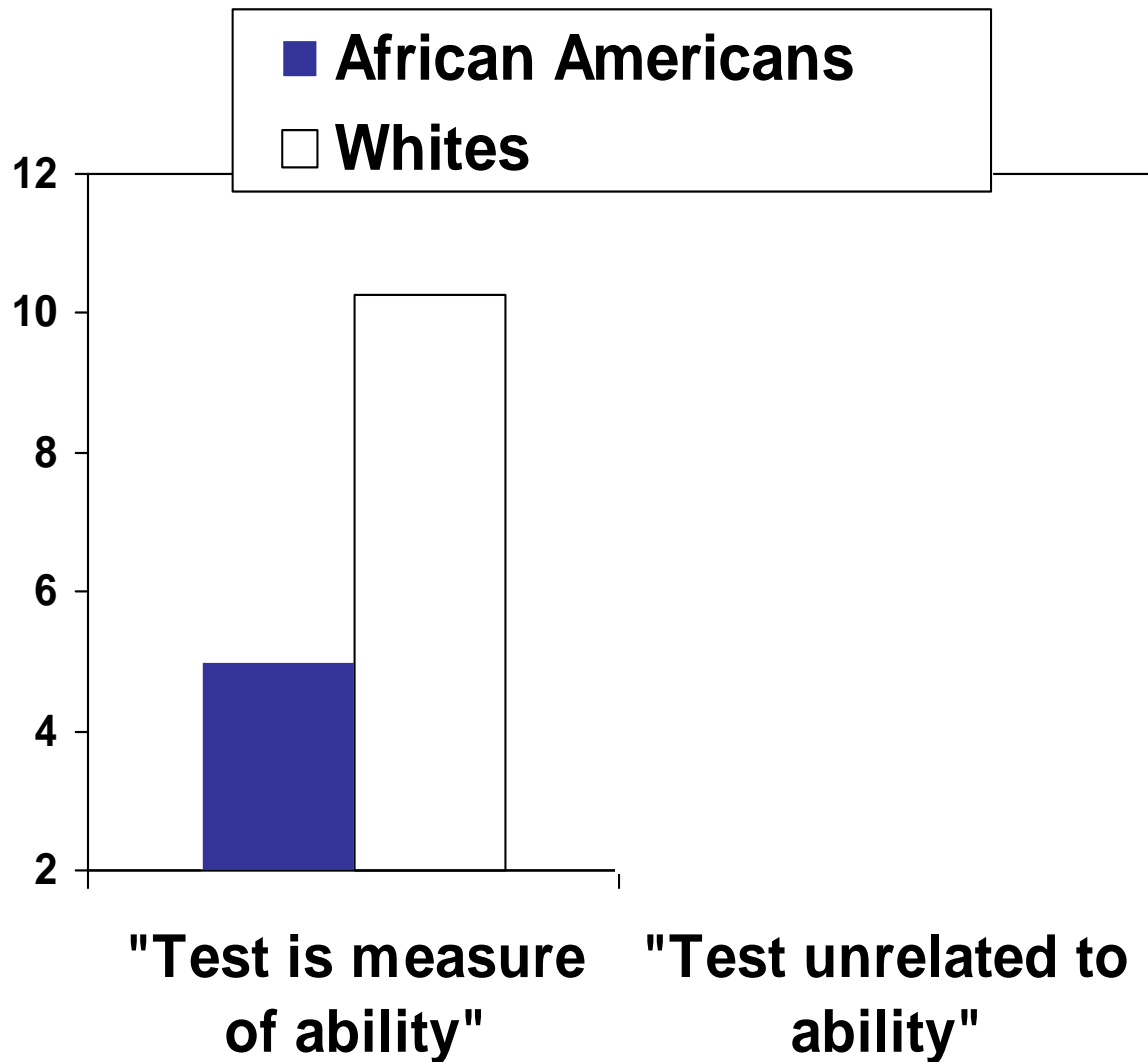
Test Performance (Number Correct)



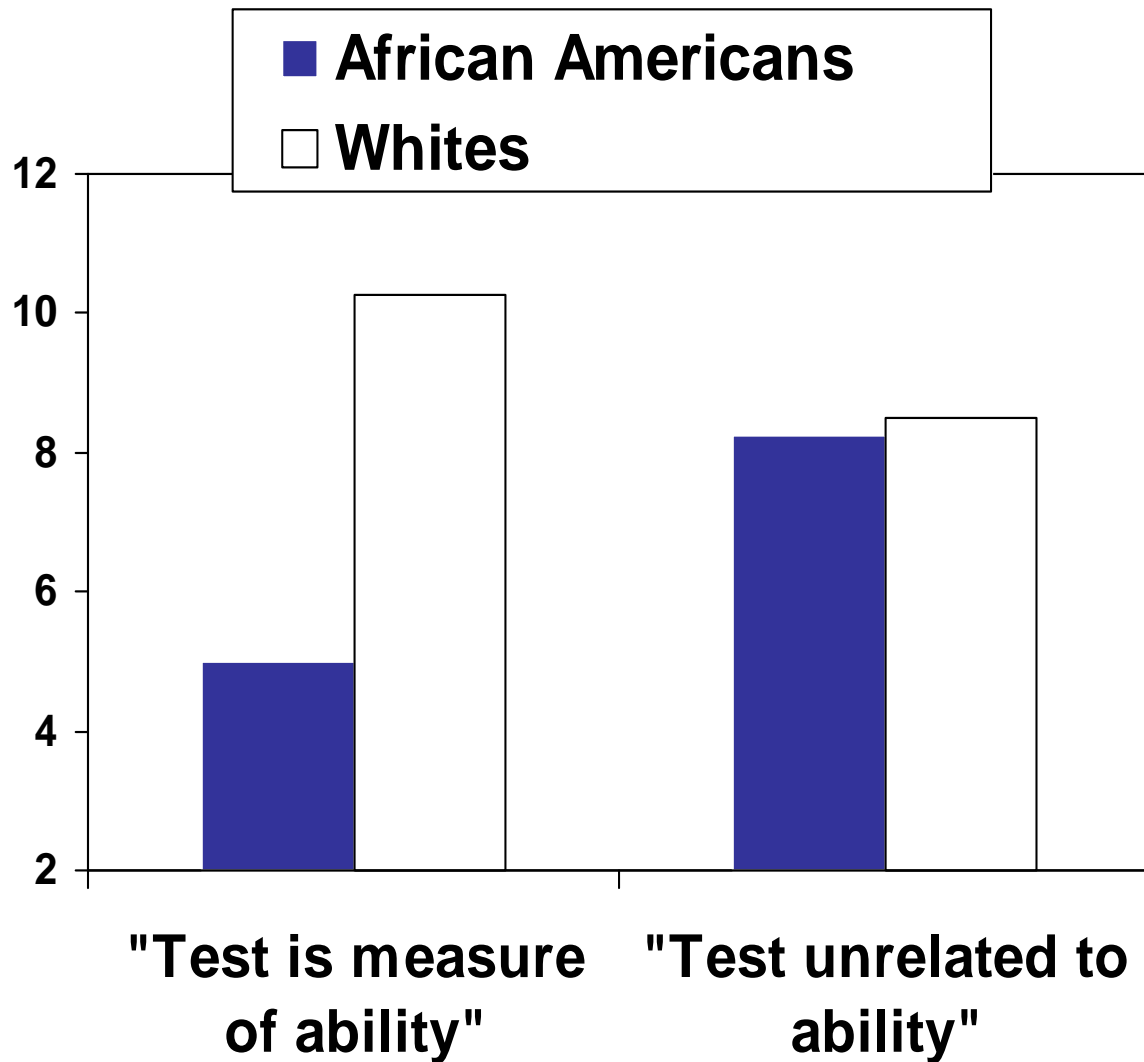
Test Performance (Number Correct)



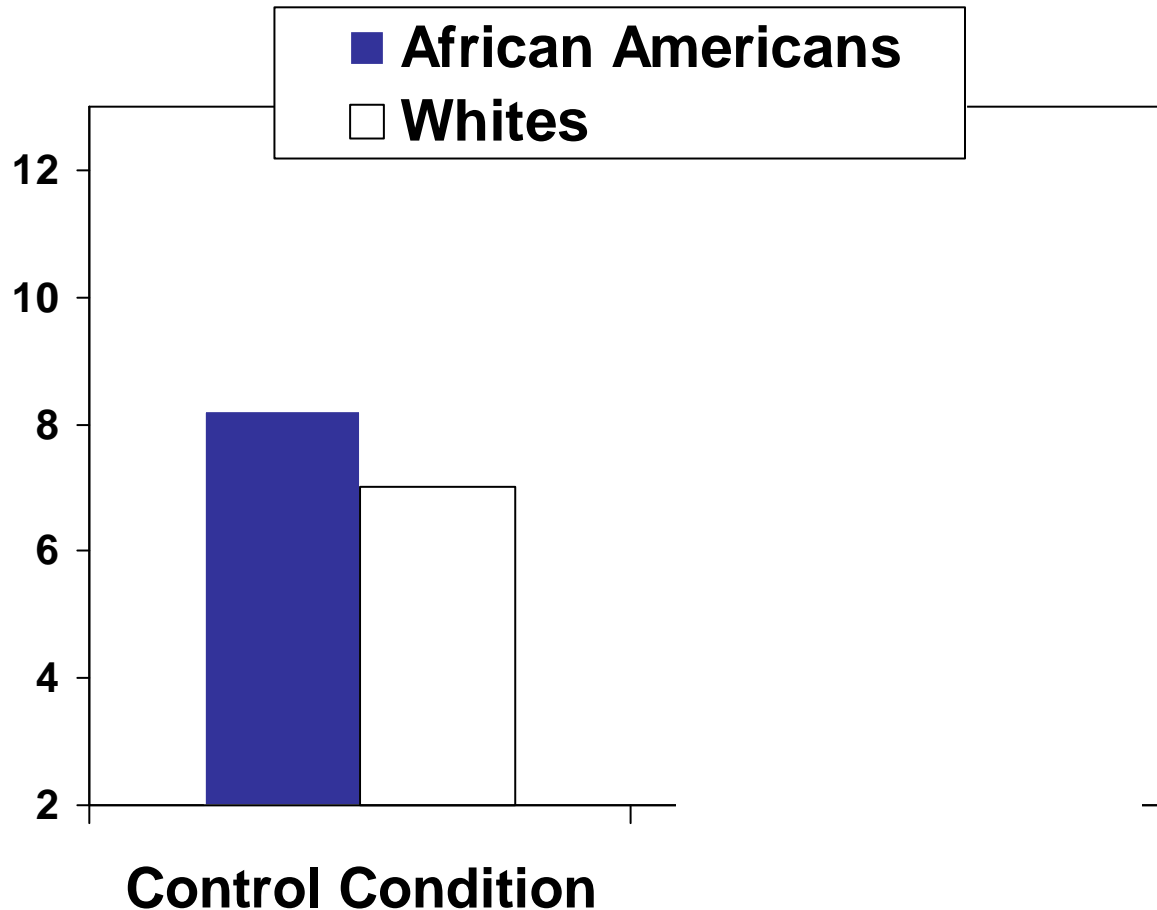
Test Performance (Number Correct)



