

Observed–Variable Path Analysis

Test: Observed–Variable Path Analysis

Design: Multiple regression path model predicting G3 from prior grade, study time, failures, and absences.

Variables: G3, G1, studytime, failures, absences

Null hypothesis: All direct path coefficients to G3 are zero.

Formula: $G3 = \beta_0 + \beta_1 z(G1) + \beta_2 z(\text{studytime}) + \beta_3 z(\text{failures}) + \beta_4 z(\text{absences}) + e$.

Source rows: 649

Calculated metrics:

g1_path: 2.54696814211795

studytime_path: 0.114898003619834

failures_path: -0.290980947442486

absences_path: 0.128899115849755

r_squared: 0.692166044565428

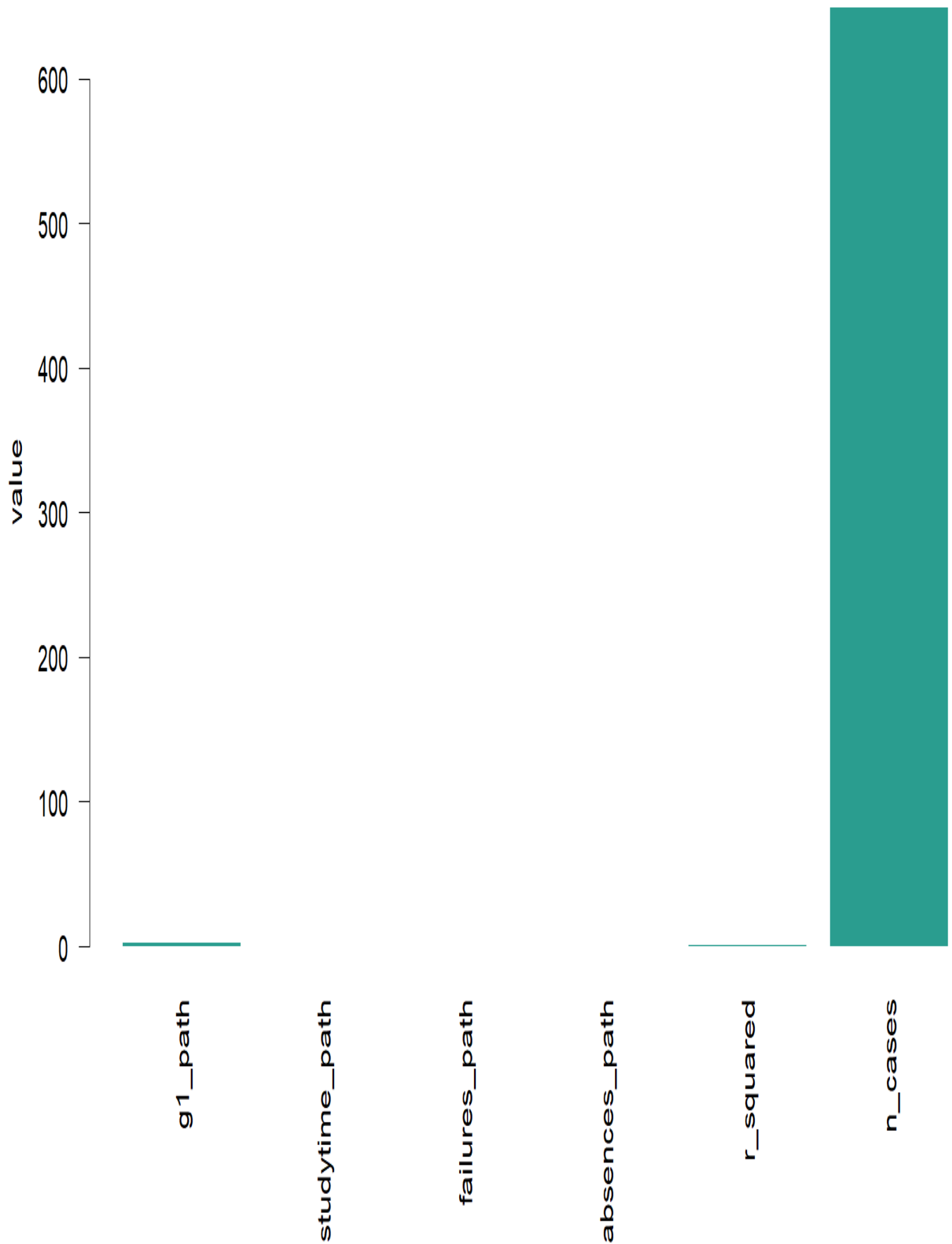
n_cases: 649

Interpretation:

