

Three Way ANOVA Report

Outcome: G3

Factor A: studytime

Factor B: school

Factor C: sex

Model: $G3 \sim \text{studytime} * \text{school} * \text{sex}$

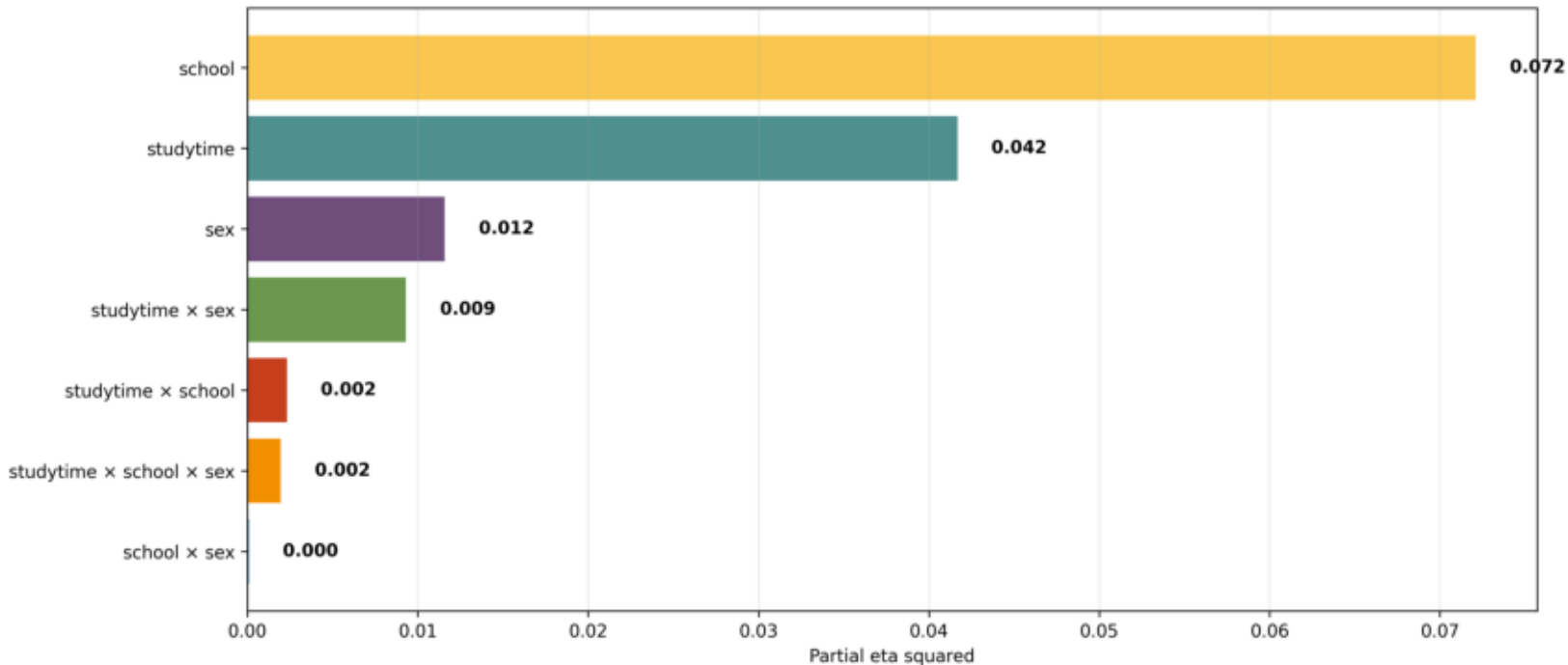
Largest partial eta squared: school = 0.072097

Effect size label: Medium

The report includes main effects, two-way interactions, and the three-way interaction.