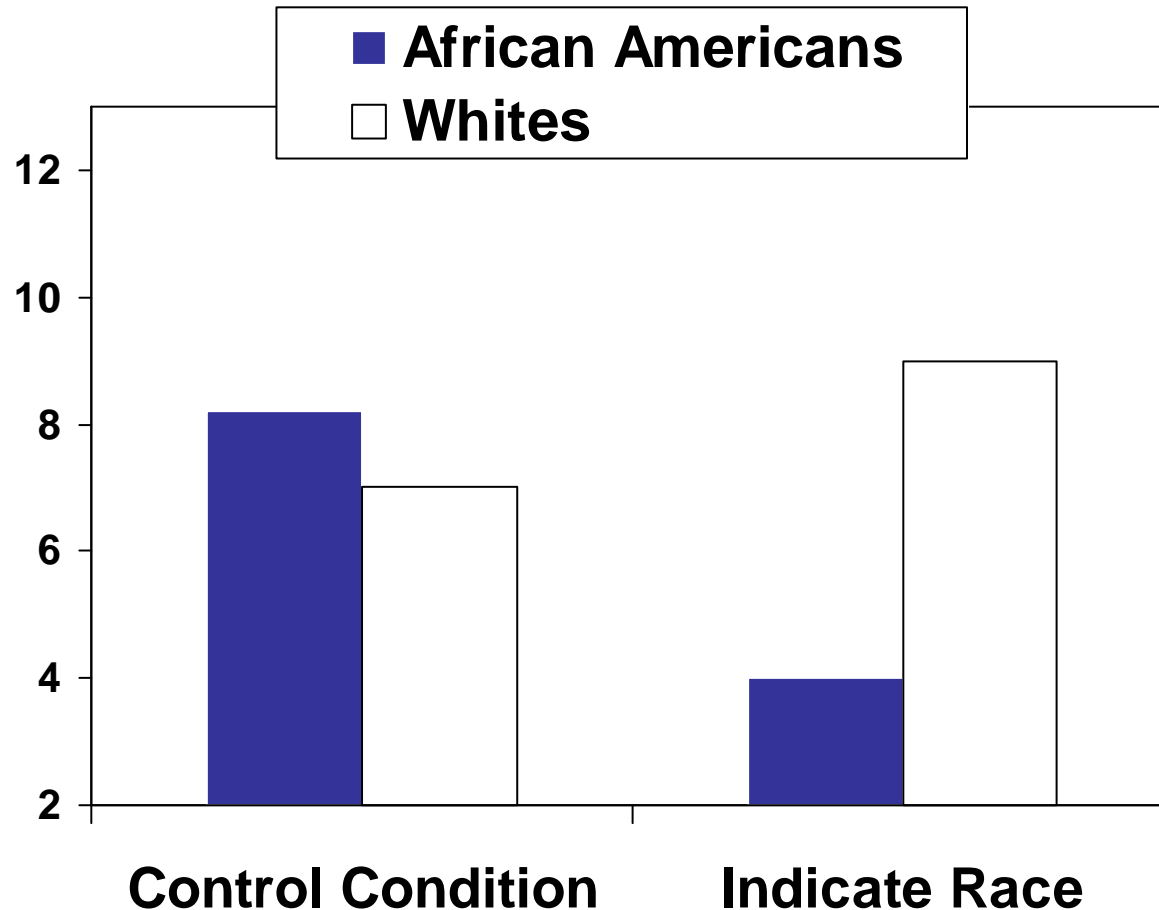
Test Performance (Number Correct)



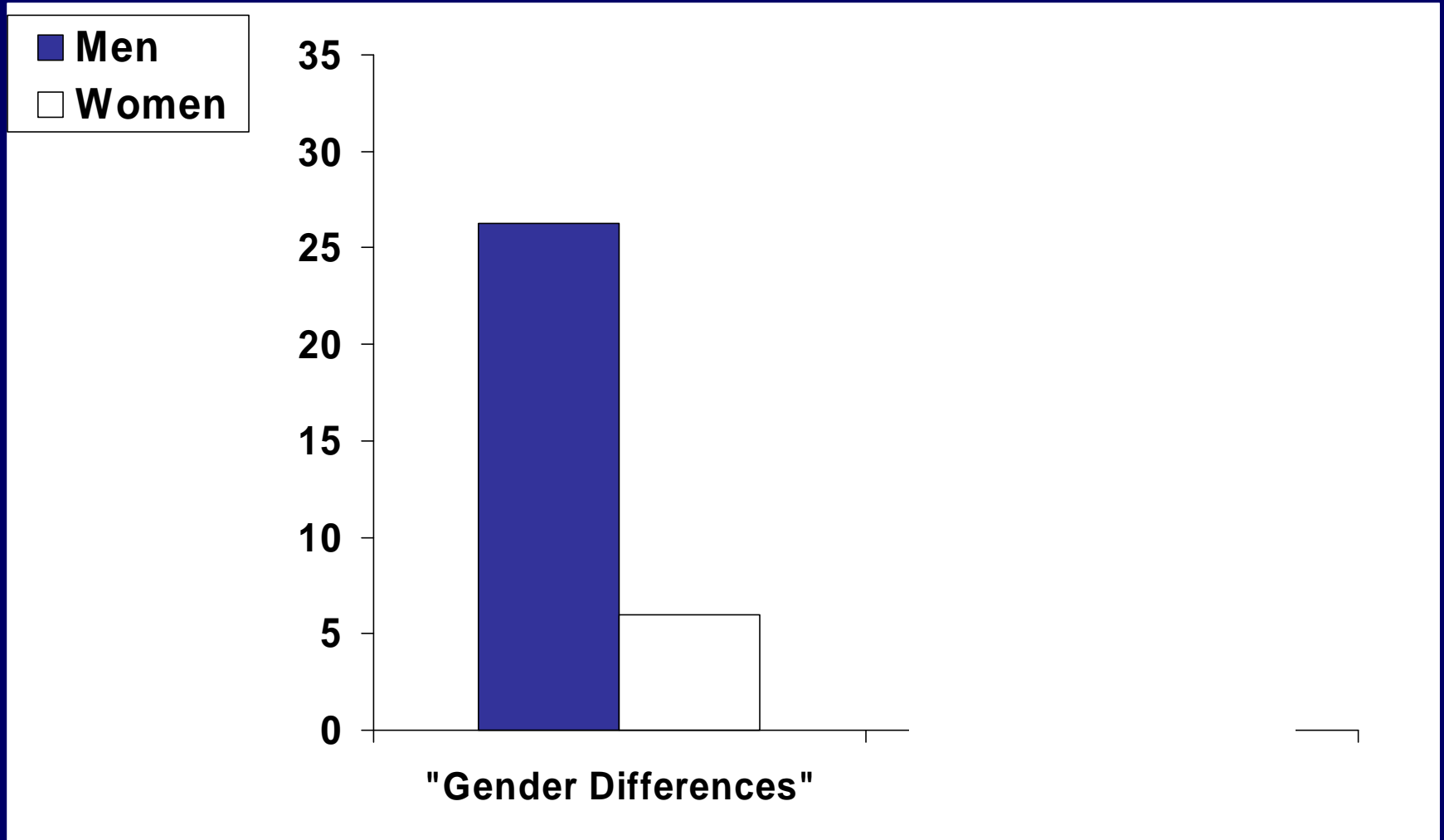
Performance on “Non-Diagnostic” Test (Number Correct)



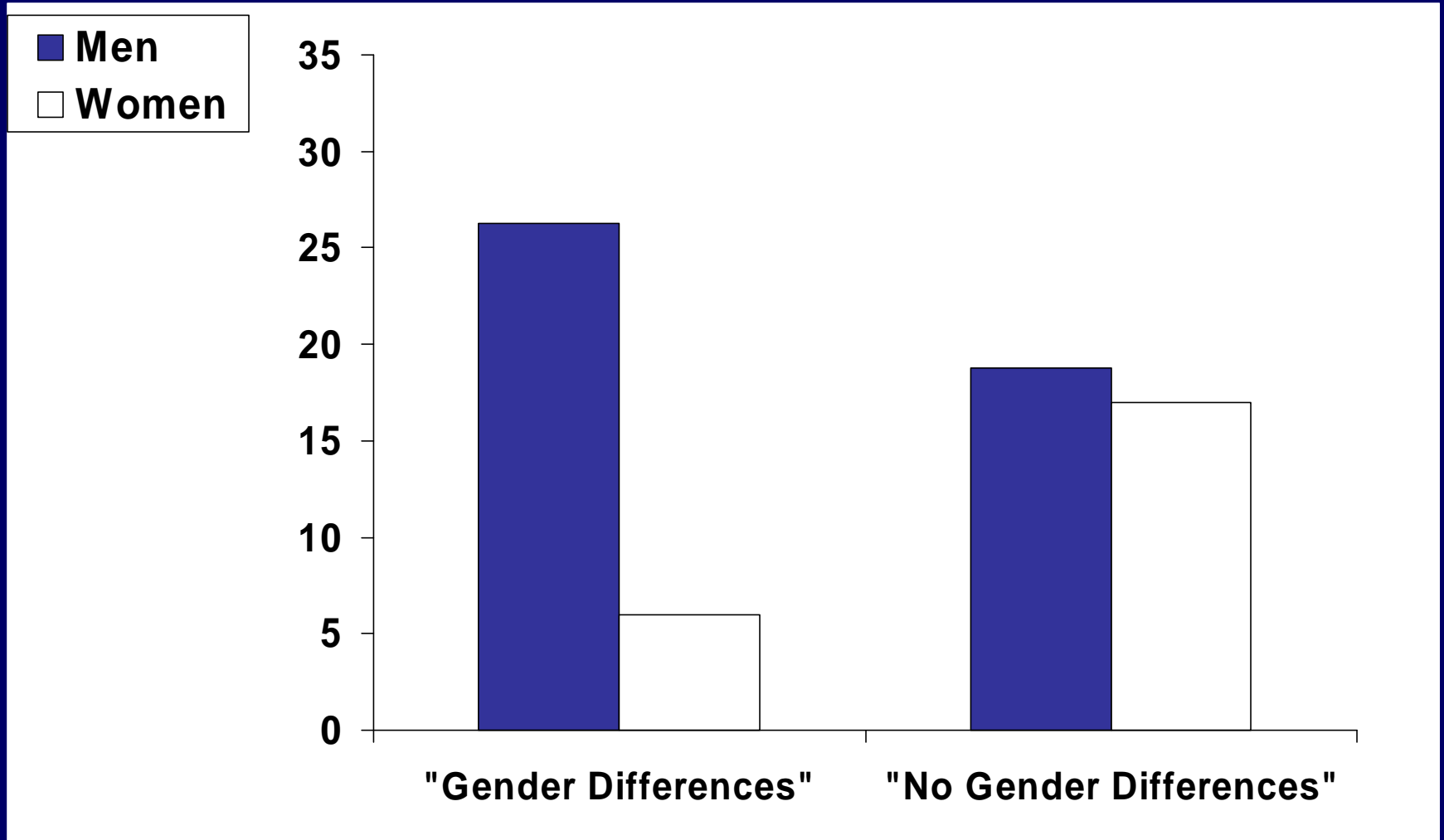
Performance on “Non-Diagnostic” Test (Number Correct)



Test Performance (Number Correct)



Test Performance (Number Correct)



Some Conclusions (from many studies)

- Stereotype threat most affects people who care about performance domain.

Some Conclusions (from many studies)

- Stereotype threat most affects people who care about performance domain.
- Stereotype threat emerges about grade 6.

Some Conclusions (from many studies)

- ❑ Stereotype threat most affects people who care about performance domain.
- ❑ Stereotype threat emerges about grade 6.
- ❑ Need not believe stereotype to experience stereotype threat.

Some Conclusions (from many studies)

- ❑ Stereotype threat most affects people who care about performance domain.
- ❑ Stereotype threat emerges about grade 6.
- ❑ Need not believe stereotype to experience stereotype threat.
- ❑ Subtle events can trigger stereotype threat.

Other Examples of Stereotype Threat

- Elderly and memory




Other Examples of Stereotype Threat

- Elderly and memory
- White men and math



Other Examples of Stereotype Threat

- Elderly and memory
 - White men and math
 - Whites and sports
- 

Other Examples of Stereotype Threat

- Elderly and memory
- White men and math
- Whites and sports
- Disadvantaged students and test performance

Lessons

- ❑ Identity threat can undermine performance, regardless of actual level of prejudice.
- ❑ Like any stressor, it makes performance less reflective of potential.
- ❑ It can be lessened through sometimes subtle changes in the educational situation, with sometimes large benefits for performance.

Stereotype Threat

Affects test performance

Does it affect feedback interaction?

And, what can be done to lessen it?

were not in London
except as verse
cl. ^{to} ^{was} ⁱⁿ ^{the} ^{verse}

The typist home at teatime, who begins
To clear ~~away~~ away her ~~broken~~ breakfast, lights
Her stove, and lays out squalid food ~~in time~~;
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 ~~filled~~, (at night her bed),
Are stockings, dirty camisoles, and ~~stays~~.

A bright kimono wraps her as she ~~arrives~~
In nervous ~~top~~ or 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 number of those crawling legs,
I too awaited the expected guest.

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

Prize did not fire him with ambitious rage,
His hair is thick with grease, and thick with scurf,
His ~~inclinations~~ inclinations touch the stage -
Not sharp enough to associate with the turf.

He is the young man carbuncular, ~~all~~ ~~stare~~
Bodily about, in "London's one cafe",
And he will tell her, ~~with~~ ~~a~~ ~~sure~~ ~~air~~,
"Grandly" "I have been with Nevinson today".

Perhaps a cheap house agent's clerk, who flits
Daily, from flat to flat, with one loud stare;
One of the row on whom assurance sets
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 unrequited, if undesired.

the
dona
les
goffe
de pa
vina

invention
not warranted
by any real
evidence
not in

Tou
Toung

Personal

Perhaps
be damn

all around
nights

mix of
9/10 complete
+ girls
not good

Mentor's Dilemma

How do we provide critical feedback without undermining students' motivation?

This dilemma may be especially acute across lines of difference.

How can teachers and mentors provide effective feedback across racial lines?

How can teachers and mentors provide effective feedback across racial lines?

- Intuitive strategies can backfire
 - Superfluous positive feedback (Lepper)

How can teachers and mentors provide effective feedback across racial lines?

