

The Value of Paired Cognitive and Affective Self-Assessment Measures as Assessments of Students' Intellectual Development: A Perspective from Psychology

Steven Fleisher, Psychology, California State University Channel Islands



Nuhfer, Edward, Geoscience & Faculty Development, CSU (retired)

Wirth, Karl, Geology, Macalester College (retired)

Watson, Rachel, Microbiology & Chemistry, University of Wyoming

Cogan, Christopher, Geography, Memorial University of Newfoundland

Scharff, Lauren, Behavioral Science & Leadership, U.S. Air Force Academy

Rejecting feedback lowers scores everywhere

| Institutions | N in Database | % of Participants Who Rejected Feedback | Mean SLCI Score of Those Who Requested Feedback | Mean SLCI Score of Those Who Rejected Feedback | Difference in Mean Scores (ppts) |
|-------------------|---------------|---|---|--|----------------------------------|
| CSU Chico | 60 | 27% | 67.6% | 56.3% | 11.4 |
| CSUCI | 1023 | 11% | 64.2% | 49.4% | 14.8 |
| DePauw | 897 | 31% | 74.2% | 64.7% | 9.5 |
| HSU | 373 | 17% | 81.7% | 66.9% | 14.7 |
| Iowa State | 873 | 34% | 73.8% | 61.7% | 12.1 |
| Indiana tech | 15 | 20% | 67.3% | 37.3% | 30.0 |
| LCCC | 1642 | 36% | 66.4% | 55.7% | 10.7 |
| Massasoit | 22 | 14% | 70.5% | 60.0% | 10.5 |
| Northwest College | 22 | 32% | 64.5% | 61.7% | 2.8 |
| SEU | 30 | 23% | 67.0% | 54.9% | 12.1 |
| U of OK | 206 | 17% | 76.8% | 72.0% | 4.8 |
| U of WY | 668 | 39% | 81.2% | 71.3% | 9.9 |
| UBC | 59 | 15% | 90.2% | 87.1% | 3.0 |
| USAFA | 907 | 23% | 81.4% | 72.7% | 8.7 |
| UW-Stout | 48 | 23% | 67.7% | 64.4% | 3.3 |
| VHC | 201 | 14% | 66.4% | 62.3% | 4.1 |
| AVERAGE | 440 | 24% | 73% | 62% | 10.2 |

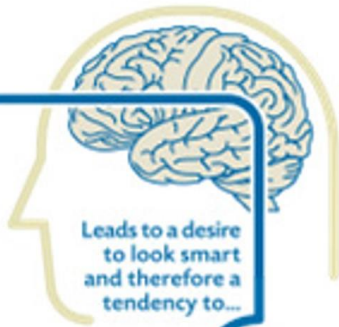
Focusing next on where we've probed recently for Dweck mindset type

| Institutions | N in Database | % of Participants Who Rejected Feedback | Mean SLCI Score of Those Who Requested Feedback | Mean SLCI Score of Those Who Rejected Feedback | Difference in Mean Scores (ppts) |
|--------------|---------------|---|---|--|----------------------------------|
| CSUCI | 414 | 21% | 67.0% | 50.9% | 16.1 |
| DePauw | 167 | 28% | 76.4% | 64.8% | 11.6 |
| Indiana tech | 15 | 20% | 67.3% | 37.3% | 30.0 |
| Iowa State | 182 | 40% | 70.4% | 49.3% | 21.0 |
| Massasoit | 22 | 14% | 70.5% | 60.0% | 10.5 |
| U of OK | 128 | 15% | 74.8% | 69.5% | 5.3 |
| U of WY | 285 | 28% | 82.7% | 72.4% | 10.3 |
| USAFA | 501 | 18% | 79.6% | 66.3% | 13.3 |
| VHC | 201 | 14% | 66.4% | 62.3% | 4.1 |