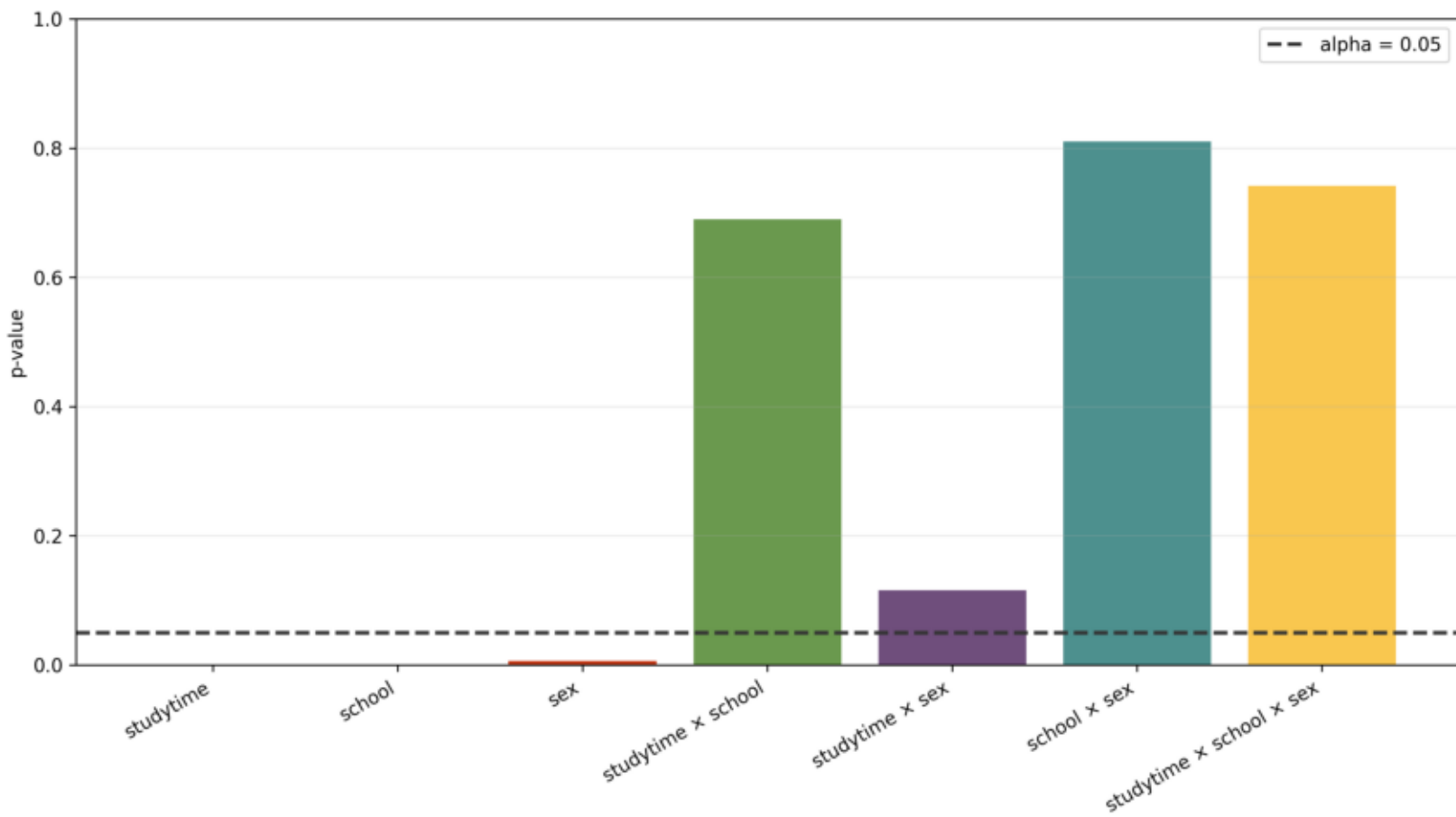
Three Way ANOVA: Effect Sizes

Partial eta squared compares the practical strength of main effects and interactions.