- Intuitive strategies can backfire
 - Superfluous positive feedback (Lepper)
 - Praising students' ability (Dweck)

Successful Mentors and Interventions

- Emphasize high standards
- Assure students of their capacity to reach those standards

Examples

- Treisman's Calculus Workshops
- Xavier University
- Kay Toliver
- Jaime Escalante
- Lepper's Expert Tutors
- Levin's Accelerated Schools
- Georgia Tech's Engineering Curriculum
- Steele's 21st Century Program

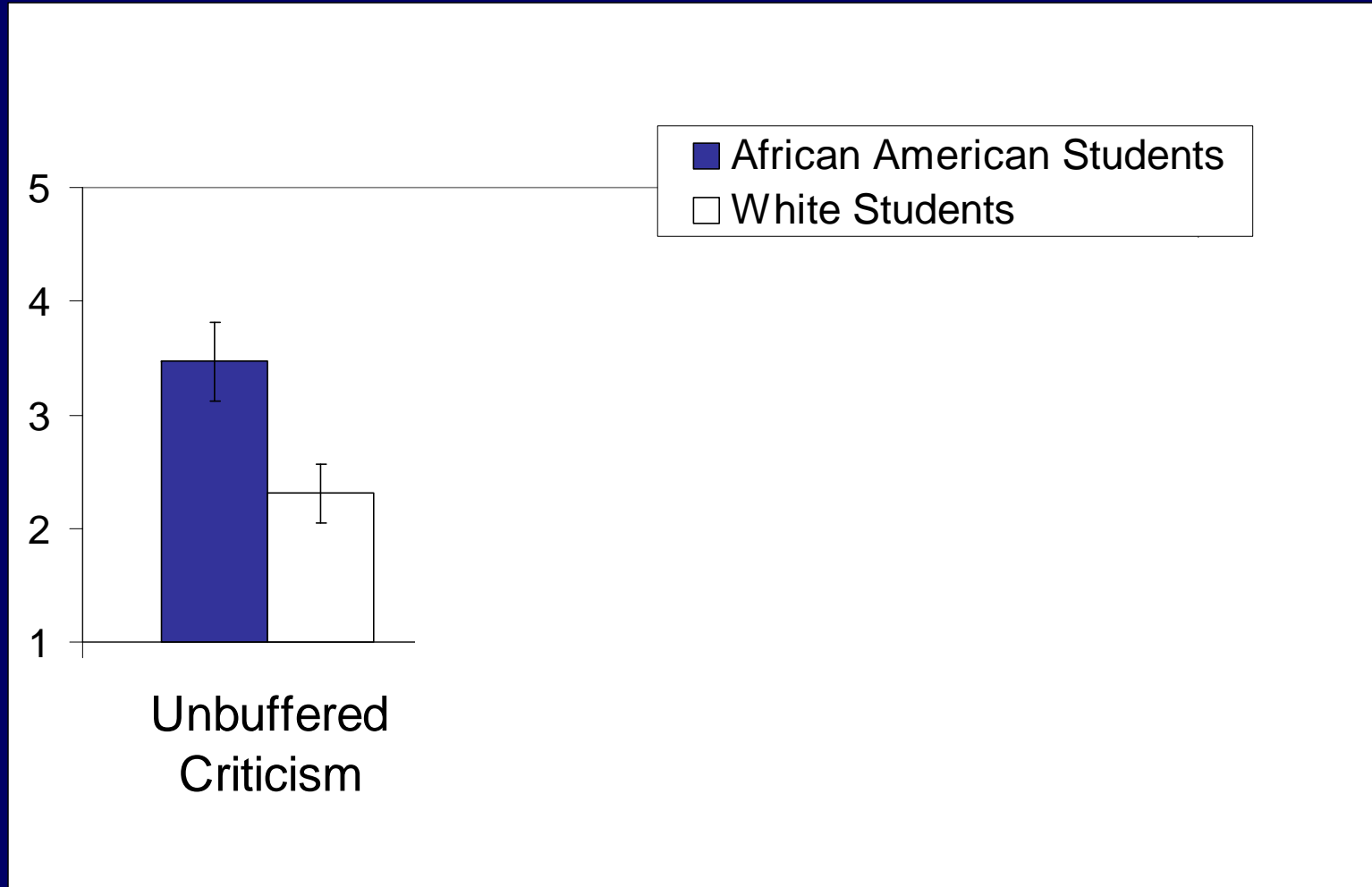
Student essays about favorite teachers suggest importance of high standards and assurance

- “[My teacher] taught me to believe in doing the little things right to make something big in the future. A couple of months ago, I asked him why he did so much for me in high school, his response was “I always go to bat for the kids I believe in.” [My teacher] has always believed in me and taught me to believe in myself.”

Building trust in the feedback interaction: Study Procedure

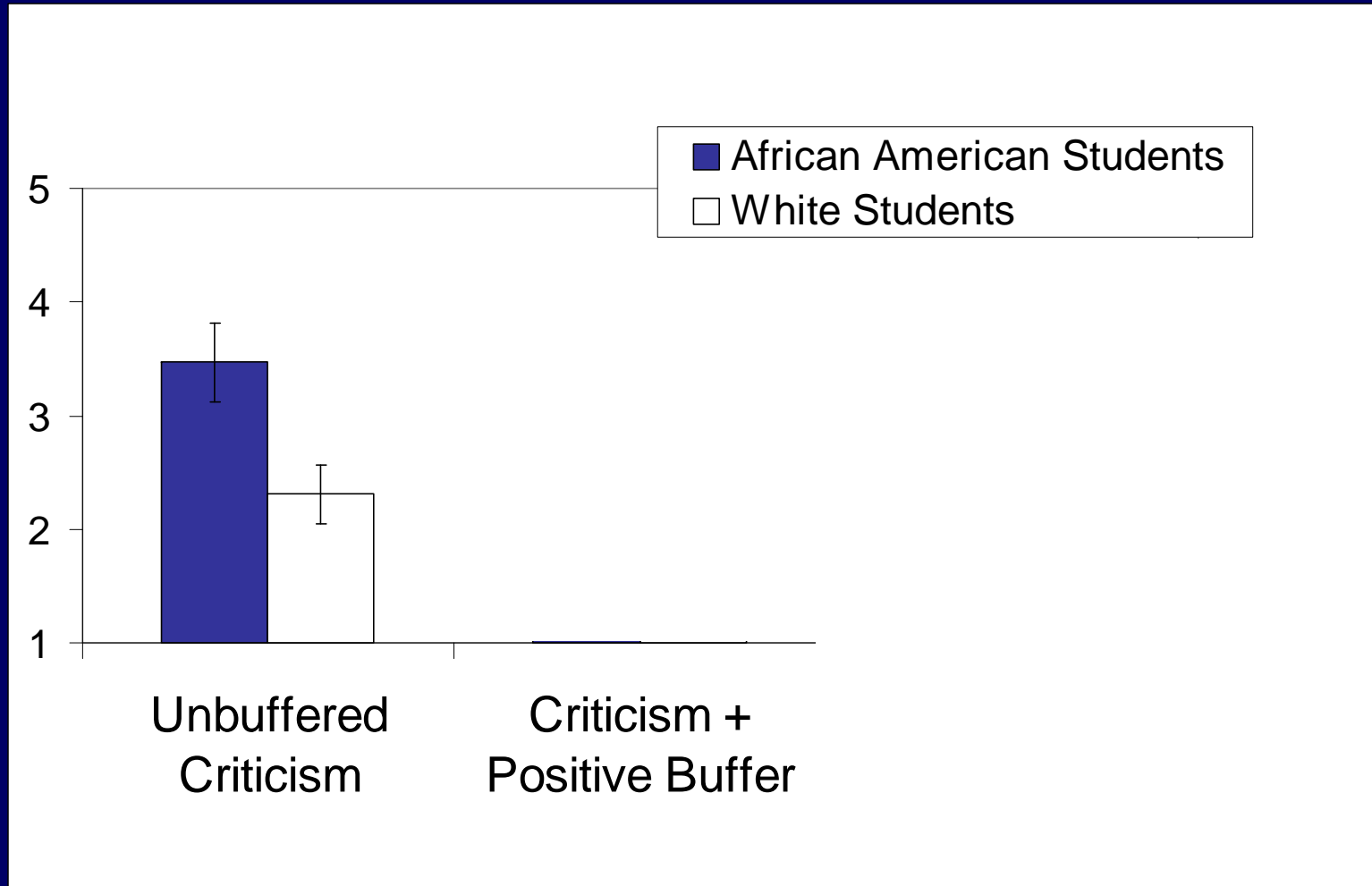
- Black college students and White college students wrote essay.
- Photo attached to essay.
- Received critical feedback from White professor under three different conditions.

