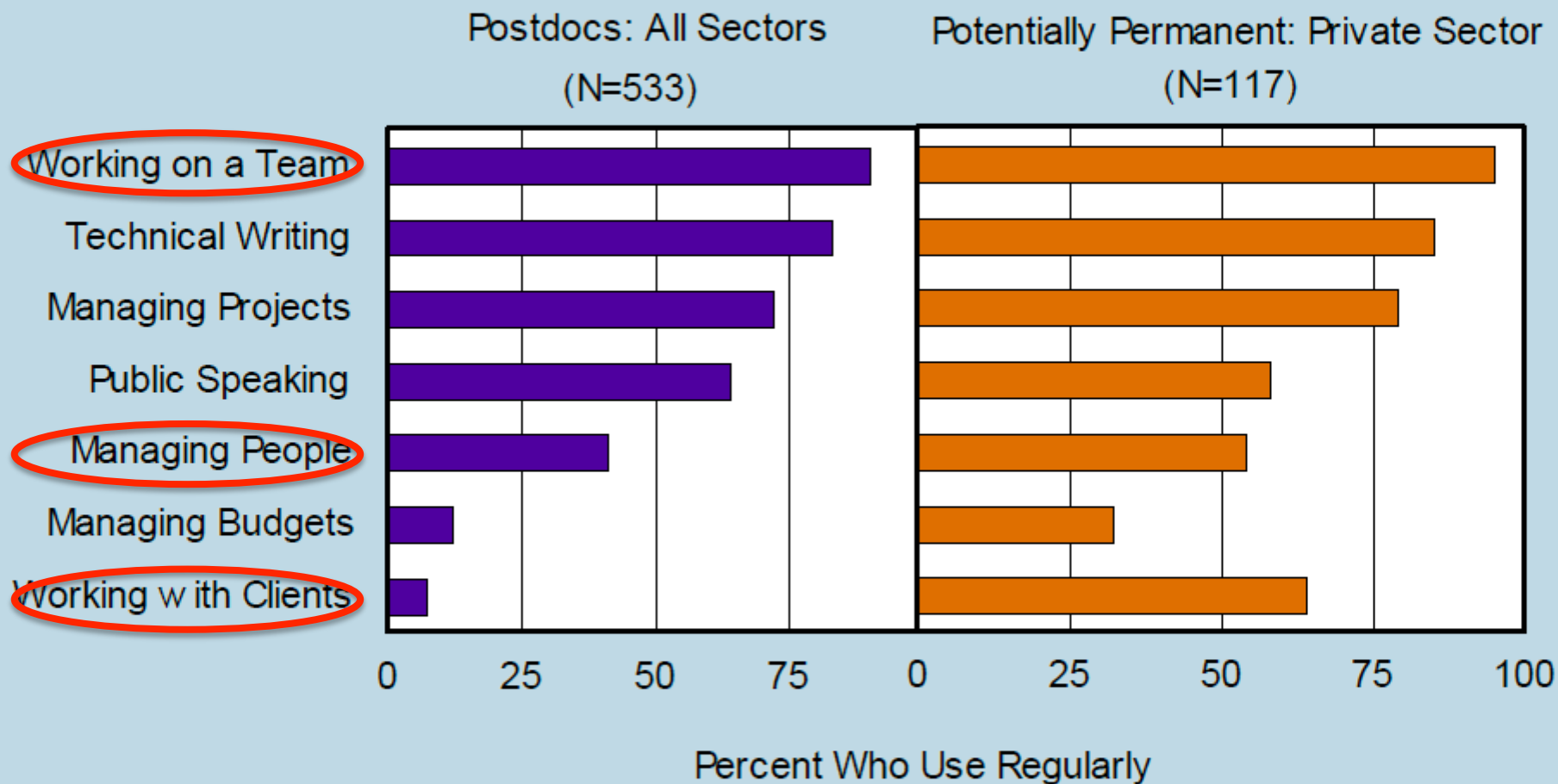


Interpersonal and Management Skills Regularly Used by New Physics PhDs, Classes of 2009 & 2010 Combined