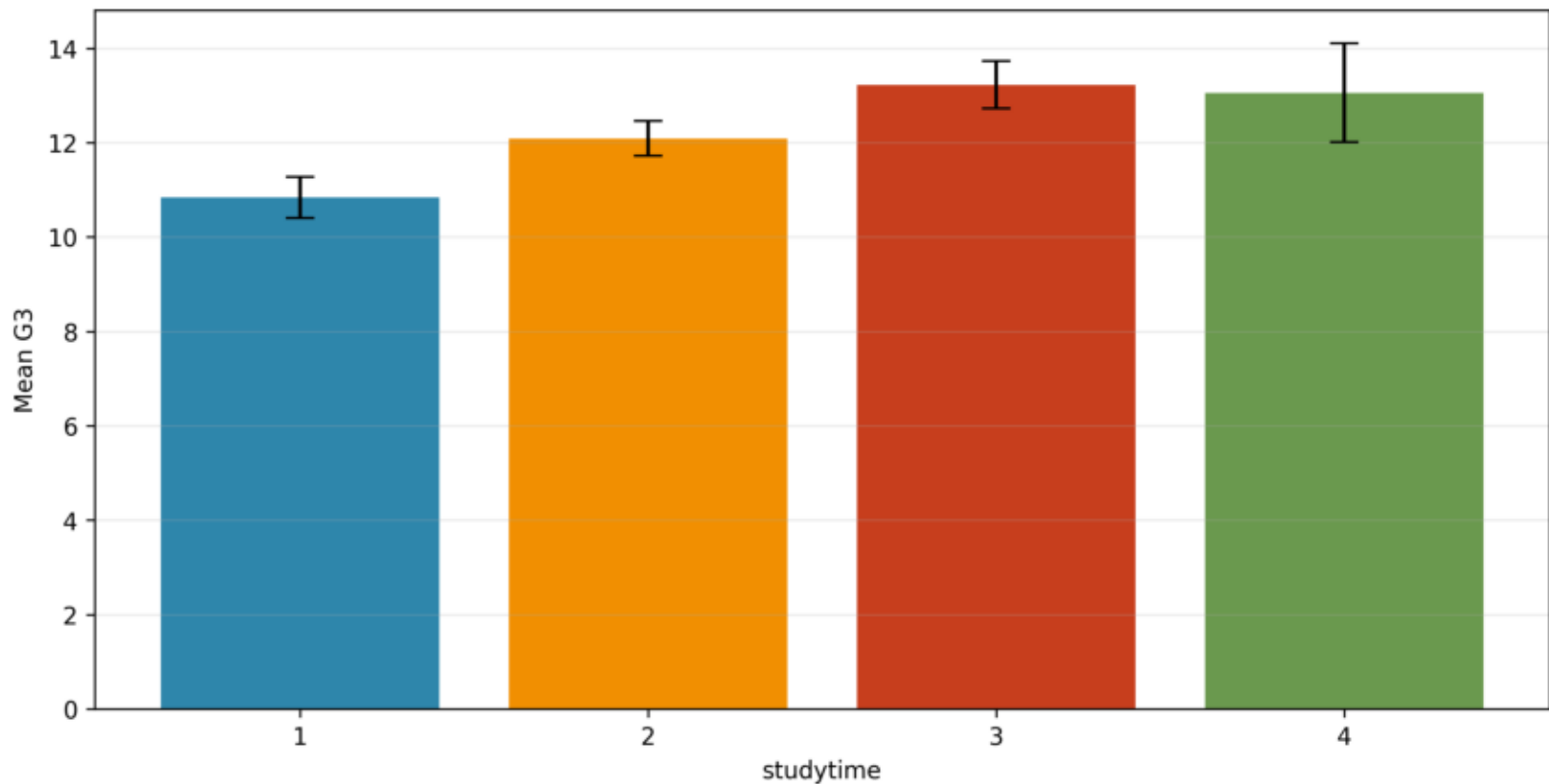
Three Way ANOVA: p-values by Effect

Effects below the alpha line are statistically significant at 0.05.