Perceived Evaluator Bias



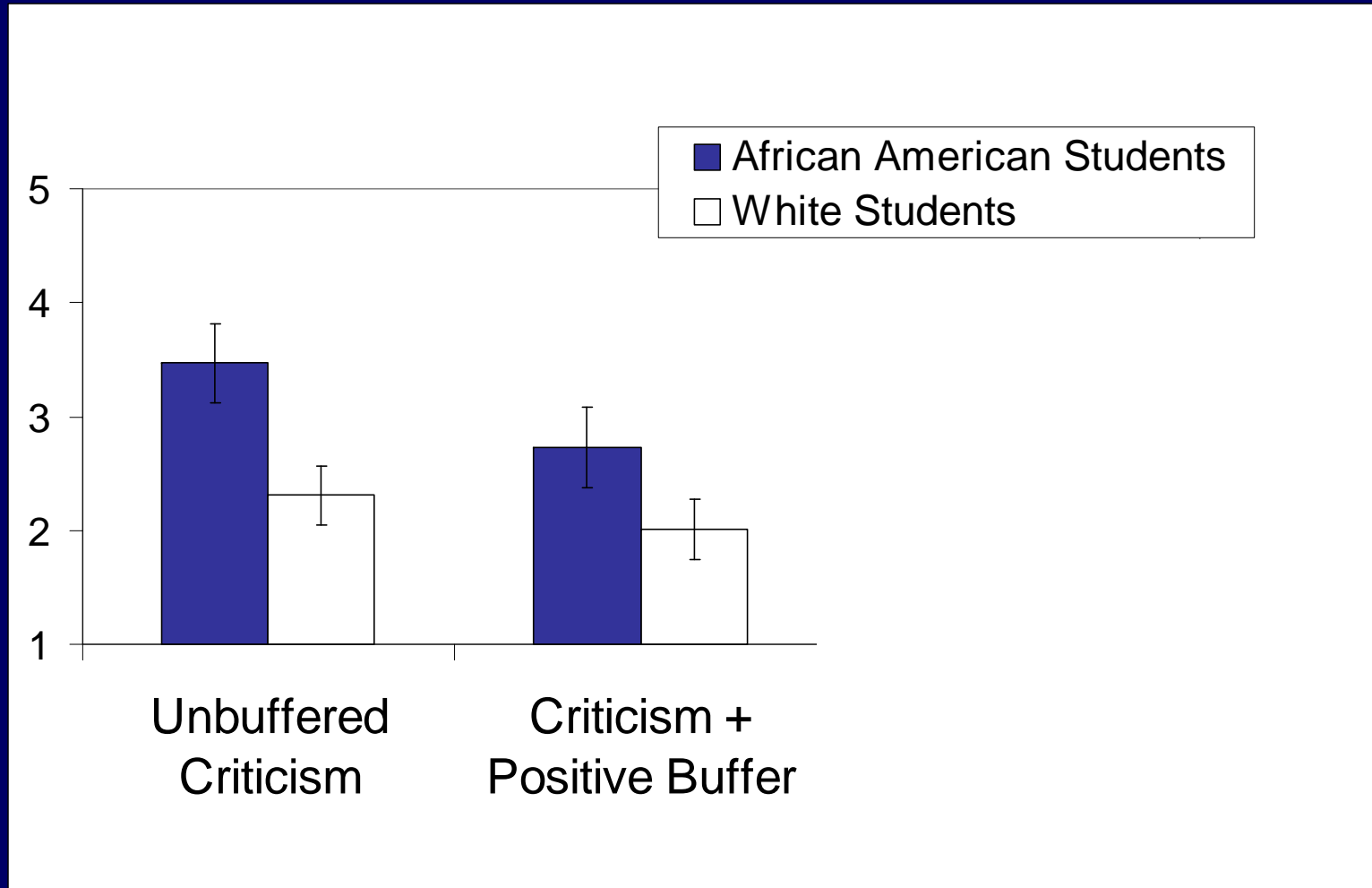
Scale range: 1-7

Perceived Evaluator Bias



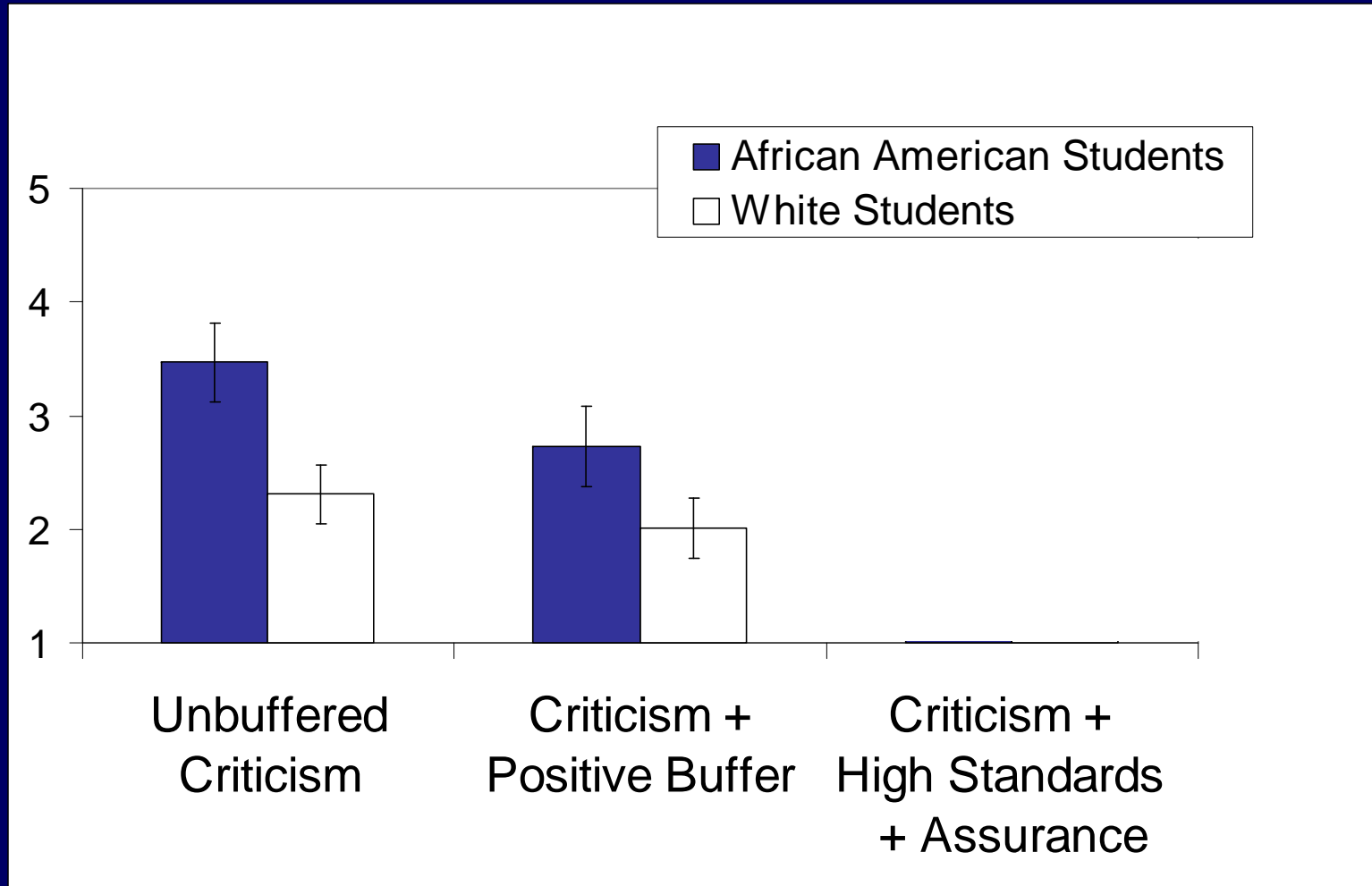
Scale range: 1-7

Perceived Evaluator Bias



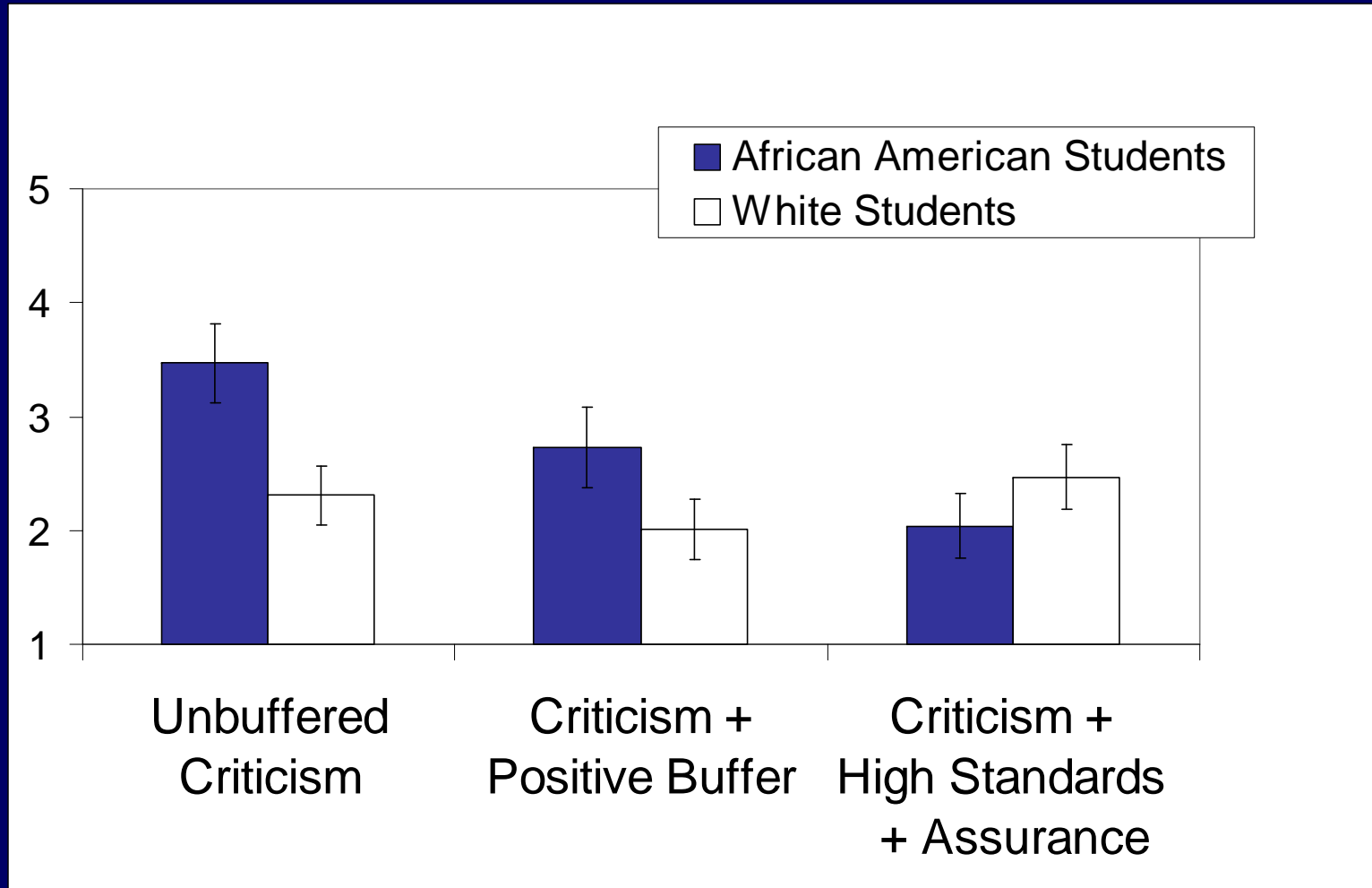
Scale range: 1-7

Perceived Evaluator Bias



Scale range: 1-7

Perceived Evaluator Bias



Scale range: 1-7

The same processes occur for other negatively stereotyped groups

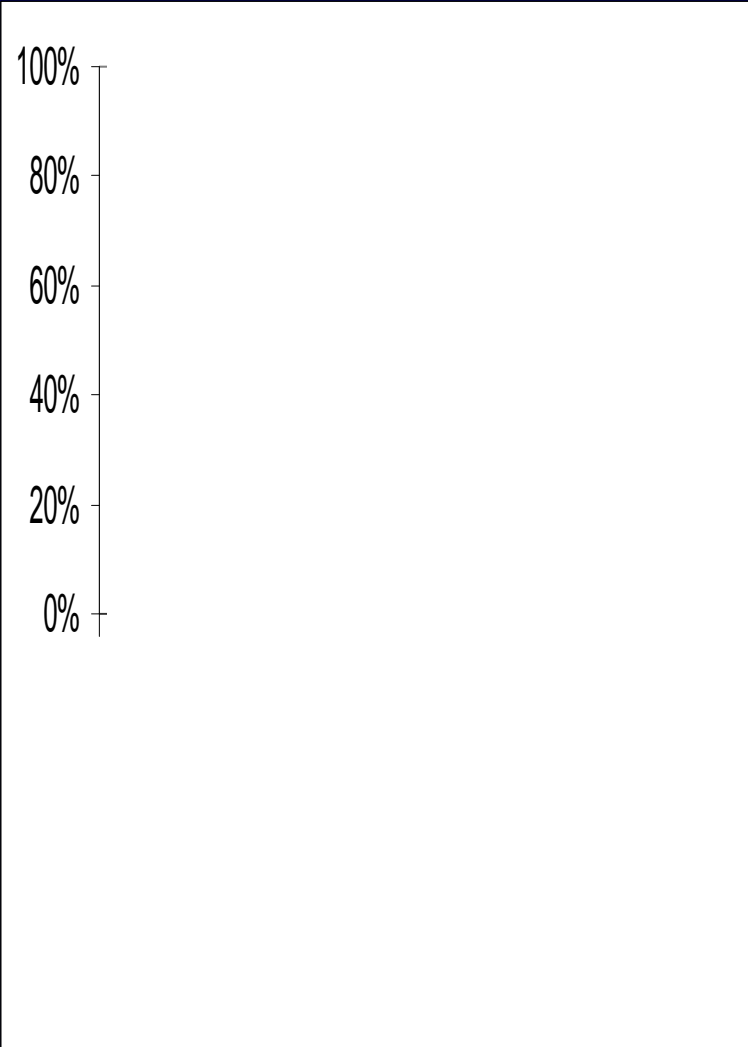
- Women in science
- White men in sports

Does wise feedback work in an actual classroom?

- Field experiment in middle school
- We created collaborative curriculum module with teachers.
 - In class, children discussed meaning of hero
 - Wrote essay about personal hero
 - Received structured critical feedback from their teacher
 - A random half of students received the message of high standards and assurance
 - All students asked to revise essay

