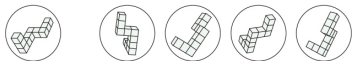


Stereotype Vulnerability

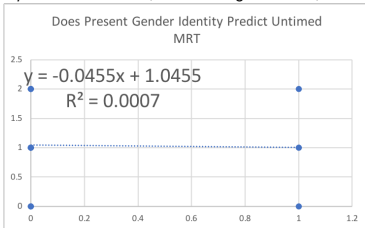
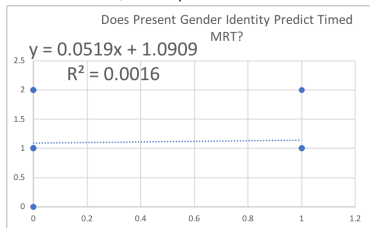
- White men performed worse on a test of mathematical abilities when reminded of Asian-Americans' superior performance in mathematics [Aronson, 1999].
- Asian women performed better on a mathematics test when 'cued' as Asians, but they performed worse when their gender identity was 'cued' [Shih, 1999].

💡 Discuss whether you or someone you know have ever experienced something similar to stereotype vulnerability as part of some kind of group (for example, gender, race, sibling, hair color, athlete, southern accent...) where external expectations from someone else (teacher, society, parents, friends...) affected your performance.

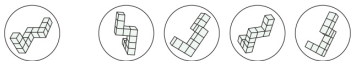
Mental Rotations Test (MRT)–Is Time on your Side?



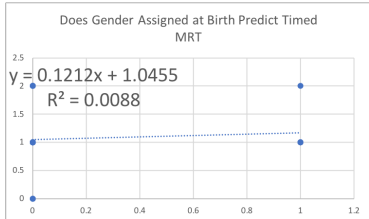
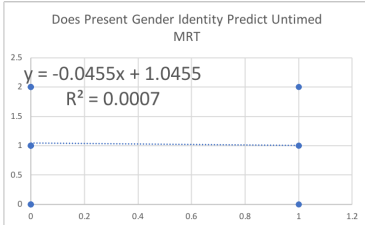
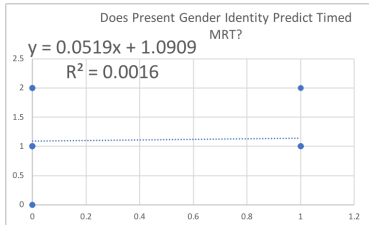
Mental rotations, A Group Test of Three-Dimensional Spatial Visualization, Vandenberg and Kuse, 1978



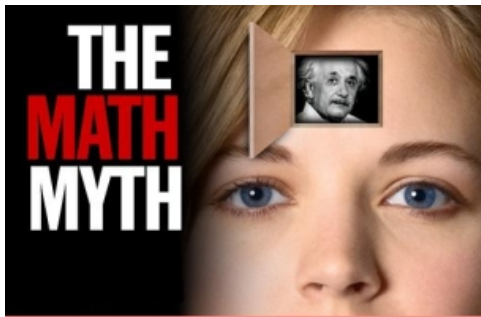
Mental Rotations Test (MRT)–Is Time on your Side?



Mental rotations, A Group Test of Three-Dimensional Spatial Visualization, Vandenberg and Kuse, 1978



Math Gene



(Time Magazine, 2005)

- *I was in Japan... Nobody could fathom the idea that if learning higher math didn't come easily, you weren't supposed to continue. You were supposed to work harder... it had nothing to do with some concept of a math gene. [Lazarus, 2001]*

- Predicting GPA for admission purposes?
Average GPA = $.539 + .00362 (\text{Verbal SAT})$

● Predicting GPA for admission purposes?

Average GPA = .539 + .00362 (Verbal SAT)

Current Study

Using the data from Kobrin et al. (2008), the linear regression of FYGPA on SAT critical reading, mathematics, and writing scores as well as HSGPA (where all of these variables have been standardized with a mean of zero and a standard deviation of one) is:

$$FYGPA = \beta_0 + \beta_1 \times SAT_{cr} + \beta_2 \times SAT_{m} + \beta_3 \times SAT_{w} + \beta_4 \times HSGPA \quad (1)$$

$$FYGPA = 0 + .06 \times SAT_{cr} + .07 \times SAT_{m} + .18 \times SAT_{w} + .29 \times HSGPA \quad (2)$$

The sample on which this model was calculated is described in the Methods section of this paper. Let us refer to the linear regression model in Equation (2) as Model 1. The purpose of this study is to investigate whether a regression model that is more general than Model 1 performs substantially better than Model 1 for the data from the National SAT Validity Study

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(Kobrin et al., 2008). For example, Figure 1 shows a hypothetical plot of SAT score against FYGPA, where SAT score is the sum of the three SAT sections (critical reading, mathematics, and writing). In the plot, the relationship between FYGPA and SAT scores is linear for students earning SAT scores from 600 through 2000. However, for SAT scores higher than 2000, students reach the ceiling of FYGPA, thus producing a nonlinear trend at the upper end of the SAT scale. For such a situation, a regression model including squares of the SAT scores in addition to the terms in Model 1 might perform better than Model 1. Arneson and Sackett (under review) did not find evidence for such a trend for high SAT scores and

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- Confounding issues in testing: Tests change, when and if to mark gender or race?
Here's Good News... SAT scores are declining at a slower rate [from The Simpsons]
No fair, you changed the outcome by measuring it! [from Futurama about the Heisenberg uncertainty principle]