

Effect	Function of parameters	Variance explained
Region effect	v_r	2%
Shared relatedness effects	αv_{bg}	24%
Independent relatedness effects	$(1 - \alpha)v_{bg}$	16%
Shared effects from hidden factors	$\alpha\beta(1 - v_r - v_{bg})$	17.4%
Independent effects from hidden factors	$(1 - \alpha)\beta(1 - v_r - v_{bg})$	11.6%
IID noise	$(1 - \beta)(1 - v_r - v_{bg})$	29%

(a) Variance explained by the different simulated factors

Parameter										
Number of causal variants	1	2	4	8	12	20	-	-	-	-
Proportionality factor of the effect sizes	-0.5	-0.3	-0.2	-0.1	0	0.1	0.2	0.3	0.5	0.7

(b) Parameter values for simulated rescaling-GxC effects‘

Parameter										
Number of causal variants (across contexts)	2	4	8	12	20	-	-	-	-	-
Region effect correlation (extent of heter-GxC)	-1, -.8	-.8, -.6	-.6, -.4	-.4, -.2	-.2, 0	0, .2	.2, .4	.4, .6	.6, .8	.8, 1

(c) Parameter values for general-GxC effects