

Regression in Excel Verified Report

This report is generated only from the values stored in regression_in_excel_worked.xlsx. It summarizes the workbook's simple and multiple linear regression sheets and reproduces the intended diagnostic charts from their exact worksheet ranges.

Metric	Simple regression	Multiple regression
Outcome	G3	G3
Predictors	G2	G1, G2, studytime, failures, absences, age, Medu, Fedu
Complete cases	649	649
R-squared	0.843730	0.850777
Adjusted R-squared	0.843489	0.848912
RMSE / standard error	1.278096	1.247020
F statistic	3493.281566	456.111097

Workbook Equations

Simple model: Predicted G3 = 0.121966 + 1.018490 × G2

Multiple model: Predicted G3 = -0.501155 + 0.143397 × G1 + 0.884807 × G2 + 0.096632 × studytime - 0.235361 × failures + 0.022762 × absences + 0.022685 × age - 0.044951 × Medu + 0.022025 × Fedu

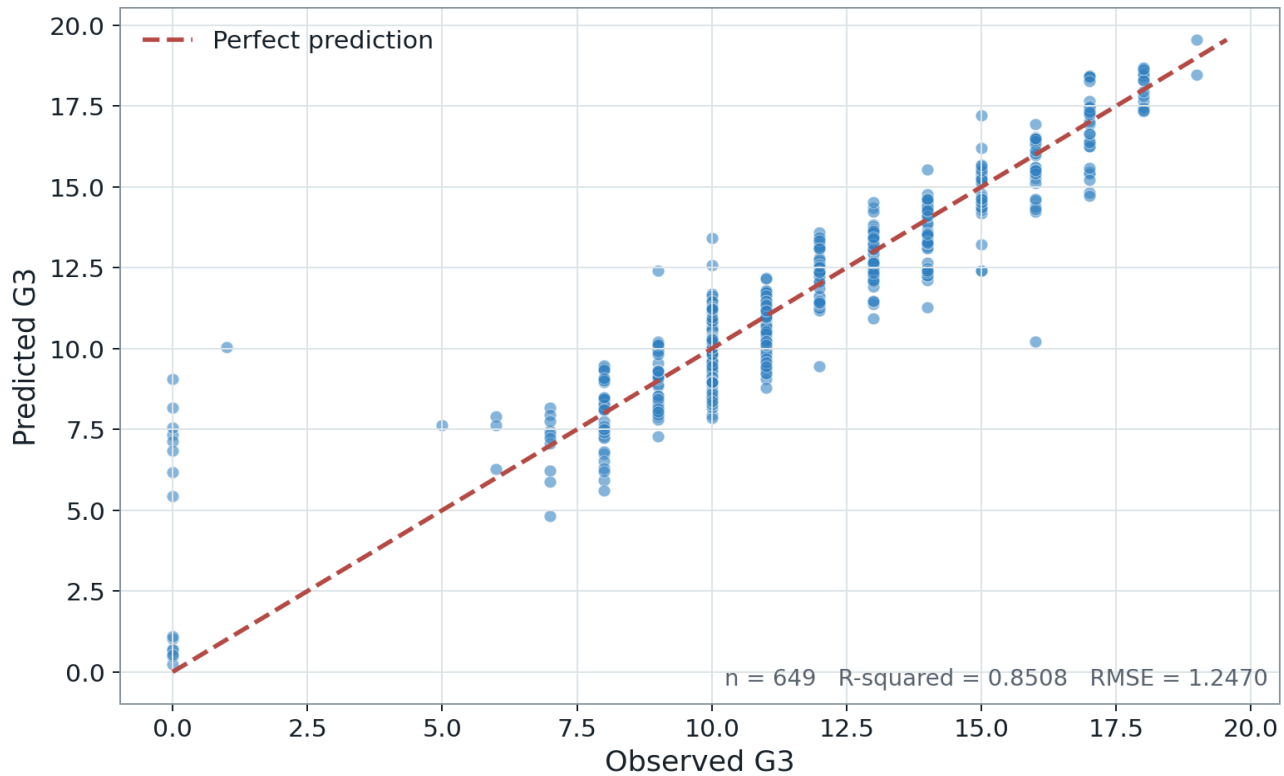
The workbook estimates G2 as the dominant standardized predictor (beta = 0.797983). The coefficient signs and magnitudes in this report are transcribed from the workbook and are not refitted independently.