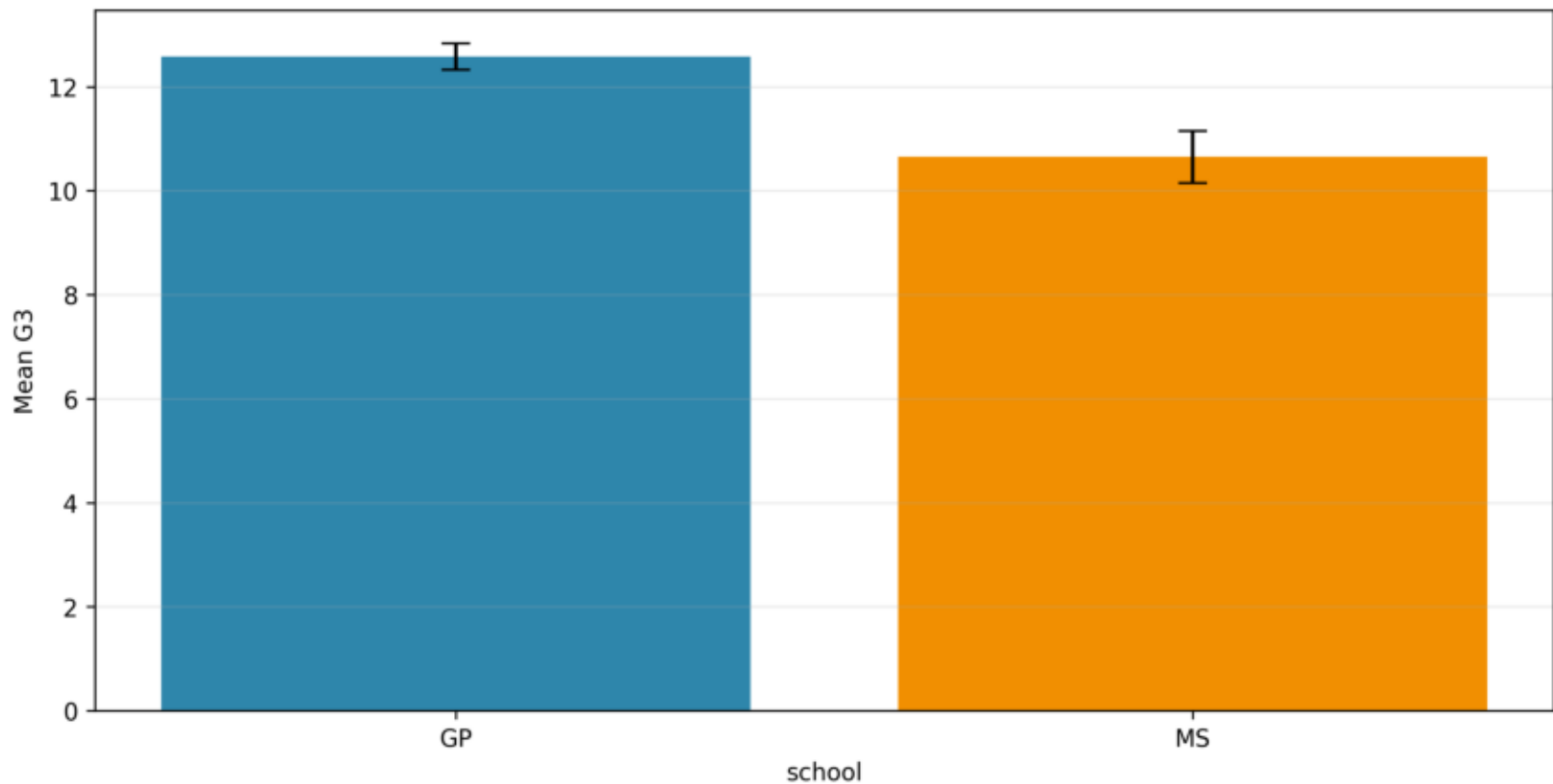
Main Effect Mean Plot: studytime

Bars show group means with 95% confidence intervals.