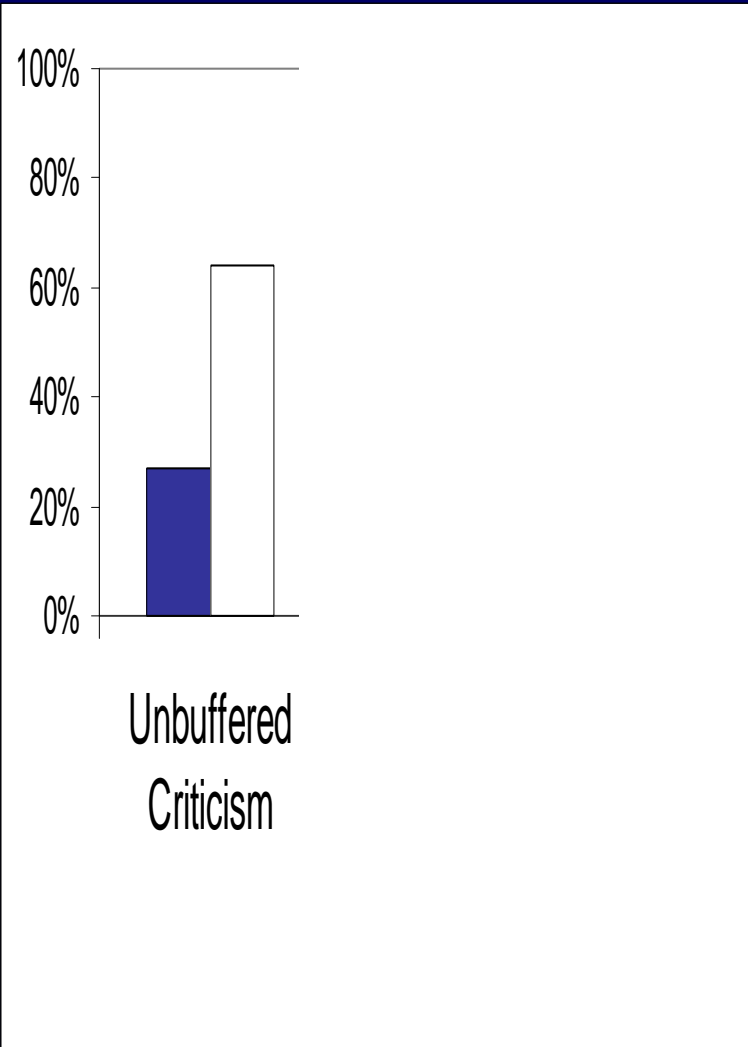
Study 1

Percentage Submitting Revision



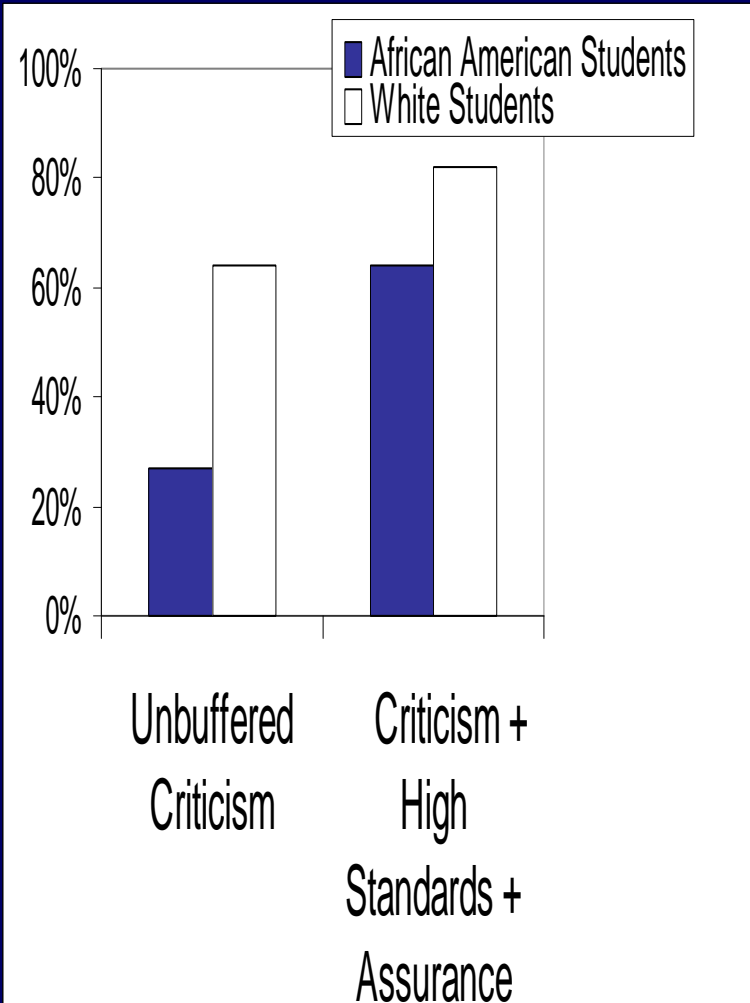
Study 1

Percentage Submitting Revision

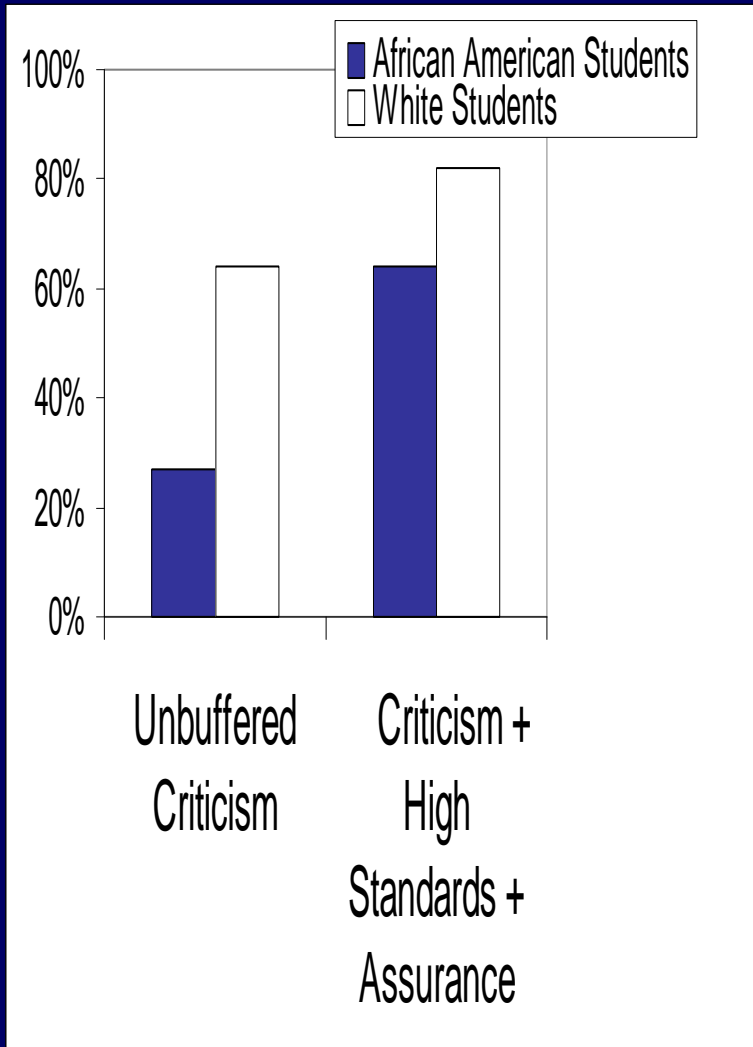


Study 1

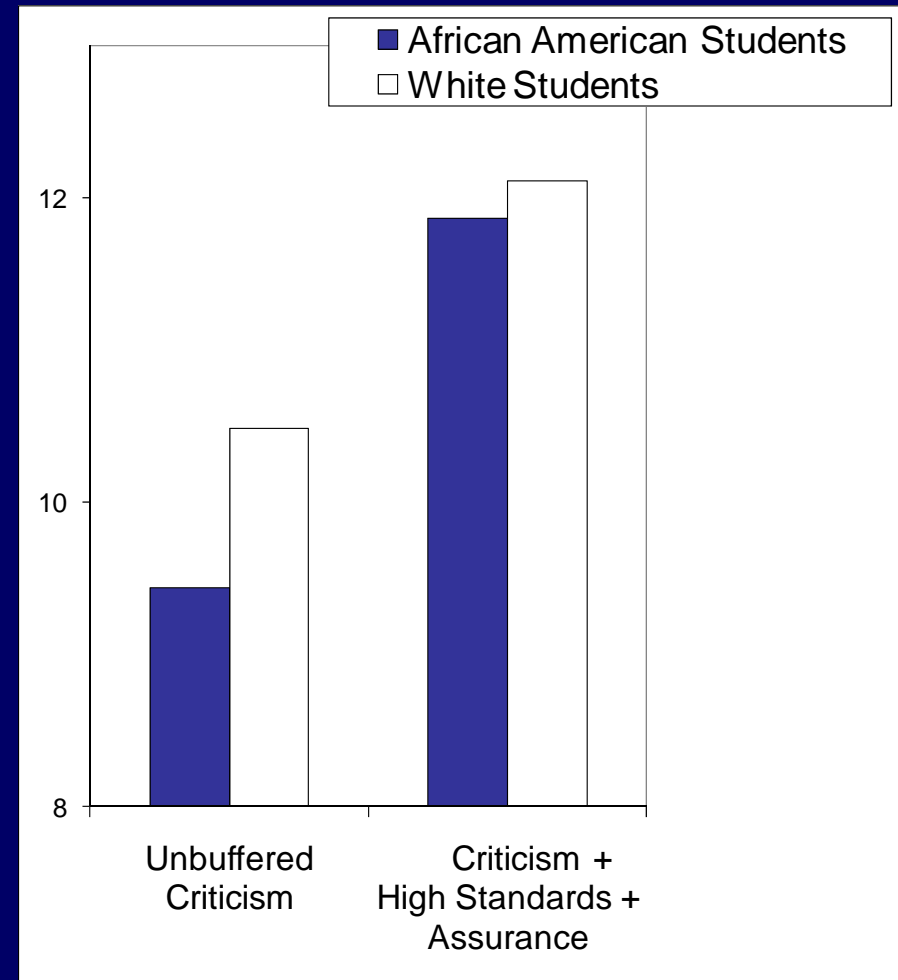
Percentage Submitting Revision



Study 1 Percentage Submitting Revision



Study 2 Quality of Revision



Feedback intervention: Summary

Race and gender can create mistrust in teacher-student interaction.

Intuitive strategies can backfire.

Theory-driven strategies can help resolve ambiguity and improve motivation.

Stereotype Threat

Consequences for:

Test performance

Learning from feedback

**HOW CAN WE INTERVENE TO
LESSEN
STEREOTYPE THREAT?**

**Positive forces in student and
academic environment**

```
graph TD; A([Positive forces in student and academic environment]) --> B([School performance]);
```

The diagram consists of two white-outlined ovals on a dark blue background. The top oval contains the text 'Positive forces in student and academic environment'. A thick white arrow points vertically downwards from the bottom center of this oval to the top center of a second oval below it. The second oval contains the text 'School performance'.

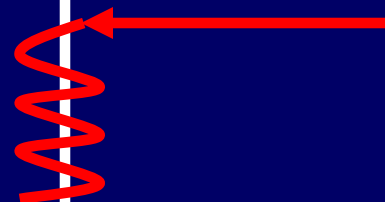
School performance

Positive forces in student and academic environment



School performance

Psychological threats



**Positive forces in student and
academic environment**

The diagram features a dark blue background. At the top, a white-outlined oval contains the text 'Positive forces in student and academic environment' in yellow. A thick white arrow points vertically downwards from this oval to a green-outlined oval at the bottom containing the text 'School Performance' in green. To the right, a blue-outlined oval contains the text 'Psychological Threats' in white. A thin white horizontal line with an arrowhead at its left end points from the 'Psychological Threats' oval towards the white arrow. A white wavy line is drawn over the white arrow, starting from the 'Psychological Threats' oval and extending downwards.

Psychological Threats

School Performance

Helping students contend with threat: Strategies

- Wise feedback

Helping students contend with threat: Strategies

- Wise feedback
- Expert tutors

Helping students contend with threat: Strategies

- Wise feedback
- Expert tutors
- Education about stereotype threat

Helping students contend with threat: Strategies

- Wise feedback
- Expert tutors
- Education about stereotype threat
- Teaching people that intelligence is changeable

Helping students contend with threat: Strategies

- Wise feedback
- Expert tutors
- Education about stereotype threat
- Teaching people that intelligence is changeable
- Buttressing a sense of belonging

Helping students contend with threat: Strategies

- Wise feedback
- Expert tutors
- Education about stereotype threat
- Teaching people that intelligence is changeable
- Buttressing a sense of belonging
- Values affirmation

Helping students contend with threat: Strategies

- Wise feedback
- Expert tutors
- Education about stereotype threat
- Teaching people that intelligence is changeable
- Buttressing a sense of belonging
- ***Values affirmation***

Reducing Threat: Values Affirmation Intervention

Values affirmation

Reminder of source of self-integrity, such as writing about important value

Values affirmation reduces psychological threat and stress

Uses expressive writing

Exceptional mentors sometimes encourage students to reflect on important values

Erin Gruwell: Freedom Writers.

Student essays about favorite teachers:

"I can remember the first day of practice when [my coach] held up his hand, fingers spread wide, and said, 'I start every season by going over the list of five.' This list was not any sort of defensive formation or practice structure, it was a ranking system he used for his life. The list of five were God, family/friends, health, academics, and athletics. If any problem or conflict arose, he would simply ask, 'where is it on your list?'"

Values Affirmation Field Experiment

- Middle school sites
- Middle school seems to be a developmental fork in the road
- African American and Latino American students may be at relatively greater risk partly because

Values Affirmation Field Experiments

- Randomized, double-blind experiments
- Tailored and personalized structured writing exercises, integrated into middle-school classroom over 1-2 years. Developed with teachers at school site.
- Administered several times, at periods of high stress.

Values Affirmation Field Experiment

- Two experimental conditions

Affirmation condition

Students wrote about important value

Control condition

Students wrote about unimportant value or
or neutral topic



[Affirmation Condition Worksheet:]

WHAT ARE YOUR PERSONAL VALUES?



The **most** important values to me are: (circle two or three)

Athletic Ability

Being Good at Art

Creativity

Independence

Living in the Moment

Membership in A Social Group

(such as your community, racial group, or school club)

Music

Politics

Relationships with Friends or Family

Religious Values

Sense of Humor



Excerpts from affirmation exercise

"[Art] is important to me because it makes me feel calm. When I'm very upset, like I'm going to cry I sit down and start listening to music or start drawing a picture."

