



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 nonhuman organisms



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

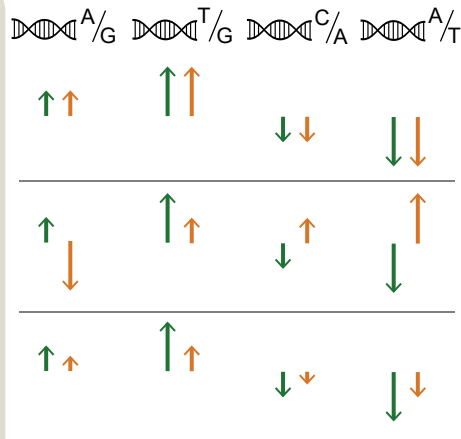
Model

No GxSex

Weakly or negatively correlated genetic effects

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

Mixture of covariance relationships



Expectation from Heritability Analysis

- (a) h^2 and h^2 differ because of environmental differences
- (b) $h^2 < h^2$ or $h^2 < h^2$

- (a) Low or negative genetic correlation
- (b) h^2 , $h^2 > h^2$, and the larger the difference, the lower the genetic correlation is

- (a) High genetic correlation
- (b) h^2 or $h^2 < h^2$

- Compatible with all observations; motivates:
- (a) Direct estimation of genetic effect covariance, rather than heritability estimates
 - (b) Mixture components