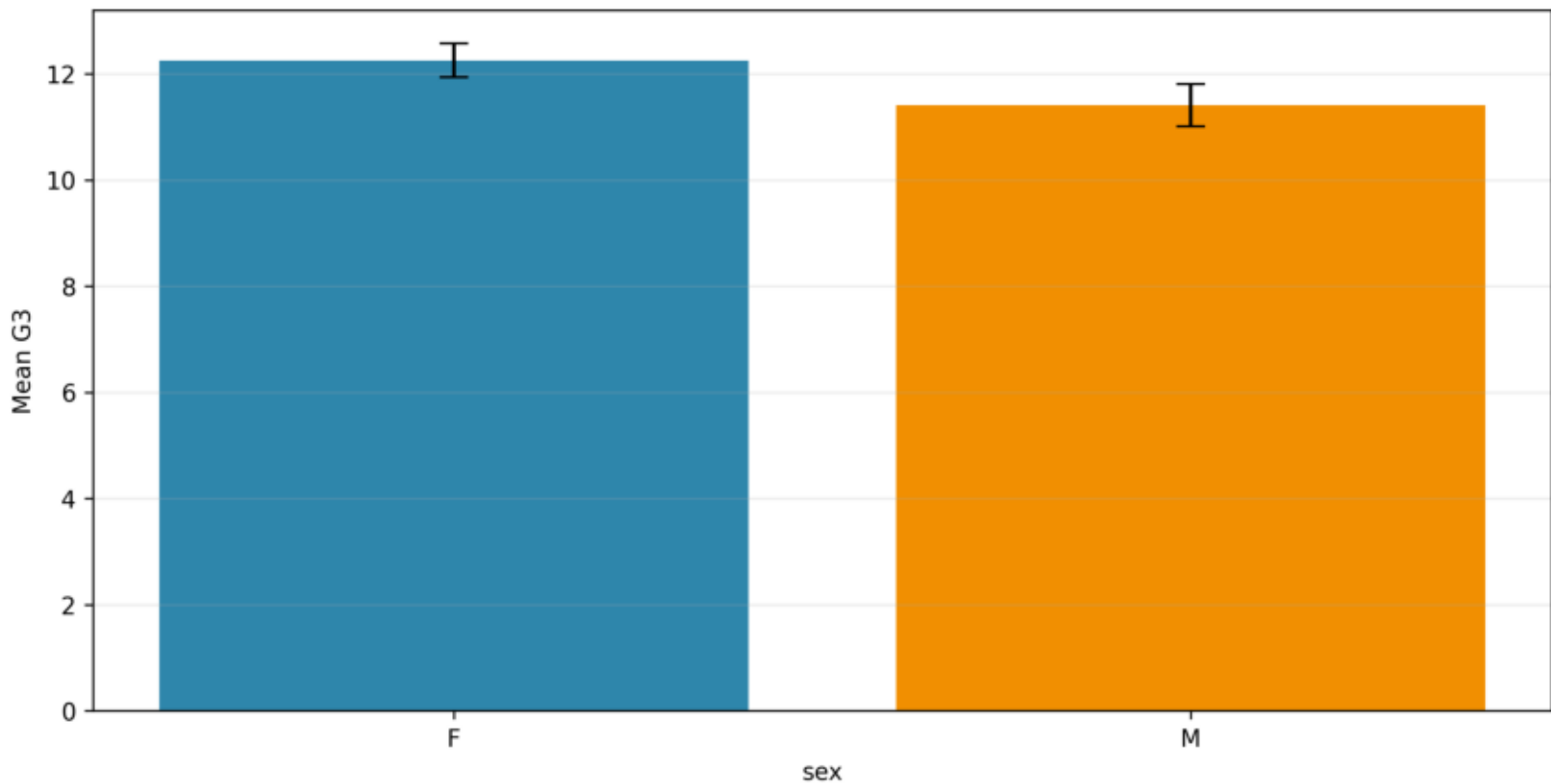
Main Effect Mean Plot: school

Bars show group means with 95% confidence intervals.