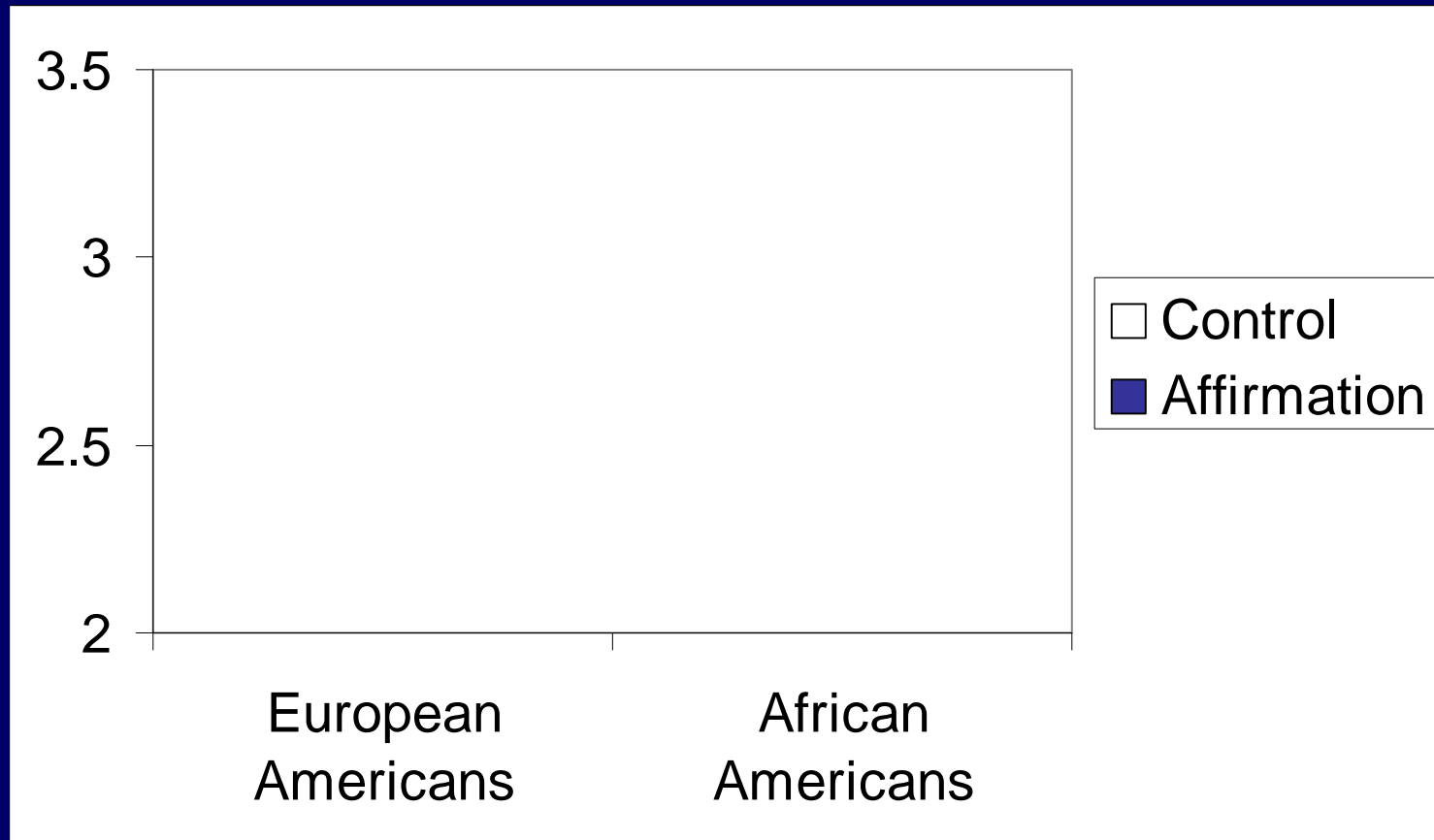
"If I didn't have creativity, I'd be bored out of my mind."

"If I didn't have my family, I [wouldn't] be raised right and if I didn't have my friends I would be a boring person. If I didn't have my religion, I wouldn't know what to do, I would be lost."

RESULTS

Official school records: Grade Point Average

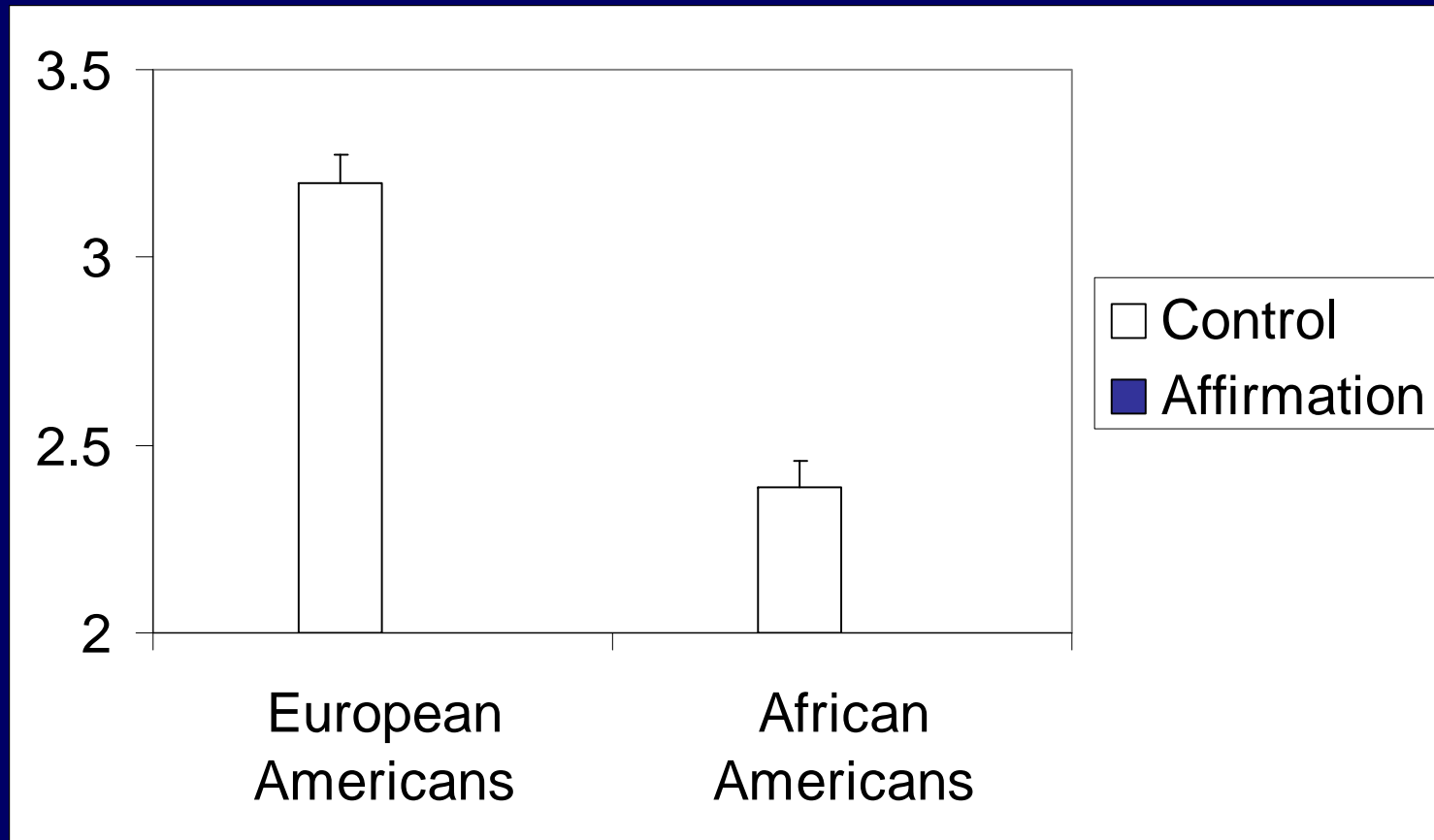
End-of-term course grade



Covariates in analysis of each racial group: Prior performance, teacher

Cohen, Garcia, Apfel, & Master, 2006, *Science*

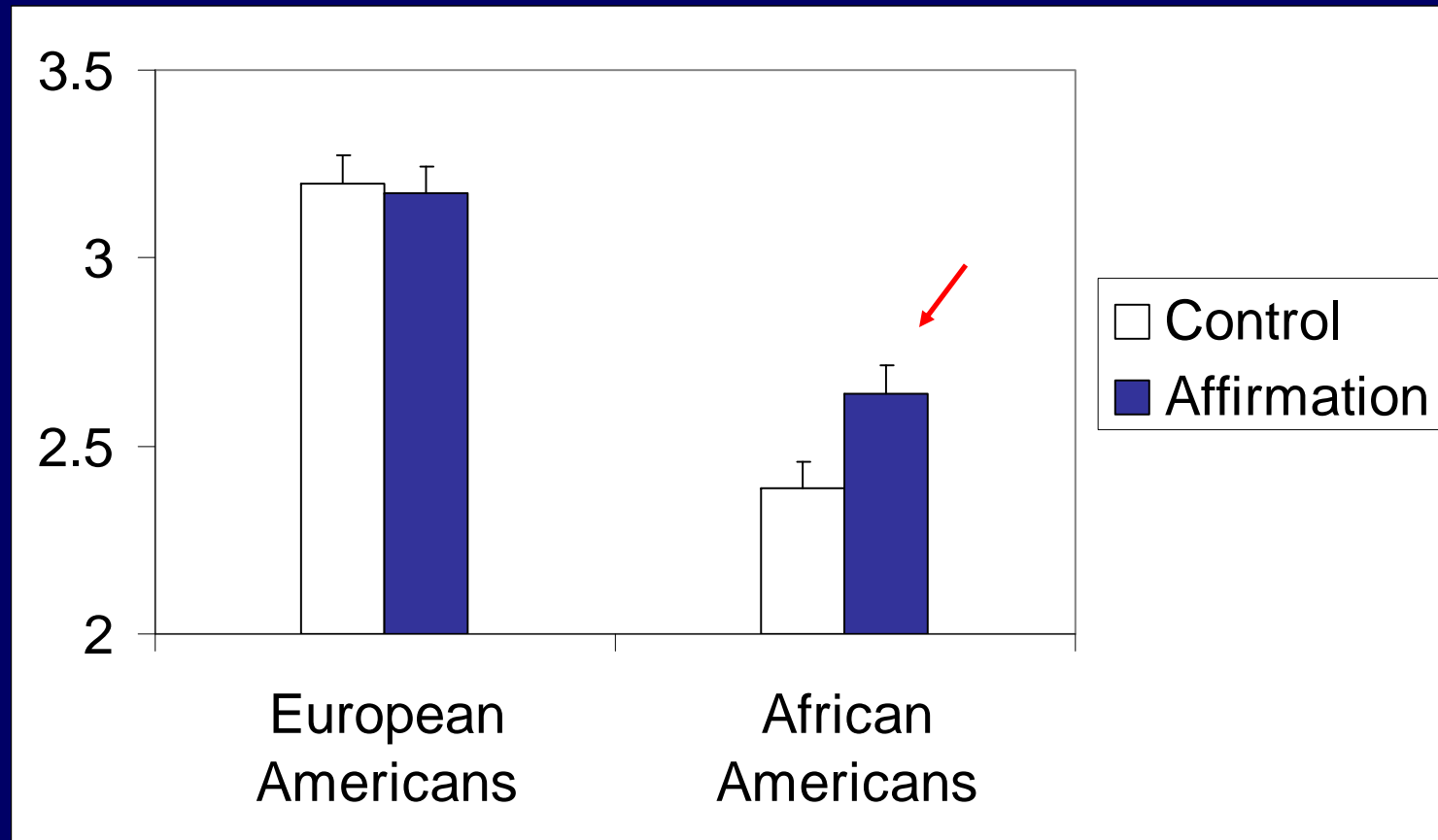
End-of-term course grade



Covariates in analysis of each racial group: Prior performance, teacher

Cohen, Garcia, Apfel, & Master, 2006, *Science*

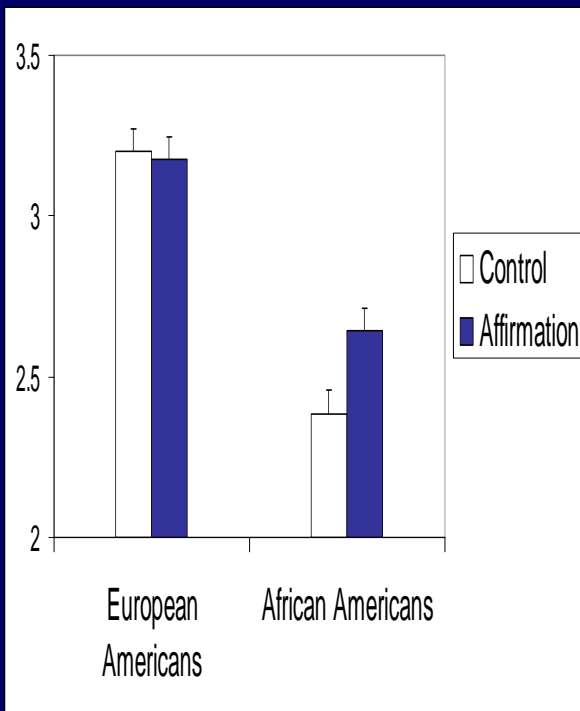
End-of-term course grade



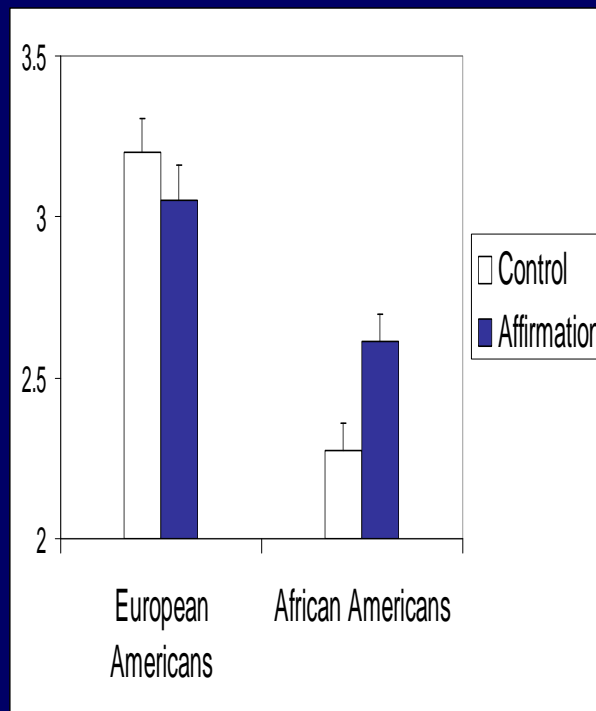
Covariates in analysis of each racial group: Prior performance, teacher