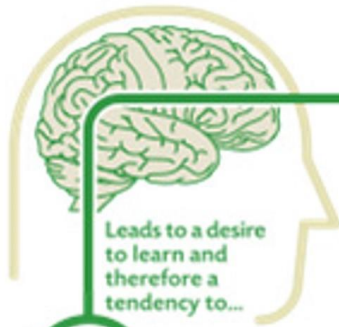
TWO MINDSETS

CAROL S. DWECK, Ph.D.
Graphic by Nigel Holmes

Fixed Mindset
Intelligence is static



Growth Mindset
Intelligence can be developed



...avoid challenges



CHALLENGES



...embrace challenges

...give up easily



OBSTACLES



...persist in the face of setbacks

...see effort as fruitless or worse



EFFORT



...see effort as the path to mastery

...ignore useful negative feedback



CRITICISM



...learn from criticism **(Feedback)**

...feel threatened by the success of others



SUCCESS OF OTHERS



...find lessons and inspiration in the success of others

As a result, they may plateau early and achieve less than their full potential.
All this confirms a **deterministic view of the world.**

As a result, they reach ever-higher levels of achievement.
All this gives them a **greater sense of free will.**

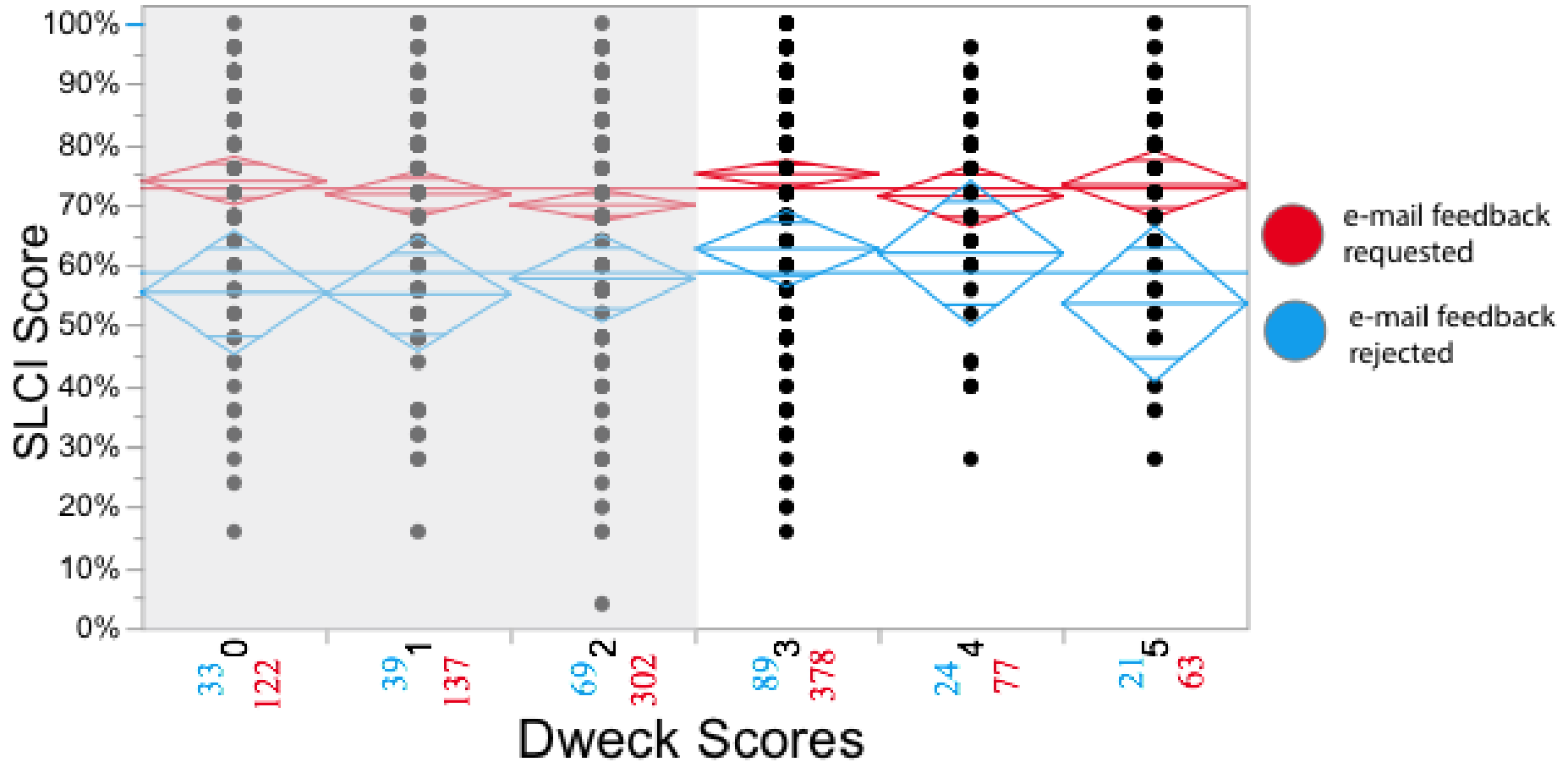
A “Just Ducky Dweck Detector”

Agree = 0; Disagree = 1 Ready, Set... then sum your score!