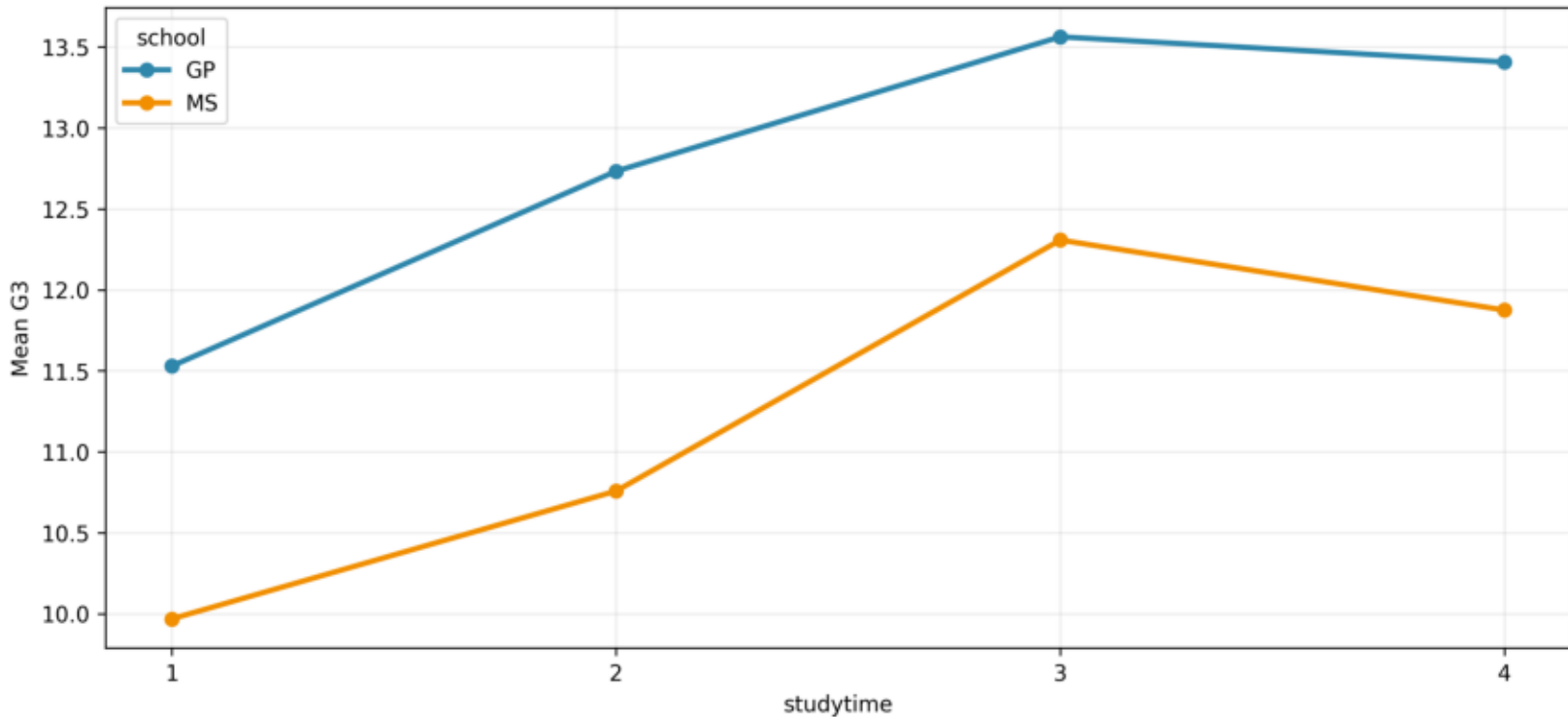
Main Effect Mean Plot: sex

Bars show group means with 95% confidence intervals.



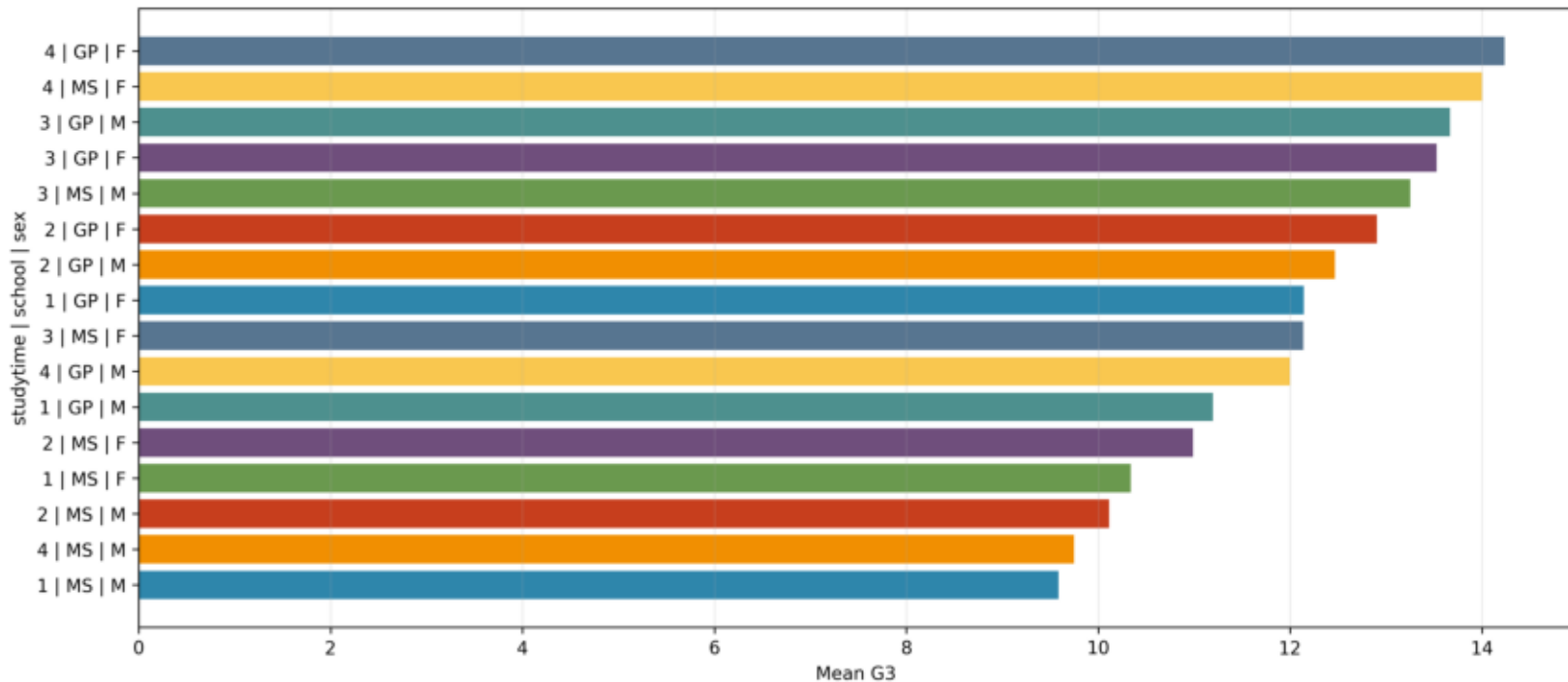
Two-Way Interaction Profile

Non-parallel lines suggest an interaction between studytime and school.



