

Supplementary Table S1. Overall MR analyses with strong genetic instruments ($P < 5 \times 10^{-6}$) for causal effects of SA on MDD.

Exposure	Outcome	N of SNPs in MRA ^a	MR p-value ^b	MR Method ^c	OR	95%LCI	95%UCI
SA	MDD	6	1.76×10^{-2}	Weighted median	1.07	1.01	1.14
			5.01×10^{-3}	Random-effects IVW	1.07	1.02	1.12
			5.01×10^{-3}	Fixed-effects IVW	1.07	1.02	1.12
			8.50×10^{-3}	RAPS	1.07	1.02	1.12

^a N of SNPs in MRA: number of independent genetic SNPs used in the MR analysis for each pair of exposure and outcome; ^b MR p-value: p-value of the most suitable MR method; ^c MR Method: the most suitable MR analysis used in MR analysis. 95%LCI: 95% lower confidence interval; 95%UCI: 95% upper confidence interval; IVW, inverse-variance weighted; RAPS, Robust Adjusted Profile Score.