Duke Gifted Letter
For Parents of Gifted Children
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Feature

Test Advantages Found in Males and in Females

Further Reading

To read the report in its entirety, visit: http://www.tip.duke.edu/about/research/intelligence_article.pdf.

Thirty years ago, researchers published what was to become an extremely controversial finding: 12-year-old males were 13 times as likely as females to score over 700 on the SAT-Math, putting them at the top 0.01% (one in ten thousand) in mathematical ability. The controversy was in part about whether these differences were the result of nature (biology/genetics) or of nurture (socialization). The debate has continued throughout the past 30 years. A recent longitudinal study using over 1.6 million 7th Grade Talent Search participants (all scoring in the top 5% on achievement tests) has revealed how male-female differences on the SAT and ACT have changed over the last 30 years.

Male Advantage

Throughout the late 1980's and early 1990's, the male-to-female advantage on the SAT-Math dropped from about 13:1 to just below 4:1, and has stayed relatively stable through the past 20 years. Similarly, males have outscored females on the ACT-Science test at a ratio between 3:1 and 4:1 in the last 20 years.

Female Advantage

Females were more highly represented than males on measures of verbal reasoning and writing ability. In fact, on some tests, such as the ACT-English, the female-to-male advantage may have grown slightly over time from 1.43:1 to 1.72:1. These differences may appear small relative to the math and science differences, but they are actually quite large. For every 100 males scoring in the top .01% of the ACT-English test, there were 172 females.

Other Male-Female Differences

Abilities aren't the only trait in which males and females differ. A substantial body of research has shown that males and females also have significant differences in their interests. For example, females report being more interested in working with people, whereas males are more likely to be interested in working with things. This difference in interests, like differences in ability, can help lead individuals to spend their time in vastly different ways, such as enrolling in different types of classes and pursuing different types of careers. Some have argued that when it comes to predicting future choices, preferences are actually more important than abilities.

Implications

Researchers believe that the rapid decline in the male advantage in the SAT-Math was likely associated with sociocultural factors, including increased rates of educational opportunities, encouragement, and mentoring for girls. Whether the male and female advantages will remain or change in the future is unknown, but the research team concluded that both males and females should be encouraged to pursue their passions.

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