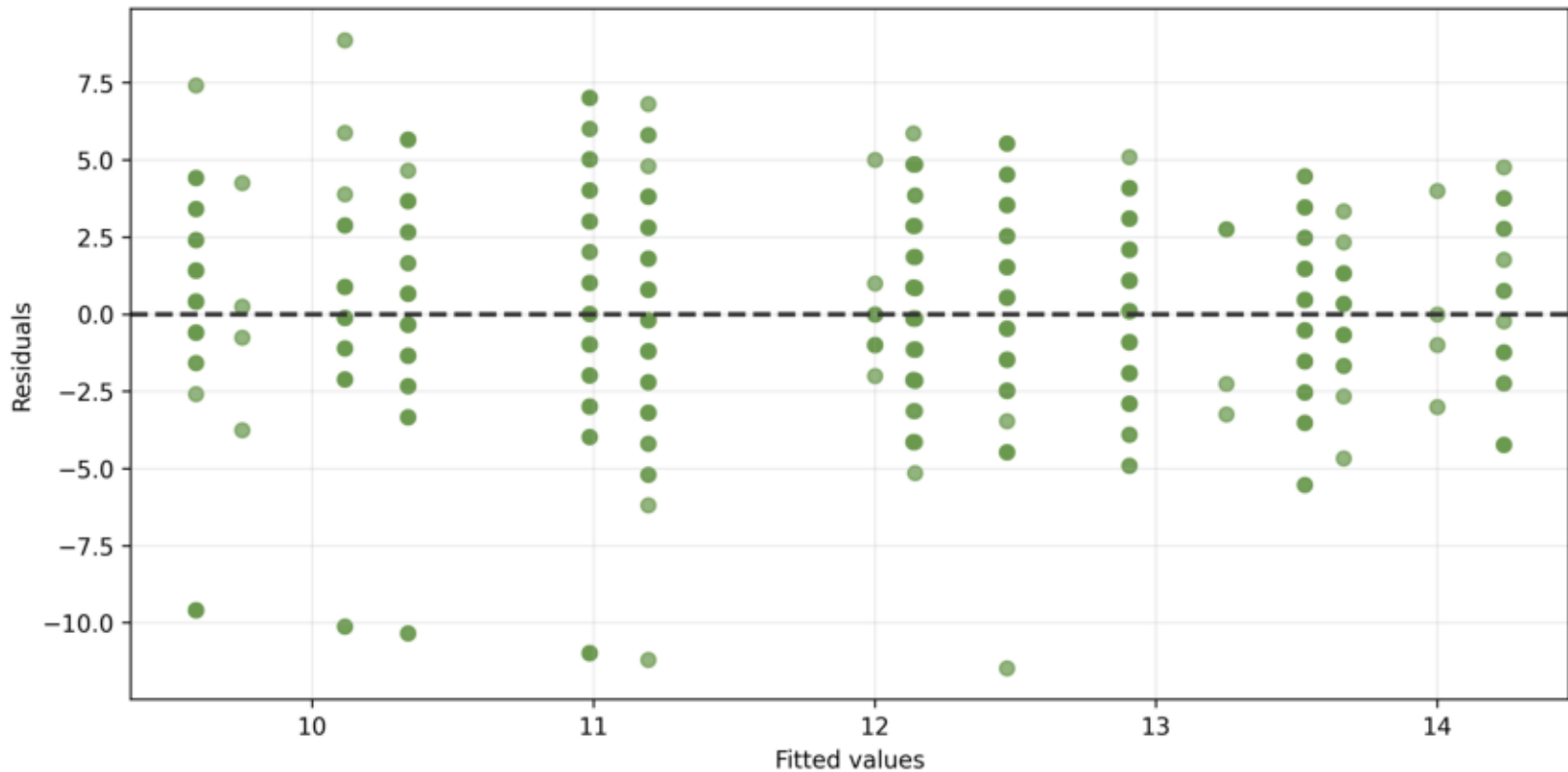
Three-Way Cell Means

Each bar is one combination of the three ANOVA factors.