1. My intelligence is something very basic about me that I can't change very much.
2. I can learn new things, but I can't really change how intelligent I am.
3. I can do things differently, but the important parts of who I am can't really be changed.
4. *When I have to try really hard in a subject in school, it means I can't be good at that subject.*
5. *One of my main goals for the rest of the school year is to avoid looking dumb in my classes.*

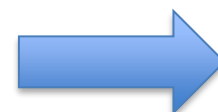
Fixed Inclination = 0, 1, 2 Growth Inclination = 3, 4, & 5

Dweck Scores and Feedback

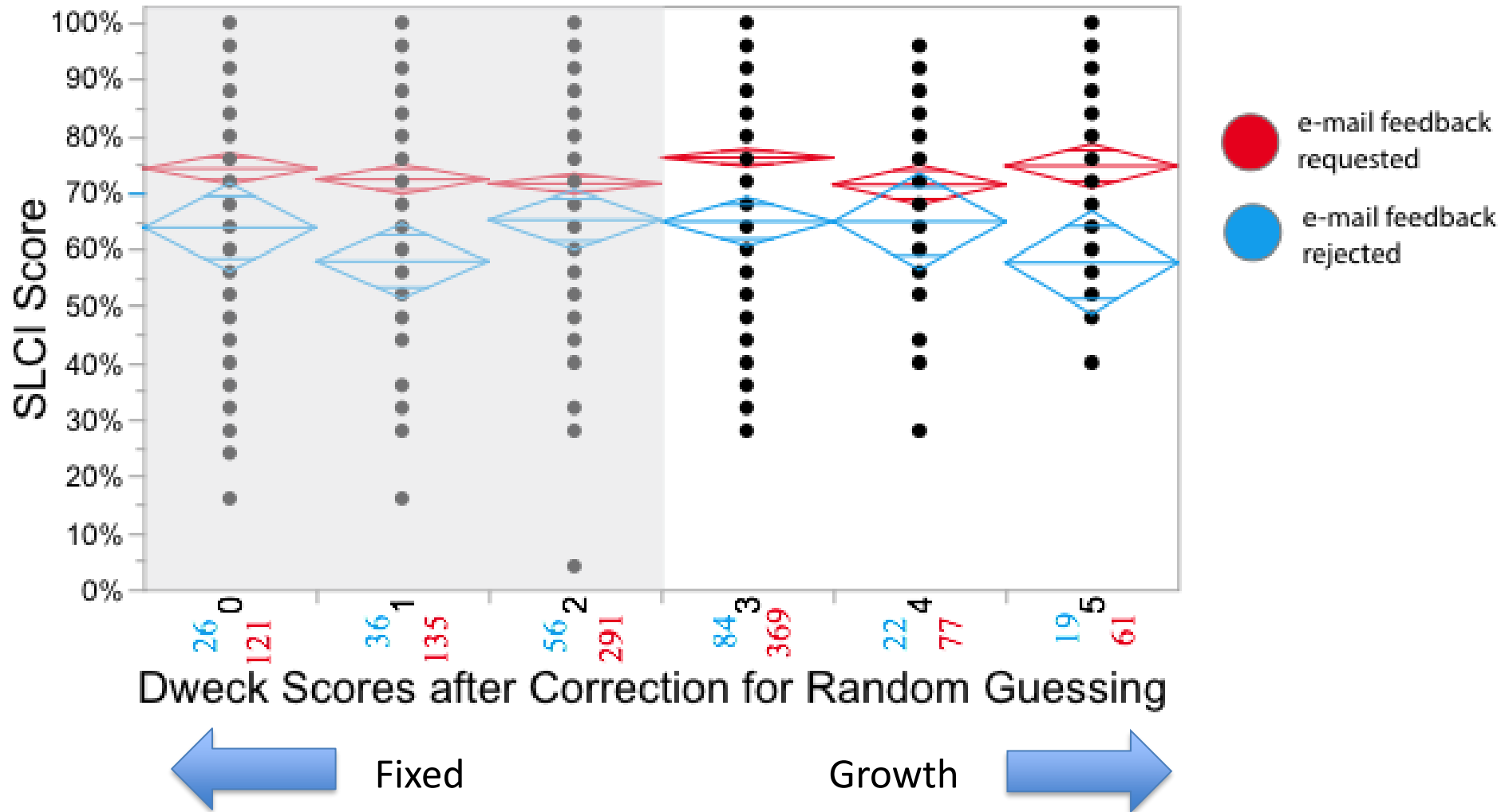


Fixed

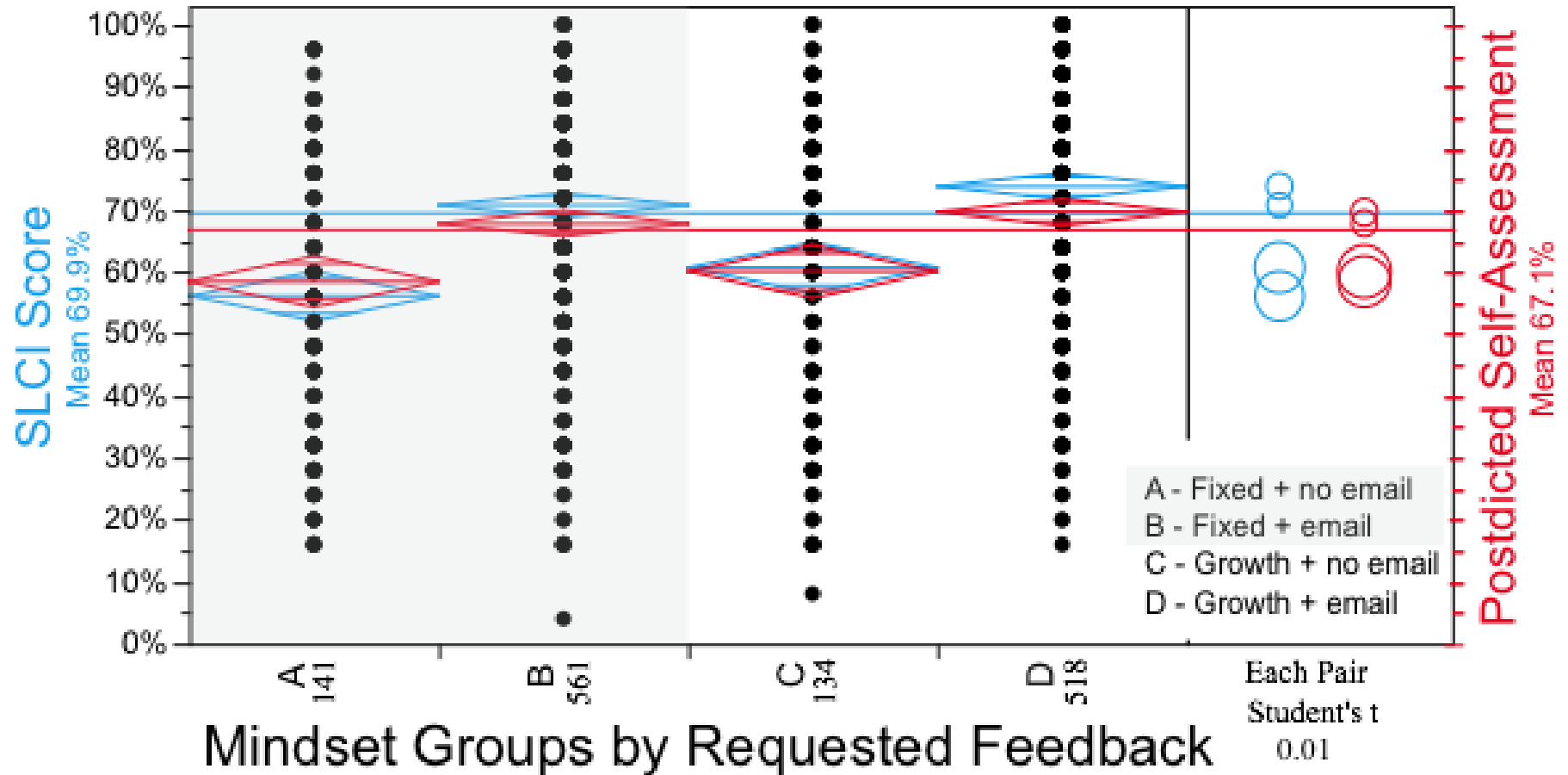
Growth



Dweck Scores and Feedback (2)