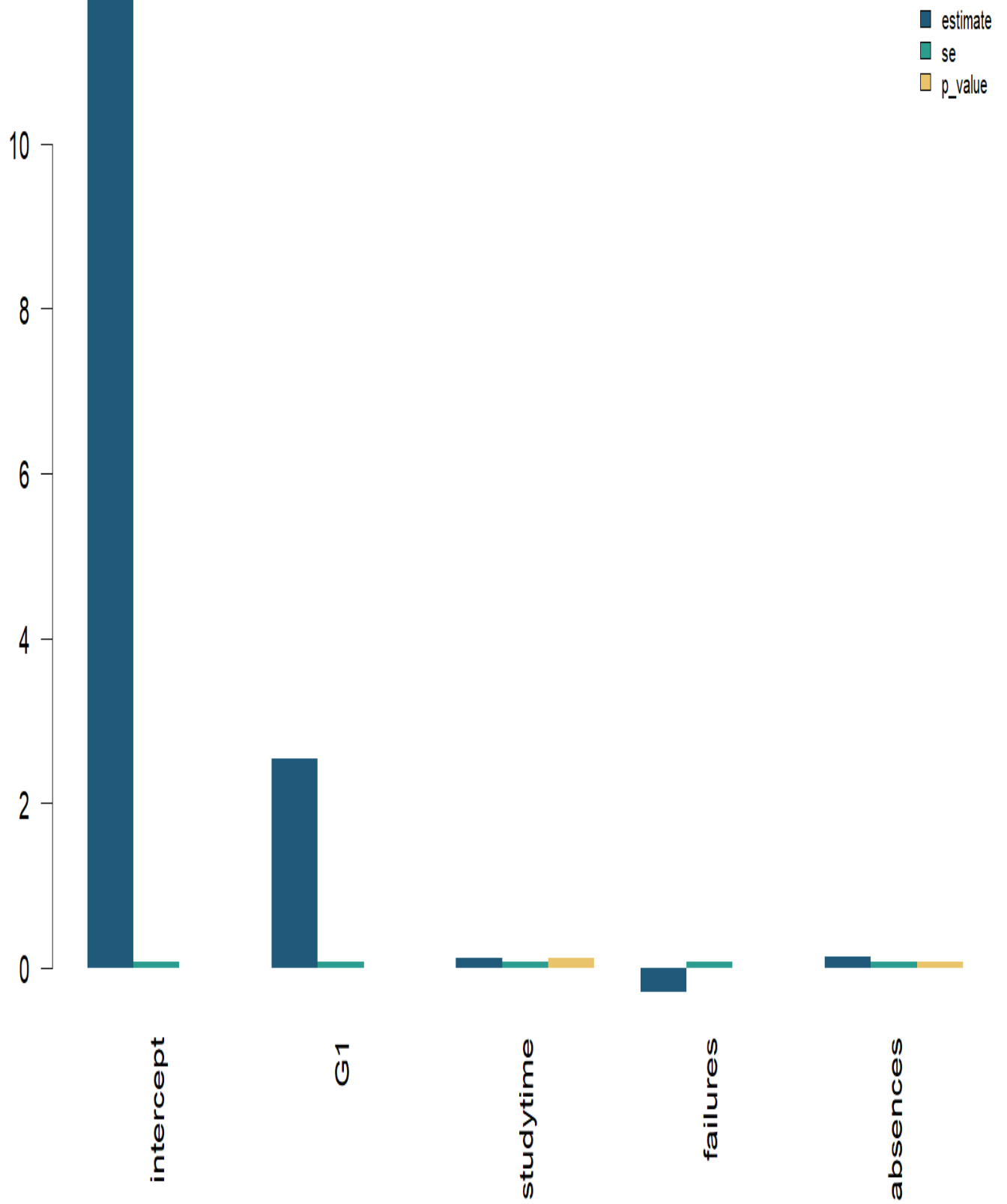
Path analysis uses observed variables only.

