

Regression for Survey Data

Method: Regression for Survey Data

Method type: regression_model

Design: Multiple OLS model for final grade using prior grade, study behavior, failures, absences, and sex.

Variables: G3, G1, studytime, failures, absences, sex

Inference scope: The applicable omnibus F test evaluates whether all non-intercept slopes are jointly zero.

Formula: $Y = X\beta + \epsilon$; $\hat{\beta} = (X'X)^{-1}X'Y$; $F = (SSR/p)/(SSE/(n-p-1))$.

Source rows: 649

Calculated metrics:

r_squared: 0.693368172462243

adjusted_r_squared: 0.69098378811125

f_statistic: 290.79547186818

f_p_value: 2.23584454133693e-162

rmse: 1.79589682090406

g1_coefficient: 0.925917708400603

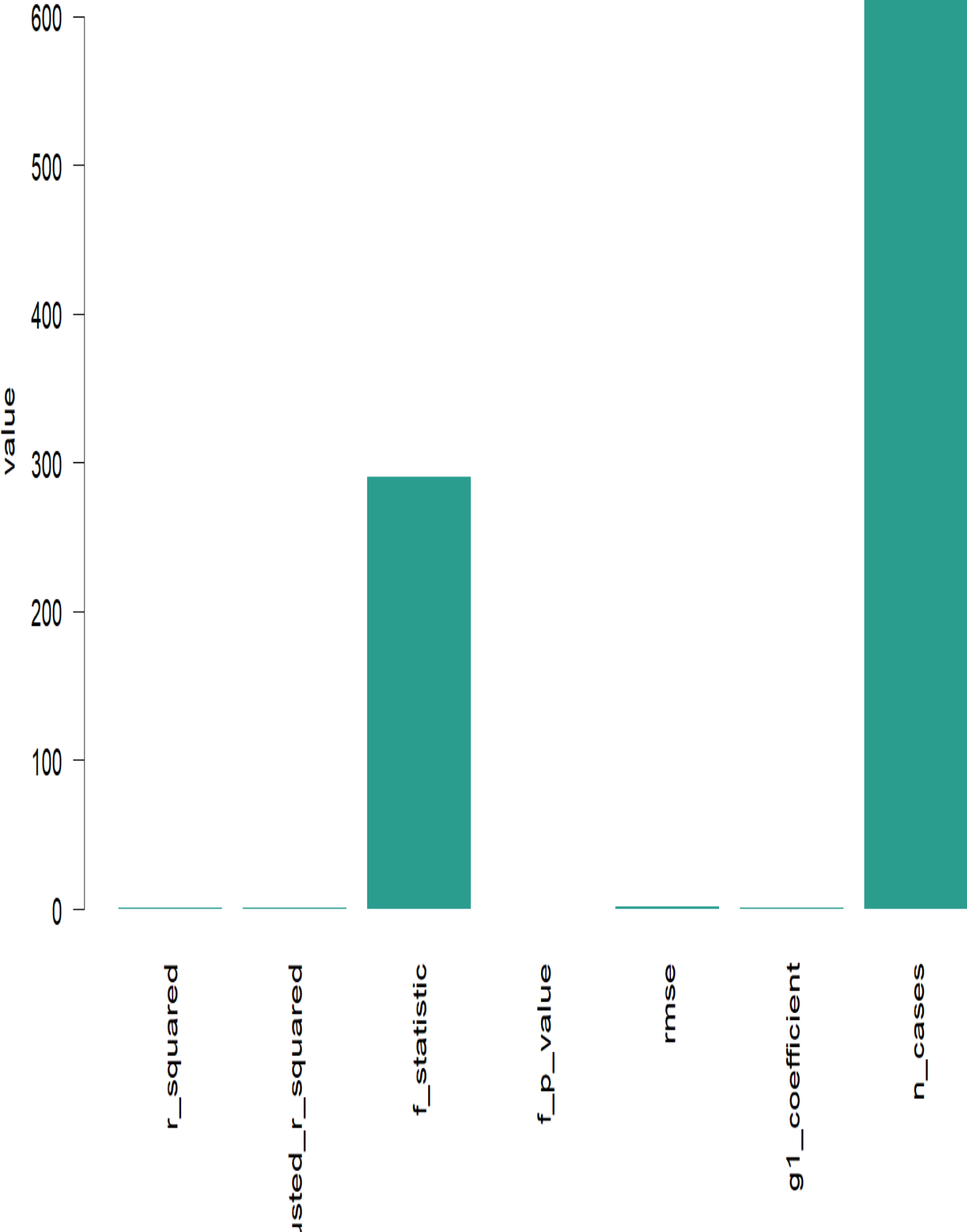
n_cases: 649

Interpretation:

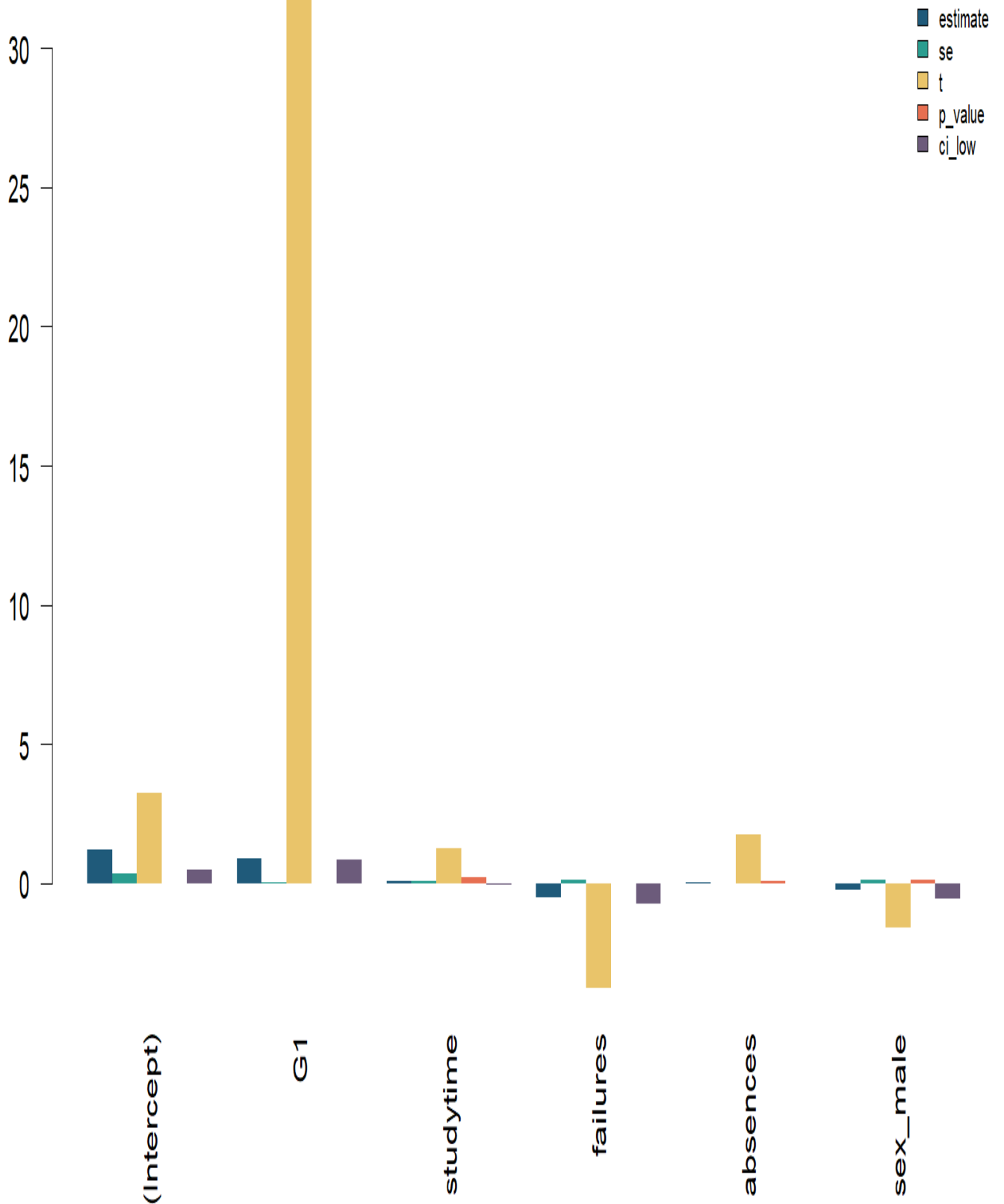
Final grade is modeled conditionally on prior grade and survey predictors.

