

GWAS characteristics

- 1) Number of exposures
`number_of_exposures`
- 2) GWAS sample sizes
`sample_size_Xs`
`sample_size_Y`
- 3) GWAS sample overlap
`prop_gwas_overlap_Xs_and_Y`

Conditional variances of phenotypes

- 1) Variance in Y explained by **x**, **U**;
x explained by **U**
`Y_variance_explained_by_Xs`
`Y_variance_explained_by_U`
`Xs_variance_explained_by_U`
`signs_of_causal_effects`
- 2) Phenotypic, genetic correlation
between **x**
`phenotypic_correlation_Xs`
`genetic_correlation_Xs`

Causal exposure SNP characteristics

- 1) Number, MAF of causal **x** SNPs
`number_of_causal_SNPs`
- 2) Variance in **x** explained by **g**
- Partitioned by UHP, CHP, valid SNPs
`number_of_UHP_causal_SNPs`
`number_of_CHP_causal_SNPs`
`Xs_variance_explained_by_g`
`Y_variance_explained_by_UHP`
`U_variance_explained_by_CHP`
- 3) LD between SNPs in **g**
`LD_causal_SNPs`

IV selection and simulation scenario

IV LD r^2 pruning
threshold
`LD_pruning_r2`

Simulation type
(weak IV or
winner's curse)
`simtype`

IV P-value threshold
`IV_Pvalue_threshold`
MVMR IV selection method
`MVMR_IV_selection_type`

Winner's curse

Weak instruments

Fix F-statistic for
instrument strength
`fix_Fstatistic_at`