R2 0.692166044565428

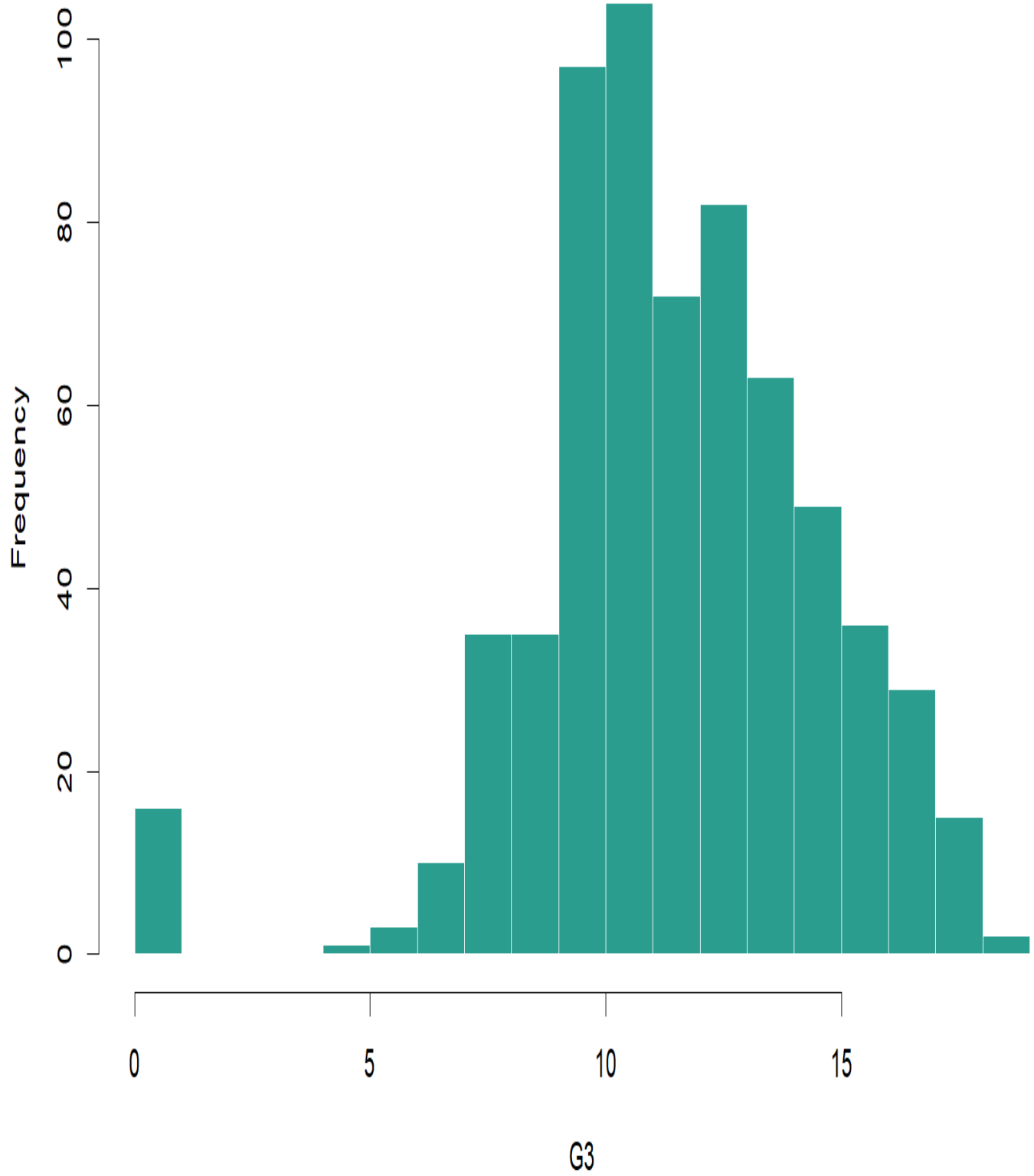
Observed-Variable Path Analysis - primary metrics