R-squared 0.693368172462243 RMSE 1.79589682090406

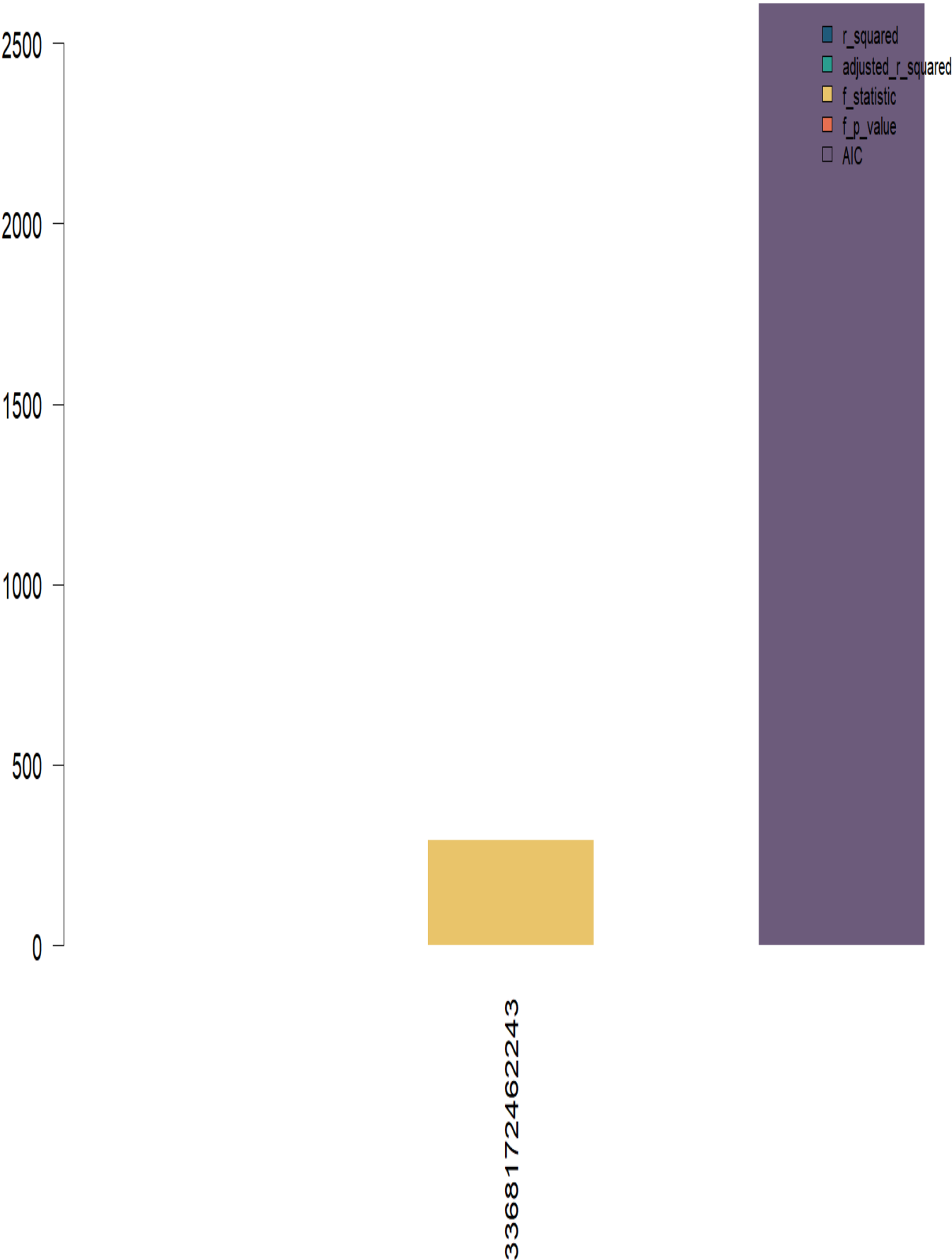
Regression for Survey Data - primary metrics



