Boys sometimes, but not always, outperform girls in mean mathematics performance; thy usually, but not always, exhibit greater variance in score distribution. Analysis of data from the 2007 Trends in International Mathematics and Science Study shows that greater variance in boys' scores has a strongly negative correlation with gender gap in mean performance. Both variance ratio and gap are unrelated to a nation's wealth, predominant religion, or gender-segregated schooling. Instead, they are largely effects of socio-cultural factors and some boys performing quite poorly. Importantly, mathematics performance at the low, medium, and high levels for boys as well as girls has a strongly positive correlation with some measures of gender equity. (Received September 16, 2010)

