

Descriptions of Additional Supplementary Files

Supplementary Data 1

Description: Variants identified at genome wide significance for not receiving an invite to participate in at least one of optional components of the UK Biobank

Supplementary Data 2:

Description: Variants associated with the four participation measures from genome wide association analyses in the UK Biobank with $6 \times 10^{-9} < P < 5 \times 10^{-8}$

Supplementary Data 3

Description: Mendelian randomization results for a range of different test traits against the four participation measures.

Supplementary Data 4

Description: Results from 1-sample MR analyses, representing odds of participation per SD higher genetically instrumented cigarettes per day