

DATA SUPPLEMENT 2

Assessment of gender-related influences on individual differences

The genetic correlation between a boy and girl twin in the opposite-gender dizygotic pairs is assumed to be 0.50 if the same genes affect boys and girls, but will be less than 0.50 if different genes affect boys and girls. This estimate is derived from a comparison of the phenotypic correlation for same-gender and opposite-gender dizygotic pairs. The model-fitting test for qualitative gender differences compares the fit of a model in which the genetic correlation between opposite-gender pairs is fixed to 0.50 (common effects gender-limitation model) to a model where the genetic correlation for males and females is allowed to be free (general gender-limitation model). In order to test whether there are quantitative differences between males and females in the magnitude of genetic and environmental influences, a nested model is fit that constrains the male and female A, C and E parameters to be the same (no effects model) and compares the fit of this model with the common effects gender-limitation model where the A, C and E influences are allowed to vary in magnitude (e.g. the same genes may be important for males and females but may exert a stronger influence on the individual differences on a trait for males than for females).