Model

No GxSex

Weakly or negatively correlated genetic effects

Highly correlated effects, difference in magnitude ("amplification")

Mixture of covariance relationships

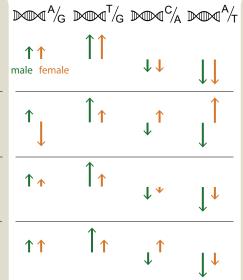
Motivation

Little previous evidence for GxSex

Sexual dimorphism is pervasive and heritable contribution is expected to lie primarily in autosomes

Response to cues such as testosterone; evidence for GxE in non-human organisms

Heritability analysis often incompatible with either model or cannot distinguish between models



Expectation from Heritability Analysis

- (a) h_m^2 can only differ from h_f^2 through environmental variance differences (b) $h_m^2 < h^2$ or $h_f^2 < h^2$
- (a) Low or negative genetic correlation
- (b) h_m^2 , $h_f^2 > h^2$, and the larger the difference, the lower the genetic correlation
- (a) High genetic correlation
- (b) h_m^2 or $h_f^2 < h^2$

Compatible with all observations; motivates:

- (a) Direct estimation of genetic effect covariance, rather than sole reliance on heritability estimates
- (b) Modelling mixture components