Gender differences and their implications for the care and education of children have been the topic of much controversy. Differences between the genders are often represented as innate and immutable despite the absence of robust scientific evidence in support of this view. Indeed, most research evidence indicates that psychological differences between girls and boys are overwhelmingly the result of gender socialization. A balanced, evidence-based view of the magnitude and origins of gender gaps advances goals shared by parents and educators: that no child should be constrained by her or his gender and that all girls should enjoy the opportunities available to boys, and vice versa.

MORE ALIKE THAN DIFFERENT
Headlines emphasize the disparities between females and males despite the fact that the genders are “more alike than they are different” on most psychological measures. Except in the few ways noted below, the intellectual and behavioral differences between females and males are relatively small and the differences within any one gender are routinely greater than the differences between the genders. Nonetheless, there are some important domains where significant differences between boys and girls have been documented repeatedly.

INTELLECTUAL DIFFERENCES
Research evidence consistently demonstrates that boys outperform girls on measures of spatial skill, mental rotation, and mechanical reasoning, while girls outperform boys on measures of reading, writing, spelling, and verbal ability. However, research also indicates that females outperform males when recalling the spatial location of objects and that boys’ vocabularies equal girls’. Experts suggest that small, early biological differences are amplified by the socialization of girls and boys. Specifically, the advantage boys enjoy in spatial domains may grow out of the fact that young boys are more physically active than girls. Young boys seek out other boys as playmates and tend to engage in physical activities such as ball sports and block building that promote their spatial skills. Girls develop fine motor skills before boys, which promote the development of written and verbal skills due to the physical ability to manipulate writing materials and articulate words. Young girls seek out other girls whom they engage in conversation, pretend play, and other activities that further promote language skill. Further, the areas of the brain associated with self-control develop more rapidly in girls than boys and make it easier for girls to sit quietly and develop early literacy skills.
OVERLAPPING BELL CURVES

Studies of groups tend to generate "bell curves" because the large number of scores in the average range creates a peak that drops off on either side to represent the smaller number of extremely low or extremely high scores. Reports of gender differences in the academic and popular press reflect gaps in the average scores between girls and boys. Yet even when the gender gap is very large – such as the difference represented by the bell curves at right in which the girls' average is far above the boys' average – a large number of girls score below the average boy and a large number of boys above the average girl. Indeed, the overwhelming majority of psychological differences between females and males are significantly smaller than the difference represented here. In other words, many of the gender differences that are reported in the academic and popular press would be represented by bell curves that almost entirely overlap – a fact that should be borne in mind when making policy, parenting, or educational decisions.

BEHAVIORAL DIFFERENCES

Compared to males, females report lower levels of self-esteem across the lifespan; this gender gap is most pronounced during adolescence. The emergence of body image concerns is widely accepted as the most common explanation for the drop in self-esteem among adolescent girls. Researchers also note that girls tend to cope with distress by seeking social support while boys tend to cope by seeking distractions. This difference in coping styles may contribute to the higher levels of empathy reported in girls but may also contribute to rumination and, as a result, the high levels of depression and anxiety found in females as compared to males. Studies of all forms of aggression (physical, verbal, and psychological) consistently find that boys are significantly more aggressive than girls.

SINGLE-SEX SCHOOLING VS. COEDUCATION

Research comparing single-sex and coeducational schools is largely equivocal in its findings and limited by the fact that it is impossible to randomly assign children to a single-sex or coeducational school. However, research evidence does suggest that single-sex education may help to promote non-traditional interests. Specifically, studies have found that girls are more likely to play with "boy" toys when boys aren't present (and vice versa for boys) and that girls' schools counter traditional sex-typing in the subjects students choose to pursue. Experts in the area of gender differences note that single-sex settings may be especially useful in helping girls feel at ease in subjects that are traditionally dominated by boys, such as engineering and computer science.

CLOSING THE GENDER GAP

There are a number of things that parents and educators can do to help girls close the gender gap.

- Provide girls with games and activities that exercise their visuospatial and mechanical reasoning skills. Girls benefit from opportunities to tinker**, especially when they do not need to compete with boys for access to hands-on materials.
- Encourage girls to play visuospatial computer games. Studies have shown that playing "action" video games eliminates the gap between boys and girls in spatial skills and mental rotation abilities.
- Engage girls in sports. Doing so promotes spatial skills and improves body image.
- Avoid promoting negative gender stereotypes. Research shows that when parents believe that girls are weak in mathematics, their daughters share their beliefs.
CLOSING THE GENDER GAP (continued)

* Encourage girls to develop a growth mindset so that they view academic challenges as opportunities for growth
  - despite performing as well as boys in math courses, research shows that girls doubt their ability to develop their math skills when faced with difficult material.

* Beware of the negative effects of gender stereotypes
  - take steps to shield students from the effects of stereotype threat

* Promote girls’ engagement in STEM fields
  - provide female role models
  - encourage a collaborative approach to work in STEM fields
  - give girls meaningful objectives

* Cultivate comfort with vigorous competition when it comes to test-taking
  - too often, girls fear tests and feel uncomfortable showing what they know

**see LaurelSchool.org/CRG for further resources related to each bold term

THE TRUTH ABOUT GENDER DIFFERENCES [ENDNOTES]


RESOURCES FOR GIRLS

TOYS

VISUOSPATIAL TOYS
A variety of engaging toys can help girls of all ages to develop their spatial and mental rotation skills. CRG favorites include: the Architecto™ line from foxmind.com, Connectagons™ and Marble Runaround™ at hearthsong.com, or Flexees™ at toysrus.com.

BOOKS

VIOLET THE PILOT
Violet tinkers. The airplane she builds out of spare parts takes her on wild adventures. Young readers will be charmed — and inspired to do some tinkering of their own. Written and illustrated by Steve Breen for children ages four and up.

FLY HIGH! THE STORY OF BESSIE COLEMAN
Against the odds, Bessie Coleman became the first African-American licensed pilot in the United States. This middle-grade biography, written by Louise Borden and Mary Kay Kroeger and illustrated by Teresa Flavin, tells the story of Bessie’s determination to succeed, her training in France (no American flight school would enroll her), and her thrilling career as a barnstormer.

RESOURCES FOR PARENTS AND EDUCATORS

BOOKS

CINDERELLA ATE MY DAUGHTER
Is “princess mania” just a passing phase or a more sinister marketing plot with long-term negative impact on our girls? Peggy Ornstein writes with a wry sense of humor that engages and entertains, even as it poses some sobering questions.

PINK BRAIN, BLUE BRAIN
Neuroscientist Lise Eliot, Ph.D. examines “how small differences grow into troublesome gaps — and what we can do about it.”

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