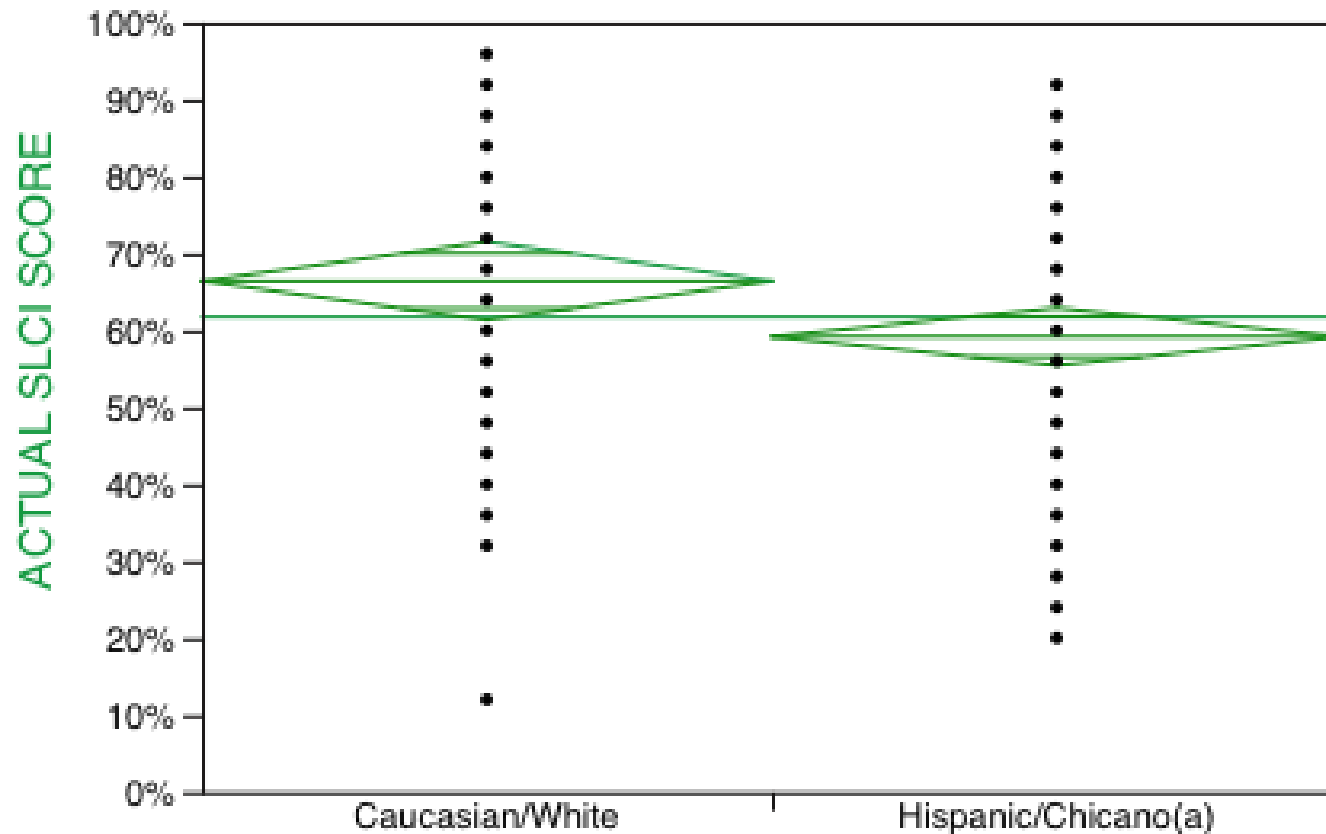


Fixed/Growth with email/no email



Dominant Ethnicities

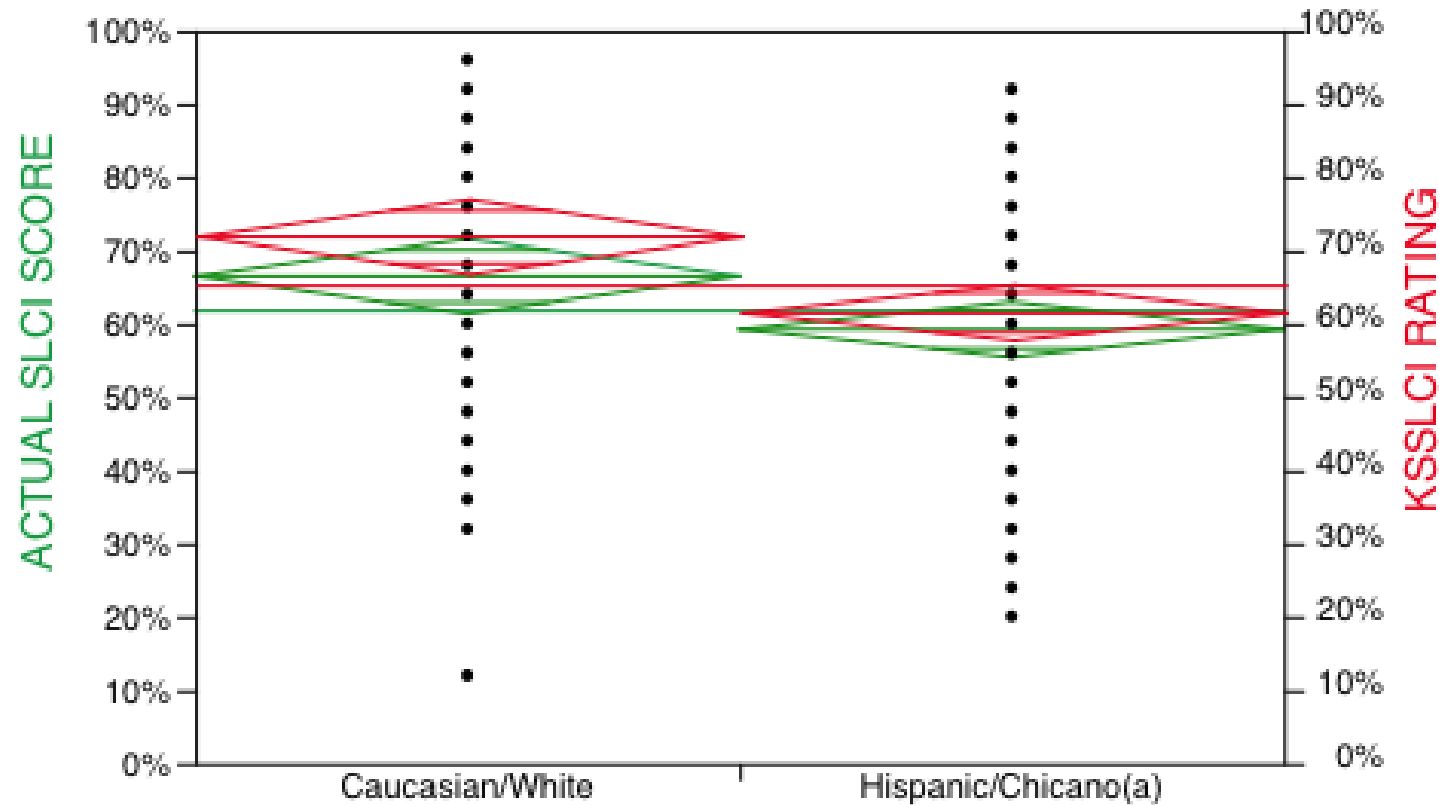
Who scores highest at CI?



Why at CI?

| Condition | White | Hispanic |
|-----------------------------------|-------|----------|
| First Generation Student? | 20.4% | 80.0% |
| English as a Non-native Language? | 2.1% | 61.1% |
| An Interest to Major in Science? | 57.1% | 53.3% |

Who self-assesses more accurately?



Takeaways

- Teach students the nature of **mindset** as a way to help them to transition from fearing to valuing feedback.
- Teach students the value of **self-assessment**.
- Use students' own data from these assessments to help them change to valuing their **affect** and their growing capacity to be **metacognitive**.

END