### How does stereotype threat contribute to academic underperformance for minorities?

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### what is stereotype threat? Stereotype threat refers to "being at risk of confirming, as a self-characteristic, a negative stereotype about one's [social] group," (Steele & Aronson, 1995). For minorities, their performance isn't always representative of their true abilities. Using the understandings of *critical mass effect* the idea that in-group representation enhances performance for the numerical minority-further experimentation with representation can be done (Bok, Bowen, 2000).



Percent of Whites, Blacks, and Hispanics in the United States who have received an Associate's Degree or higher.



# STEREOTYPE THREAT IN EDUCATION

fictional student's math work one with minimal mistakes, one with numerous mistakes

5-question practice quiz multiple choice

mathematics class Introduction to Analysis and Calculus, Palo Alto High School



### $n_1 + n_2 \ge 30$ randomness questionable – proceed with caution

pothesis	PARAMETER
$H_{o} = M_{1} = M_{2}$	$M_1$ = mean <b>score</b> on practice quiz after receiving fictional stude
	with <b>numerous</b> errors
$n_a = 101_1 \neq 101_2$	$M_2$ = mean <b>score</b> on practice quiz after receiving fictional stude
	with <b>minimal</b> errors

### since p = .027884 which is less than $\alpha$ = .05, we reject H<sub>o</sub>

there is statistically significant evidence that the class who received the student's work with **minimal errors performed better**.

pothesis	PARAMETER
$H_o = M_1 = M_2$ $H_a = M_1 \neq M_2$	$M_1$ = mean <b>predicted score</b> on practice quiz after receiving fictional
	with <b>numerous</b> errors
	M <sub>2</sub> = mean <b>predicted score</b> on practice quiz after receiving fictional
	with <b>minimal</b> errors

### since p = .584871 which is more than $\alpha$ = .05, we cannot reject H<sub>o</sub>

there is **not** statistically significant evidence that the class who received the student's work with minimal errors reported higher self-confidence on performance.

IAC Chapter 6 PracticeName:Maria2009Oanchez 1. Find the vector projection **u** onto **v**. Then write **u** as the sum of the two orthogonal vectors, one of

which is proj<sub>v</sub>**u**. u = < 3,5 >, v = < -4,2 >

2. A boat moving at 30 m/s northwest encounters an eastward current moving at 7 m/s. Find the boat's new speed and bearing.

3. Convert each to standard form.

b. 6cis  $\frac{4\pi}{3}$ a.  $(4cis20^{\circ})^{3}$ 

's work

's work

udent's work

udent's work

- commonly perceived as Latinx-Maria Sanchez.
- name on this student's work since it's from eight years ago."
- 3. Teacher assigns students to review the free response and correct mistakes.
  - Class A receives work with **numerous** mistakes. - Class B receives work with **minimal** mistakes.
- 4. Students return free response to teacher.
- 5. Students take a mathematics practice quiz with questions relevant to their course.
- thought they received.

### CONCLUSION

After exposing students to a student who performed very well on an mathematics practice worksheet—whose name is generally perceived as Latinx—students performed better than their peers who had been exposed to a low-performing student of the same name. While the population was largely non-minority and they may not be victims of stereotype threat in this regard, they are still influenced by its effects. This being said, minorities are more susceptible and thus, more pliant. This would suggest that minorities would benefit to an even greater degree if this experiment were to have a more minority-heavy sample. For future studies around the possibilities in combating stereotype threat in educational environments or replication study of this one, it's recommended to seek a more random sample with greater diversity. However, the results of this experiment should encourage educators, parents and guardians, and even students, to seek representation and uncover the unnoticed potential of students that may not appear on test scores or other standardized forms of performance evaluation.

### special thanks to...

I'd like to say thank you to my mentor Cathe Crystal Foster, Sharla May, and Deanna Chute their tremendous support and assistance through the year, as well as Erin Angell and Eric Bloom, Pa Social Justice Pathway teachers, for giving us incredible opportunity.



## 1. Hand out copy of fictional student's math free response work with student's name that is

2. Teacher discreetly brings attention to the name, reciting, "Apologies, we didn't remove the

6. Students answer **survey** giving their gender identity and **ethnicity** as well as what **score they** 

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