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

<table>
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<tr>
<th>Skills</th>
<th>Postdocs: All Sectors (N=533)</th>
<th>Potentially Permanent: Private Sector (N=117)</th>
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Percent Who Use Regularly

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.

http://www.aip.org/statistics
• **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](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

• 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.”

[Diagram showing mean items solved (adjusted by SAT) for Black and White subjects under Diagnostic and Nondiagnostic conditions.]

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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](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