Multiple Regression Coefficients

Term	B	SE	t	Approx. p	95% CI	Std. beta
Intercept	-0.501155	0.773950	-0.6475	0.5175	[-2.0209, 1.0186]	
G1	0.143397	0.036672	3.9103	<.001	[0.0714, 0.2154]	0.1219
G2	0.884807	0.034369	25.7440	<.001	[0.8173, 0.9523]	0.7980
studytime	0.096632	0.062091	1.5563	0.1201	[-0.0253, 0.2186]	0.0248
failures	-0.235361	0.095234	-2.4714	0.0137	[-0.4224, -0.0484]	-0.0432
absences	0.022762	0.010919	2.0846	0.0375	[0.0013, 0.0442]	0.0327
age	0.022685	0.043668	0.5195	0.6036	[-0.0631, 0.1084]	0.0086
Medu	-0.044951	0.057938	-0.7759	0.4381	[-0.1587, 0.0688]	-0.0158
Fedu	0.022025	0.059316	0.3713	0.7105	[-0.0945, 0.1385]	0.0075

Observed versus Predicted G3

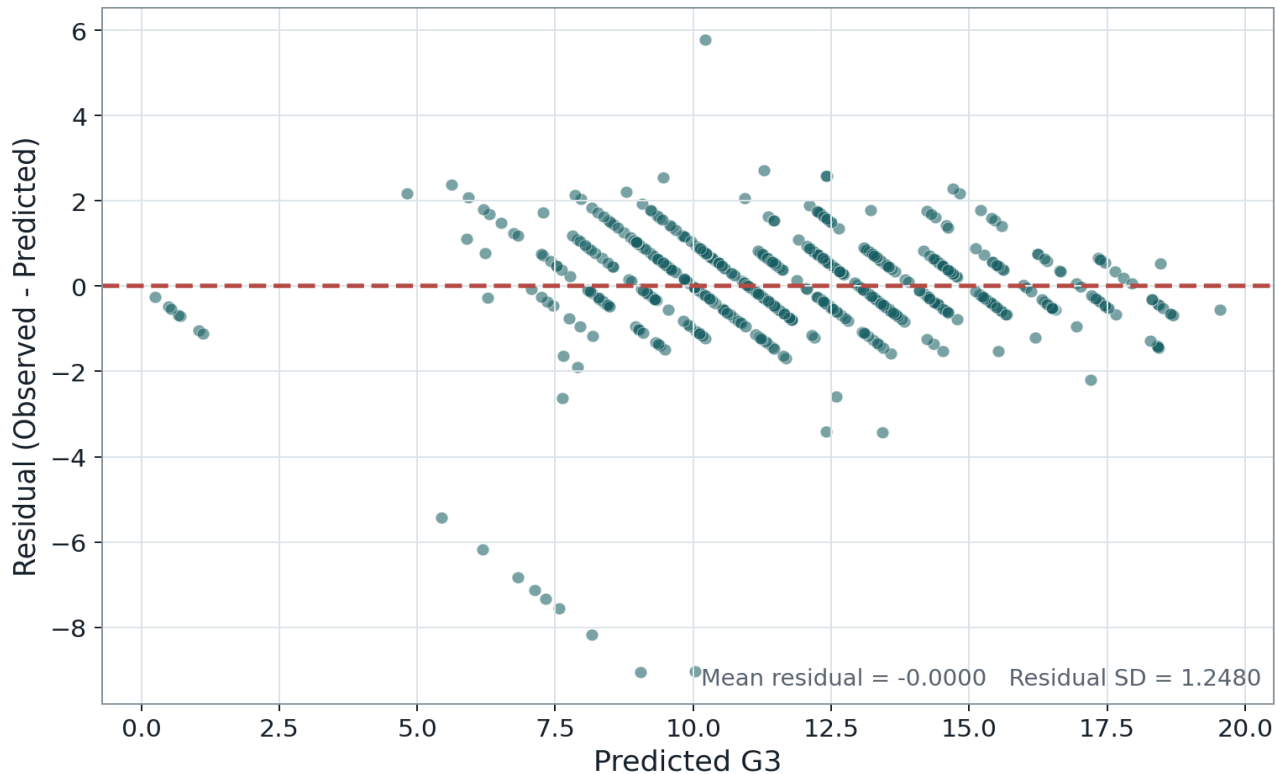
Regression in Excel: Observed versus Predicted G3



Points closer to the dashed identity line indicate smaller prediction error. The displayed R-squared and RMSE are taken from the workbook's multiple-regression summary.

