

# Online sample size and power calculator for Mendelian randomization with a binary outcome

Binary outcome

Continuous outcome

Sample size calculation given desired power, or power calculation given desired sample size?:

Have sample size, want power

Note that only one of the sample size and power is used in the calculation; the other variable is ignored.  
Note for a two-sample analysis, the sample size is for the variant–outcome association.

Sample size (number of participants):

54162

Power (%):

80

Ratio of cases to controls = 1:x

0.4492754

Coefficient of determination ( $R^2$ ) of exposure on genetic variants:

0.002

Causal effect (odds ratio,  $\exp(\beta_1)$ ) per SD change in exposure:

1.127497

Significance level:

0.05

Update

Power of a binary outcome Mendelian randomization analysis given sample size

Power of analysis with 54162 participants: 8.3%