

Model	Motivation	Illustration of Effect Covariance	Expectation from Heritability Analysis
No GxSex	Little previous evidence for GxSex		(a) $h_m^2$ can only differ from $h_f^2$ through environmental variance differences (b) $h_m^2 < h^2$ or $h_f^2 < h^2$
Weakly or negatively correlated genetic effects	Sexual dimorphism is pervasive and heritable contribution is expected to lie primarily in autosomes		(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
Highly correlated effects, difference in magnitude ("amplification")	Response to cues such as testosterone; evidence for GxE in non-human organisms		(a) High genetic correlation (b) $h_m^2$ or $h_f^2 < h^2$
Mixture of covariance relationships	Heritability analysis often incompatible with either model or cannot distinguish between models		Compatible with all observations; motivates this work, including: (a) Direct estimation of genetic effect covariance, rather than sole reliance on heritability estimates (b) Modelling mixture components