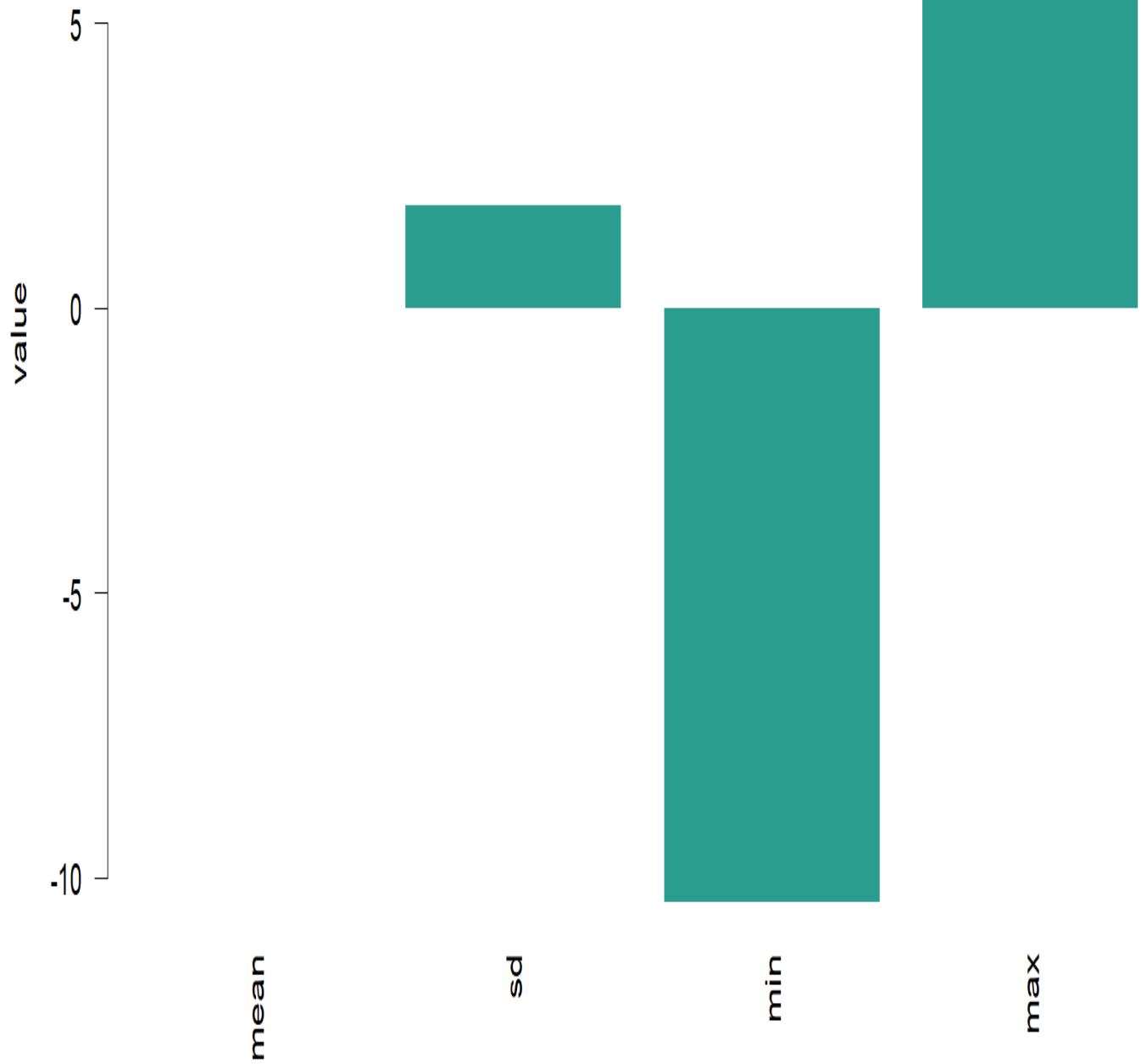
Observed-Variable Path Analysis - observed path coefficients



Observed-Variable Path Analysis - observed path data



Observed-Variable Path Analysis - path residual summary



Observed-Variable Path Analysis verified results