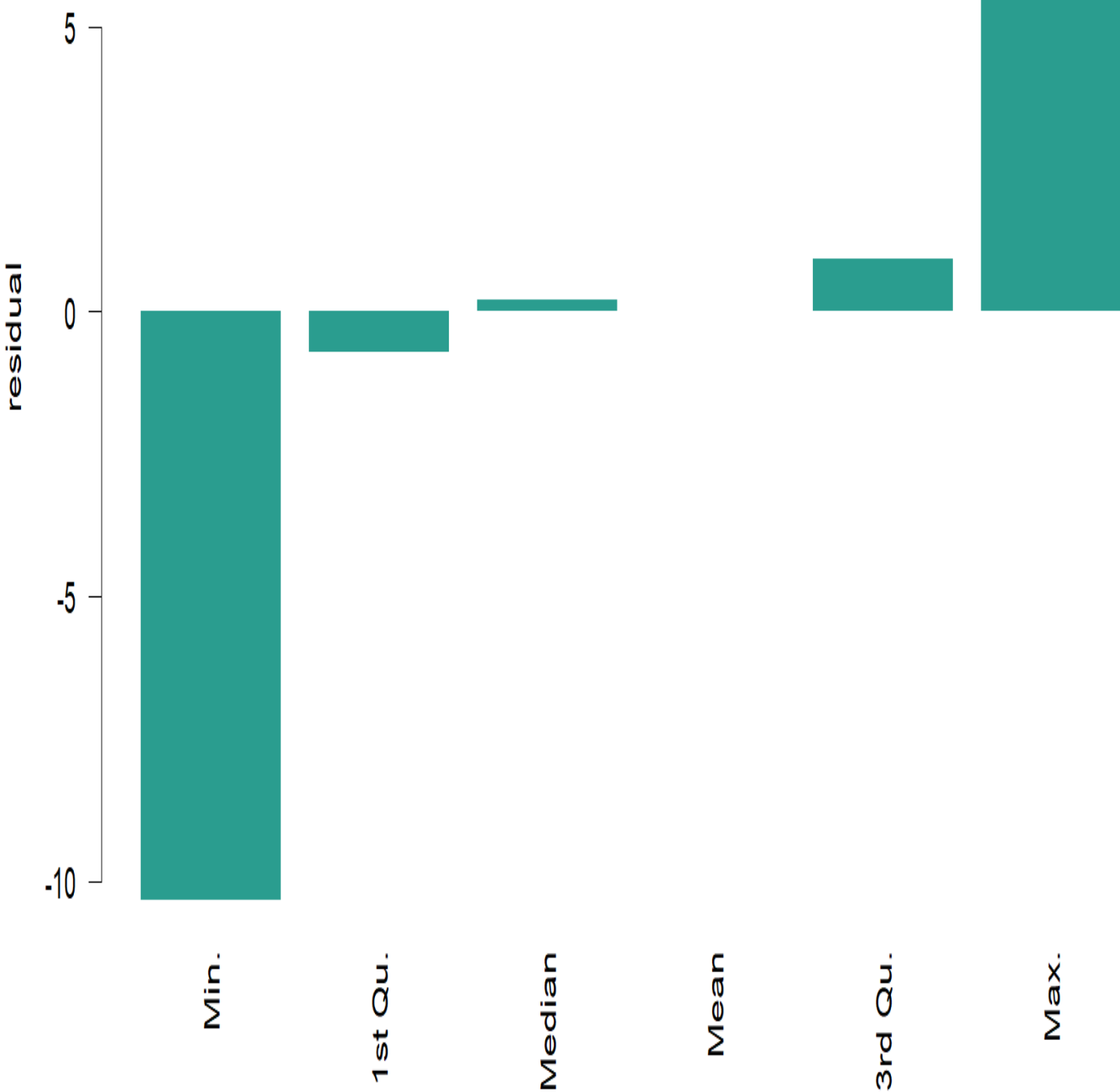
Regression for Survey Data - regression coefficients



Regression for Survey Data - model fit



Regression for Survey Data - residual summary



Regression for Survey Data verified results

