

Model Assumptions

Team 25

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$Y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i} + \epsilon_i$, where we assumed, $\epsilon_i \sim \mathbb{N}(0, \sigma_Y^2)$

for $i = 1, \dots, n$ country level measures, where

Y_i : The estimated national suicide rate (per 100k population) for the i^{th} country.

x_{1i} : The estimated national labor participation rate (percentage) for the i^{th} country.

x_{2i} : The estimated per-person gross domestic product (GDP) (income) for the i^{th} country.

x_{3i} : An estimate of the national per-person average of liters of alcohol consumed annually for the i^{th} country.

x_{4i} : A binary indicator of the 'presence of a national suicide prevention strategy' in 2019 for the i^{th} country.

This yields fitted regression model:

$$\hat{Y}_i = \hat{\beta}_0 + \hat{\beta}_1 x_{1i} + \hat{\beta}_2 x_{2i} + \hat{\beta}_3 x_{3i} + \hat{\beta}_4 x_{4i}$$

where,

$\hat{\beta}_0$, $\hat{\beta}_1$, $\hat{\beta}_2$, $\hat{\beta}_3$, and $\hat{\beta}_4$ were estimated by the method of iterative re-weighted least squares.