Residuals versus Fitted Values

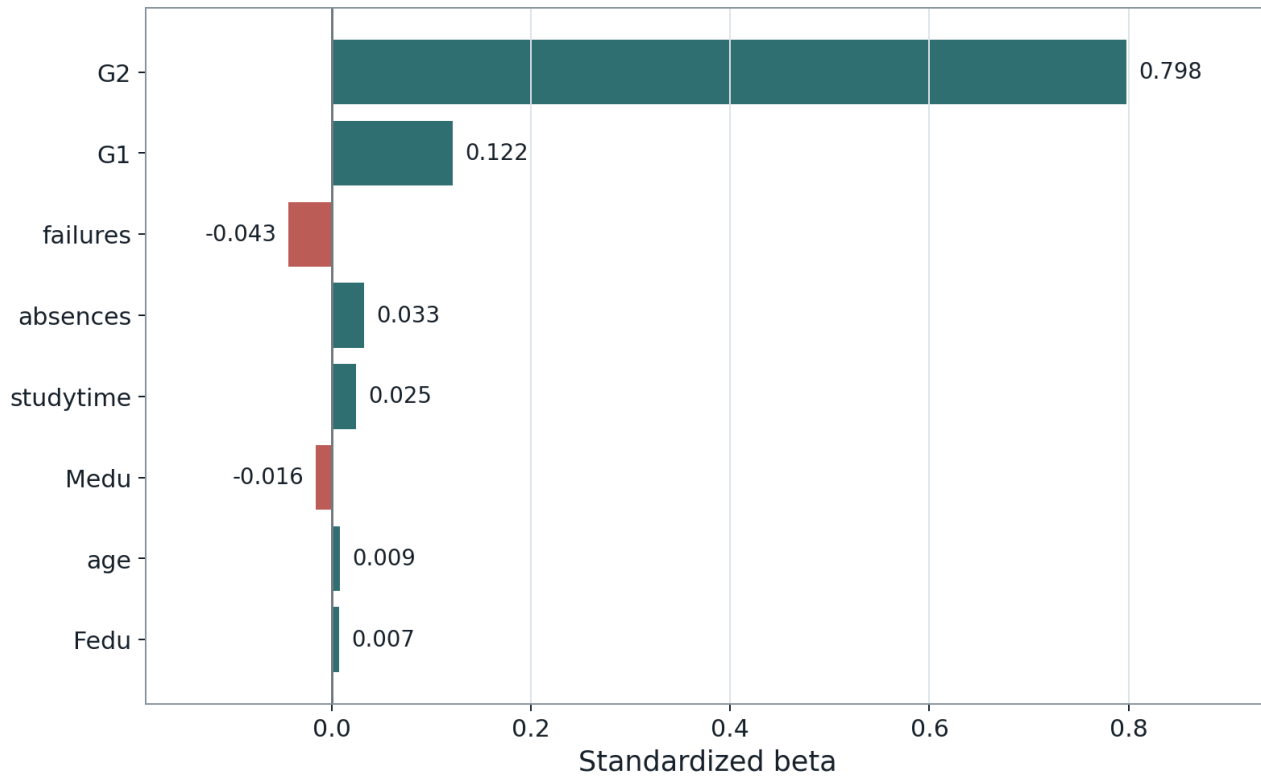
Regression in Excel: Residuals versus Fitted Values



Residuals are computed in the workbook as observed G3 minus predicted G3. The horizontal reference at zero supports inspection of nonlinearity, changing spread, and unusual errors.

Standardized Beta Coefficients

Regression in Excel: Standardized Beta Coefficients



The chart uses the workbook's standardized-beta column. G2 is much larger in absolute magnitude than the remaining predictors in this fitted model.