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 $i = 1, ..., n$ 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 log-transformed 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.

Table 1: Regression Model Summary

	Dependent variable:
	Suicide Rate (Box-Cox Transformed $\lambda = 0.4$)
Income (pp GDP) - Log Transformed	-0.404^{***}
	(0.080)
Liters of Alcohol Consumed	0.166^{***}
	(0.026)
Suicide Prevention Strategy (Binary)	0.562^{***}
	(0.185)
Labor Participation Rate	1.031^{**}
	(0.472)
Constant	5.420^{***}
	(0.828)
Observations	162
R^2	0.412
Adjusted R^2	0.397
Residual Std. Error	1.272 (df = 157)
F Statistic	27.475^{***} (df = 4; 157)
Note:	*p<0.1; **p<0.05; ***p<0.01