Cohen, Garcia, Apfel, & Master, 2006, *Science*

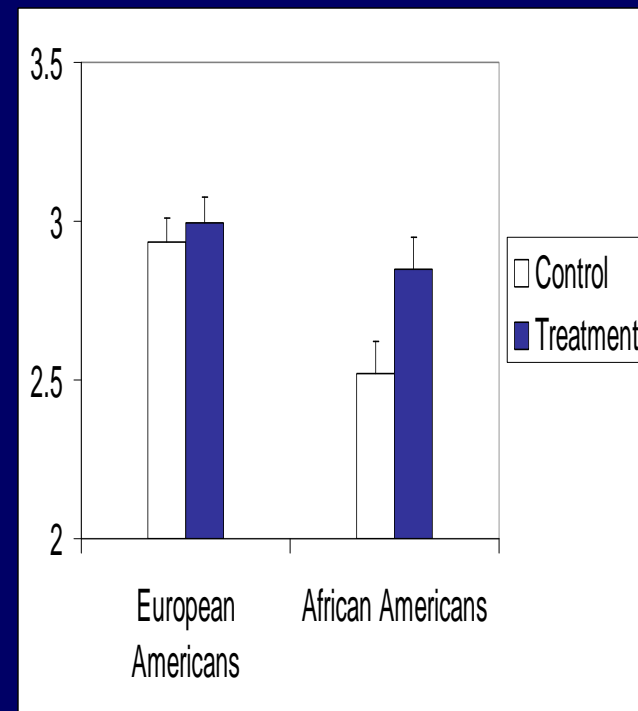
Original Study and Two Replications



Study 1



Study 2

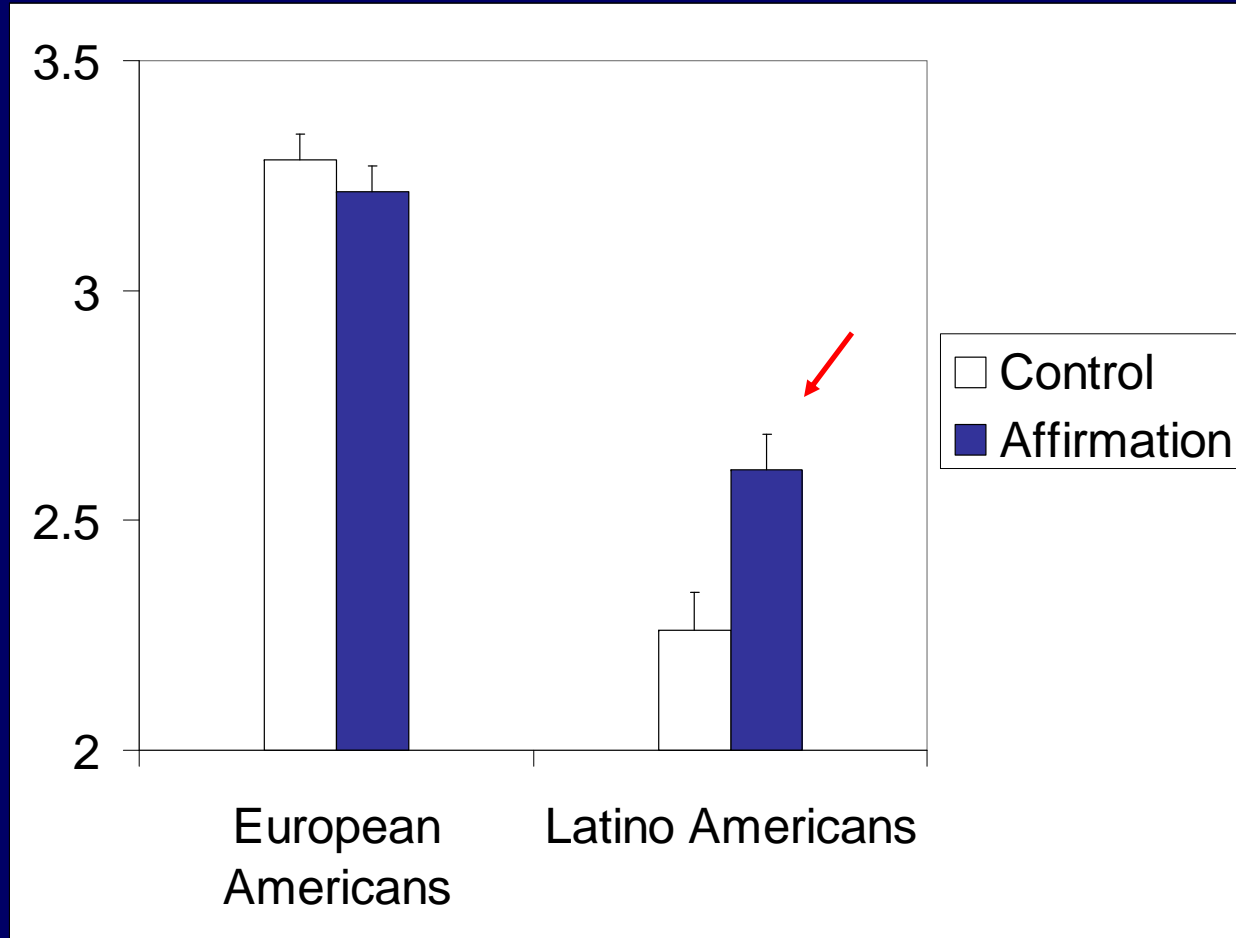


Study 3

Replication with
economically disadvantaged Latino Americans
Cumulative GPA over 2 years

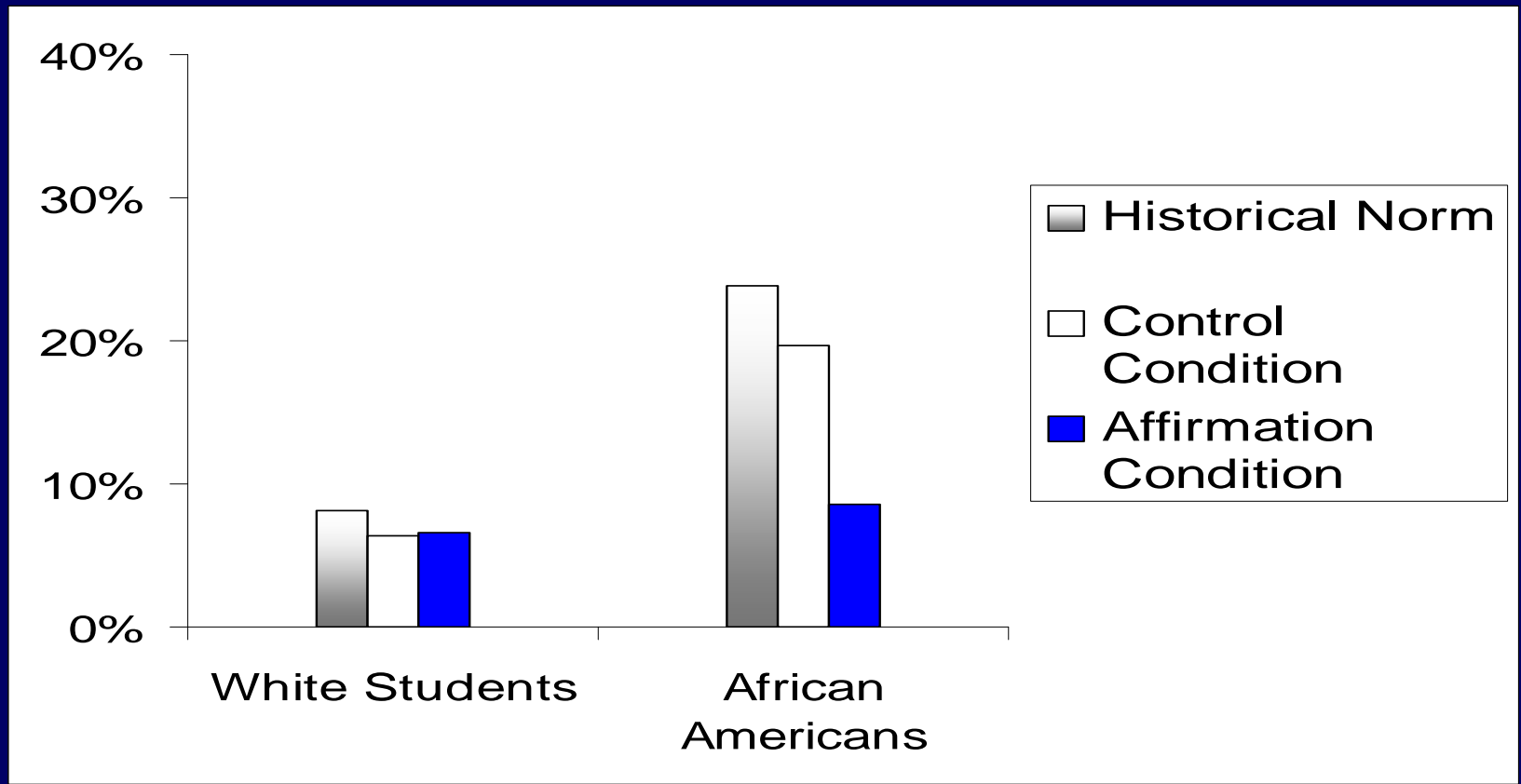
Replication with economically disadvantaged Latino Americans

Cumulative GPA over 2 years



Percentage of students receiving D or below in course:

Percentage of students receiving D or below in course:



Values affirmations: Some conclusions (from several studies)

- ❑ Benefits persist for at least two years.
- ❑ Benefits concentrated among most marginalized: low-performing minority students.
- ❑ Benefits on state achievement test
- ❑ At other developmental stages, other groups benefit, such as girls in 6th grade and female students in advanced science courses.