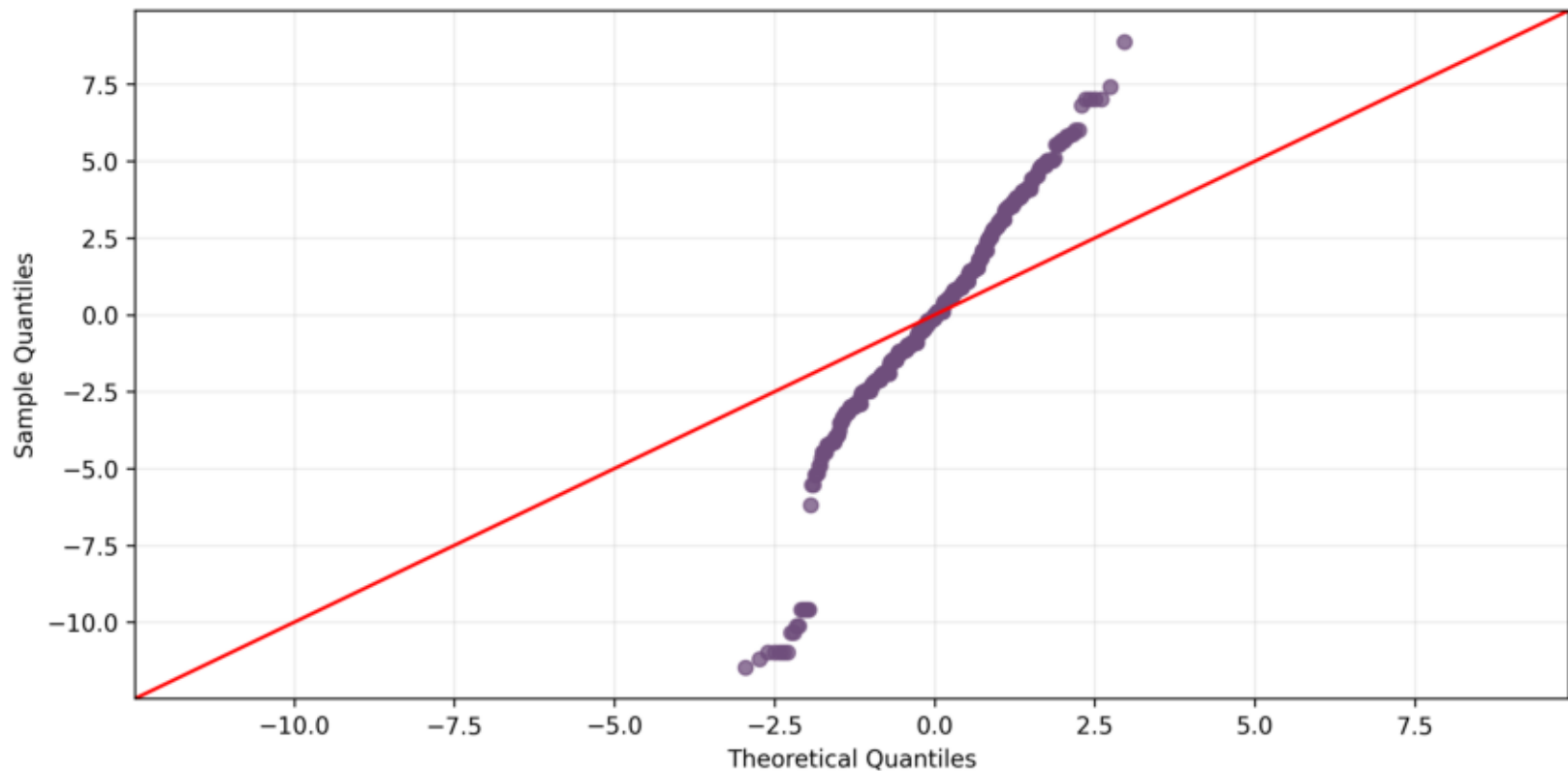
Three Way ANOVA: Residuals vs Fitted

A random cloud around zero supports model fit and variance assumptions.



Three Way ANOVA: Residual Q-Q Plot

Points close to the diagonal support approximate residual normality.



Three Way ANOVA Summary Table

Includes main effects, two-way interactions, and the three-way interaction.

Effect	df	F	p	partial eta ²	label	decision
studytime	3	9.176	5.978e-06	0.04168	Small	Reject H0
school	1	49.18	6.001e-12	0.0721	Medium	Reject H0
sex	1	7.417	0.006639	0.01158	Small	Reject H0
studytime x school	3	0.4897	0.6896	0.002315	Very small	Fail to reject H0
studytime x sex	3	1.98	0.1157	0.009298	Very small	Fail to reject H0
school x sex	1	0.05777	0.8101	9.126e-05	Very small	Fail to reject H0
studytime x school x sex	3	0.4162	0.7414	0.001969	Very small	Fail to reject H0