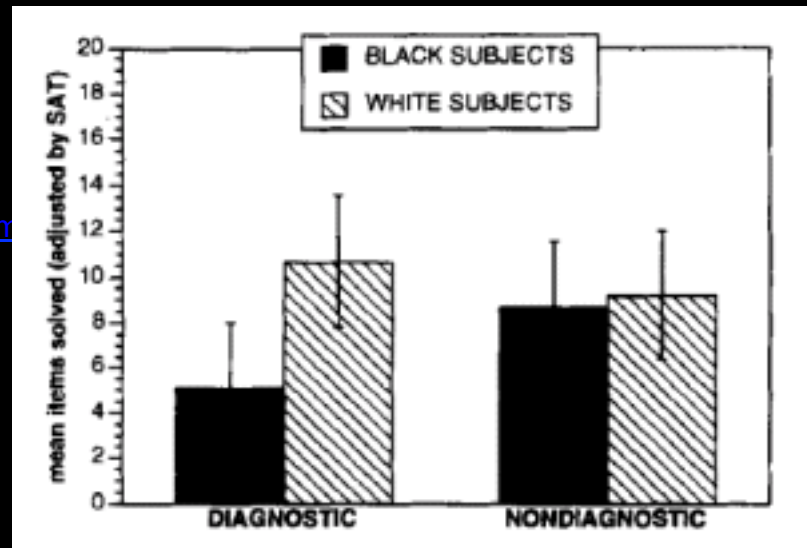
Percentages represent the proportion of physics PhDs who chose “daily”, “weekly” or “monthly” on a four-point scale that also included “never or rarely”. Data only include U.S.-educated physics PhDs who remained in the U.S. after earning their degrees.

Steele & Aronson, 1995

- **Stereotype threat** refers to being at risk of confirming, as self-characteristic, a negative stereotype about one's group (Steele & Aronson 1995). [...] Research has shown that stereotype threat can harm the academic performance of any individual for whom the situation invokes a stereotype-based expectation of poor performance.”
- <http://www.reducingstereotypethreat.org/definition.html>

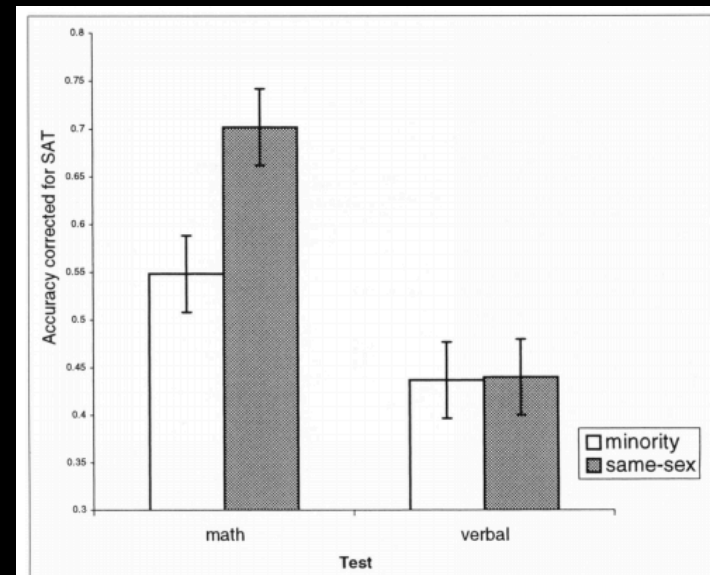
2 groups take the same test

- One group told that their performance on the test would be **diagnostic** of their verbal reasoning abilities
- **Stereotype threat**
- Black students scored significantly worse than whites
- http://www.xavier.edu/mfi/documents/Steele_Claude_M.Stere.Thrt.inAfrican.Am.Tst.Perfm.1995.pdf
- The other group told that their score as associated with the kinds of problems they've been exposed to in the past, along with test-induced "psychological factors."



Gender & Math performance

- Half of groups were male-dominated (minority female) and half were all female (same-sex)
- Half of each were given a math test and half a verbal test
- http://www.jstor.org/stable/40063543?seq=3#page_scan_tab_contents
- Girls performance on math test substantially worse in male-dominated groups



Combating Stereotype threat

- Knowing is half the battle
 - Tests are not diagnostic! They test things besides what you know!
- Should not be asked for demographics before taking standardized tests!
- Think of characteristics shared by ingroup and outgroup members
 - Example: recognize that you are part of the group of people that got into college – more likely to do better in math and science
- <http://www.reducingstereotypethreat.org/reduce.html>

Stereotype threat in Physics

- 2 groups in intro physics:
 - Picked their most important values from a list and wrote about why these mattered to them
- Control group picked their least important values and wrote why these might matter to other people
- <http://blogs.discovermagazine.com/notrocketscience/2010/11/25/15-minute-writing-exercise-closes-the-gender-gap-in-university-level-physics/#.VstIBll7iAY>

