

Supporting Information

S2 Table

Empirical Type 1 Error with Prevalence 1%.

Complete Data or Partially Missing Data	Setting of (π_a, π_c)	MQLS-LIN	MQLS-LOG	CERAMIC
Partially Missing	(.2, .6)	.050	.051	.051
Partially Missing	(.8, 0)	.048	.048	.050
Complete	(.2, .6)	.050	.052	.051
Complete	(.8, 0)	.049	.049	.050

All tests adjust for covariates. Traits are generated by the liability threshold model, where π_a is the proportion of total liability variance that is due to polygenic effects and π_c is the proportion due to covariate effects. Ascertainment setting A is used. The numbers of individuals sampled in each simulation replicate are 1200 for the scenarios with partially missing data and 600 for the scenarios with complete data. Association is tested at a non-causal SNP, which has MAF .2, and type 1 error is assessed empirically at significance level .05. Empirical type 1 error is based on 25,000 replicates. The radius of the 95% confidence interval is .0027.