GWAS characteristics

Conditional variances of phenotypes

Causal exposure SNP characteristics

IV selection and simulation scenario

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`

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`

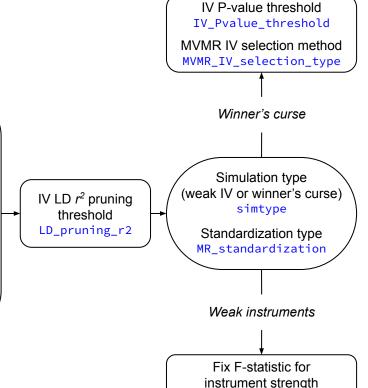2) Phenotypic, genetic correlation between **x**
   `phenotypic_correlation_Xs`
   `genetic_correlation_Xs`

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 LD *r²* pruning threshold
`LD_pruning_r2`

IV P-value threshold
`IV_Pvalue_threshold`

MVMR IV selection method
`MVMR_IV_selection_type`

Winner's curse

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

Standardization type
`MR_standardization`

Weak instruments

Fix F-statistic for instrument strength
`fix_Fstatistic_at`