Values affirmations: Some conclusions (from several studies)

- ❑ Benefits persist for at least two years.
- ❑ Benefits concentrated among most marginalized: low-performing minority students.
- ❑ Benefits on state achievement test
- ❑ At other developmental stages, other groups benefit, such as girls in 6th grade and female students in advanced science courses.
- ❑ How does the affirmation work?
 - Through feedback loops

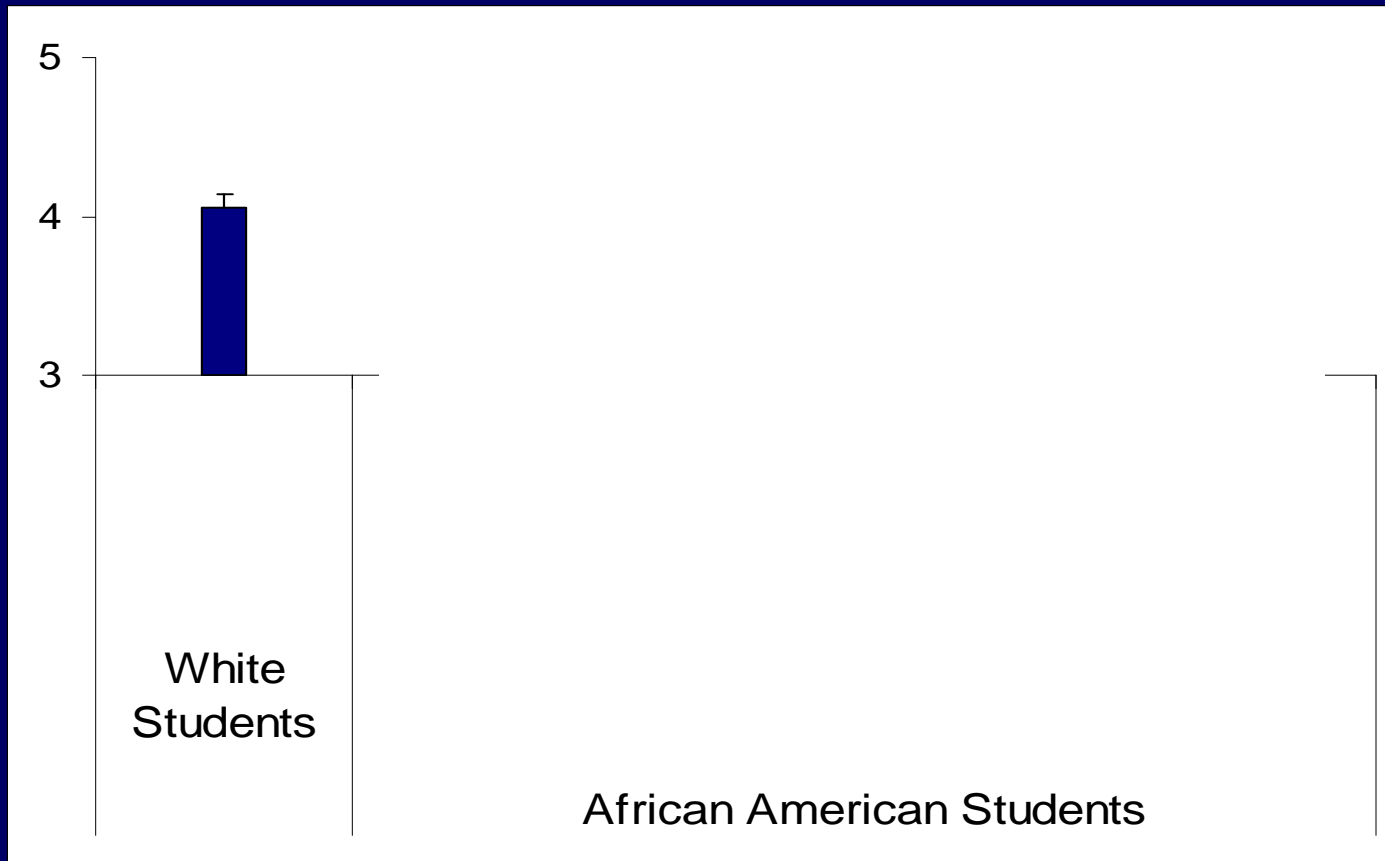
Values affirmations: Some conclusions (from several studies)

- ❑ Benefits persist for at least two years.
- ❑ Benefits concentrated among most marginalized: low-performing minority students.
- ❑ Benefits on state achievement test
- ❑ At other developmental stages, other groups benefit, such as girls in 6th grade and female students in advanced science courses.
- ❑ How does the affirmation work?
 - Through feedback loops
 - By changing subjective perceptions

Values affirmations: Some conclusions (from several studies)

- Psychological and structural approaches complement one another

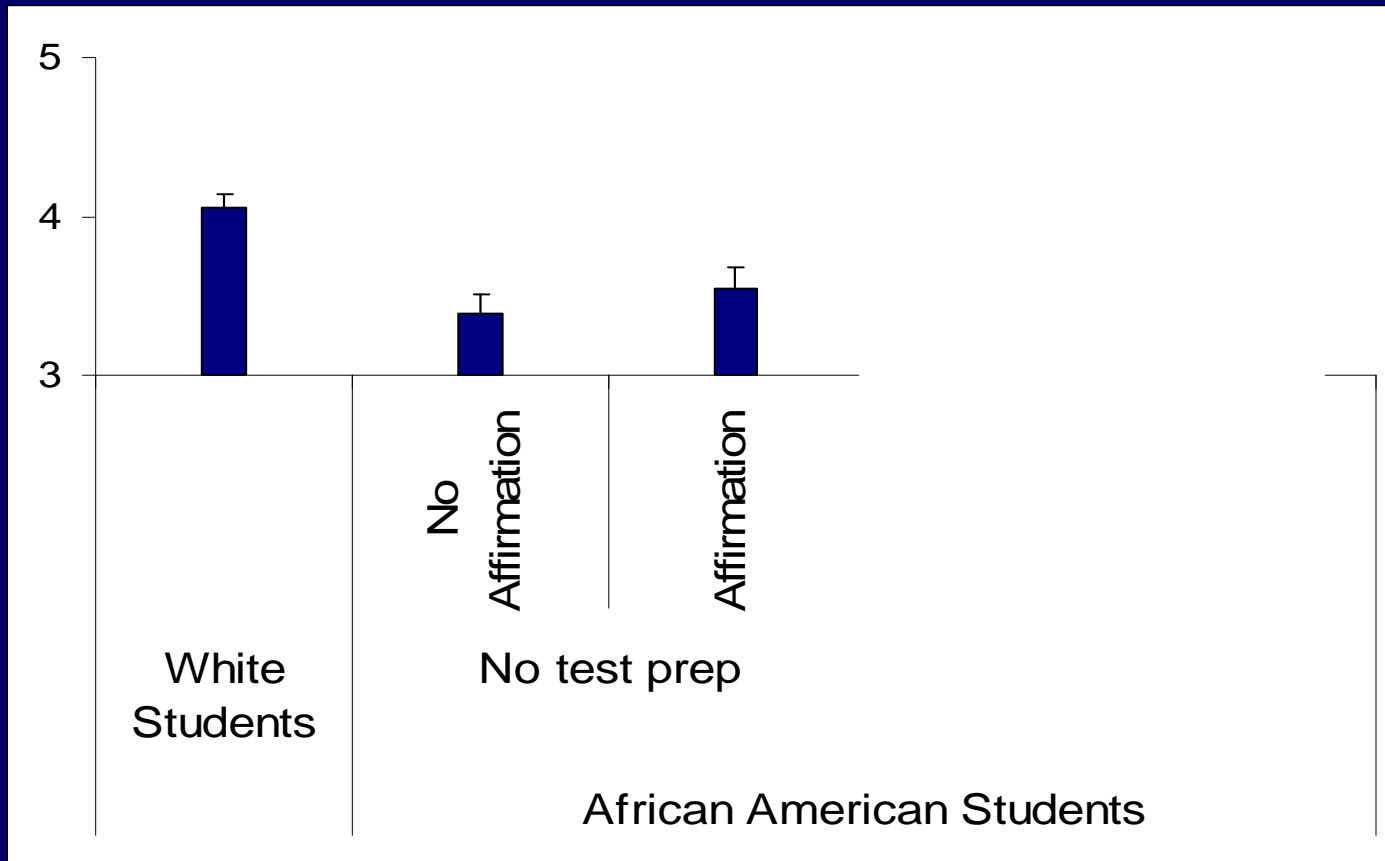
State Achievement Test Performance



Covariate in analysis of each racial group:
Prior performance

Scale: 1 = Below basic; 2 = Basic; 3 = Proficient; 4 = Goal; 5 = Advanced

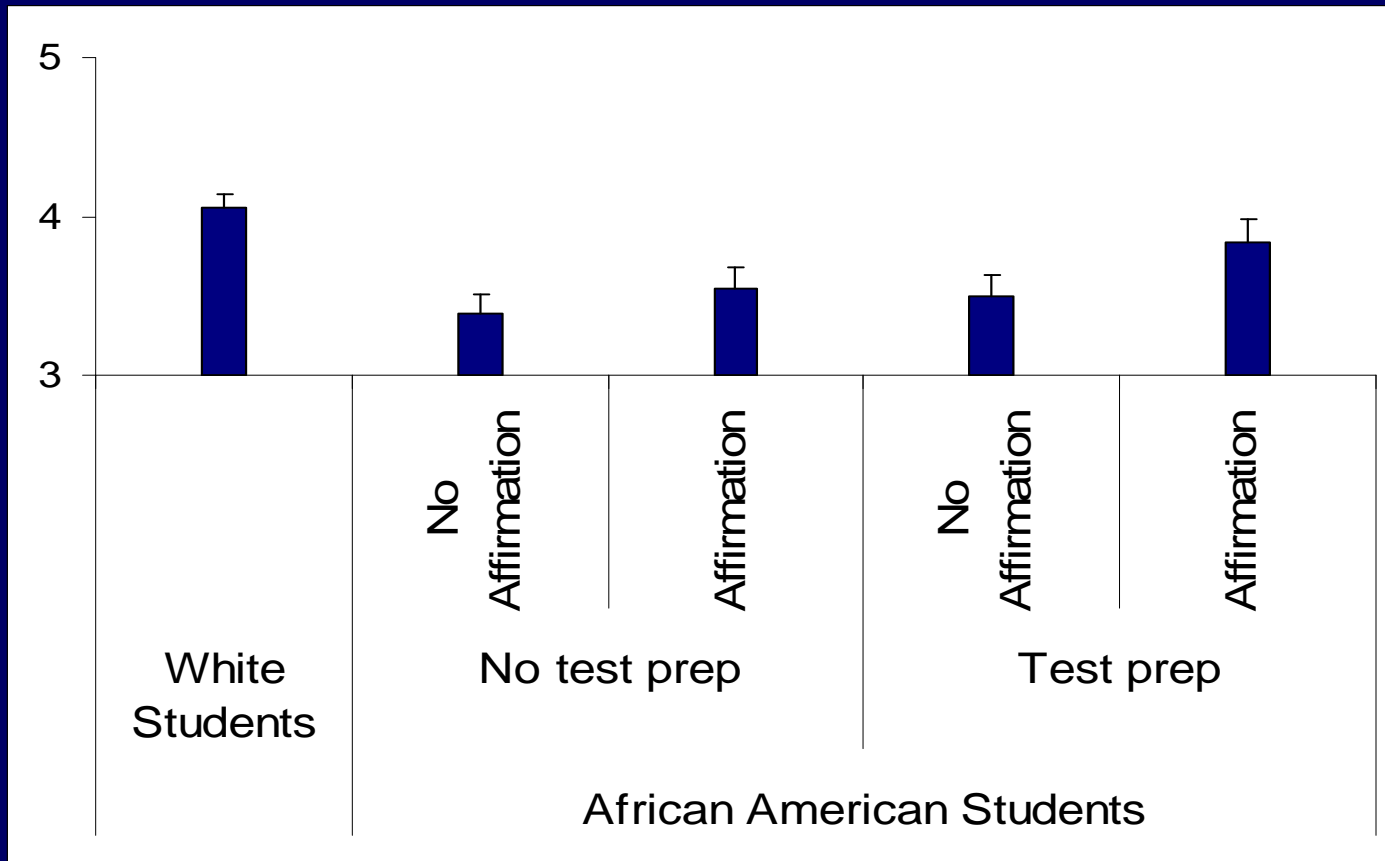
State Achievement Test Performance



Covariate in analysis of each racial group:
Prior performance

Scale: 1 = Below basic; 2 = Basic; 3 = Proficient; 4 = Goal; 5 = Advanced

State Achievement Test Performance



Covariate in analysis of each racial group:
Prior performance

Scale: 1 = Below basic; 2 = Basic; 3 = Proficient; 4 = Goal; 5 = Advanced

Take home messages

- Racial inequalities in school performance are due not only to structural factors, and are not due to fixed differences between groups, but arise partly from dynamic social-psychological factors.
- Stereotype threat can prevent students from performing up to their abilities and seizing opportunities. This can occur regardless of the actual level of prejudice in a classroom
- Understanding the effects of threat and stress help explain when and why people from “all walks of life” perform below their potential, and how and when educators can help.
- The interventions may seem brief and easy, but they are not.
- Partnerships between practitioners and researchers can help create equitable classrooms that promote the achievement of all students.

THANK YOU

Research Team, Collaborators, and Contributors

Acknowledgments

Teachers, administrators,
and students at our
school sites

Research Collaborators

Julio Garcia
Valerie Purdie-Vaughns
Greg Walton
Claude Steele
Lee Ross

Research Project Team

Nancy Apfel
Suzanne Taborsky-Barba
Courtney Bearns
Natalie Golaszewski
Sarah Tomassetti
Sarah Wert
Rachel Sumner
Jonathan Cook
Patti Brzustoski
Allison Master
Marie Scully

Research Assistants

Sara Abiola; Stephanie Gray
Michael Gray; Annie Hsu
Lillian Hsu; Alyssa Mohammed
Christopher Simmons; Eden Davis; James Lanham

Research Consultants

Edward Zigler
Donald Green
Edmund Gordon
Joseph Mahoney

Funding Sources

National Science Foundation
Spencer Foundation
W.T. Grant Foundation
American Psychological Association
Institute for Social and Policy Studies
National Institute of Mental Health
Nellie Mae Education Foundation
School of Arts & Sciences, Yale University
Society for the Psychol. Study of Social Issues