

One Way ANCOVA Report

Model:

G3 ~ studytime + absences

Model summary:

test_name	model	outcome	factor	covariate	n groups	factor_p_value	covariate_p_value	
One Way ANCOVA	G3 ~ studytime + absences	G3	studytime	absences	649	4	5.445639e-10	0.1202612
factor_partial_eta_squared				alpha				factor_decision_alpha_0_05
								0.06900587
								0.003744199
								0.05
								Reject equal adjusted means
covariate_decision_alpha_0_05								
								Covariate not significant

ANCOVA table:

source	Df	Sum Sq	Mean Sq	F value	Pr(>F)	eta_squared	partial_eta_squared
studytime	3	465.07782	155.025942	15.911228	5.445639e-10	0.068765266	0.069005871
absences	1	23.58167	23.581672	2.420326	1.202612e-01	0.003486728	0.003744199
Residuals	644	6274.60707	9.743179	NA	NA	0.927748006	NA

Raw group summary:

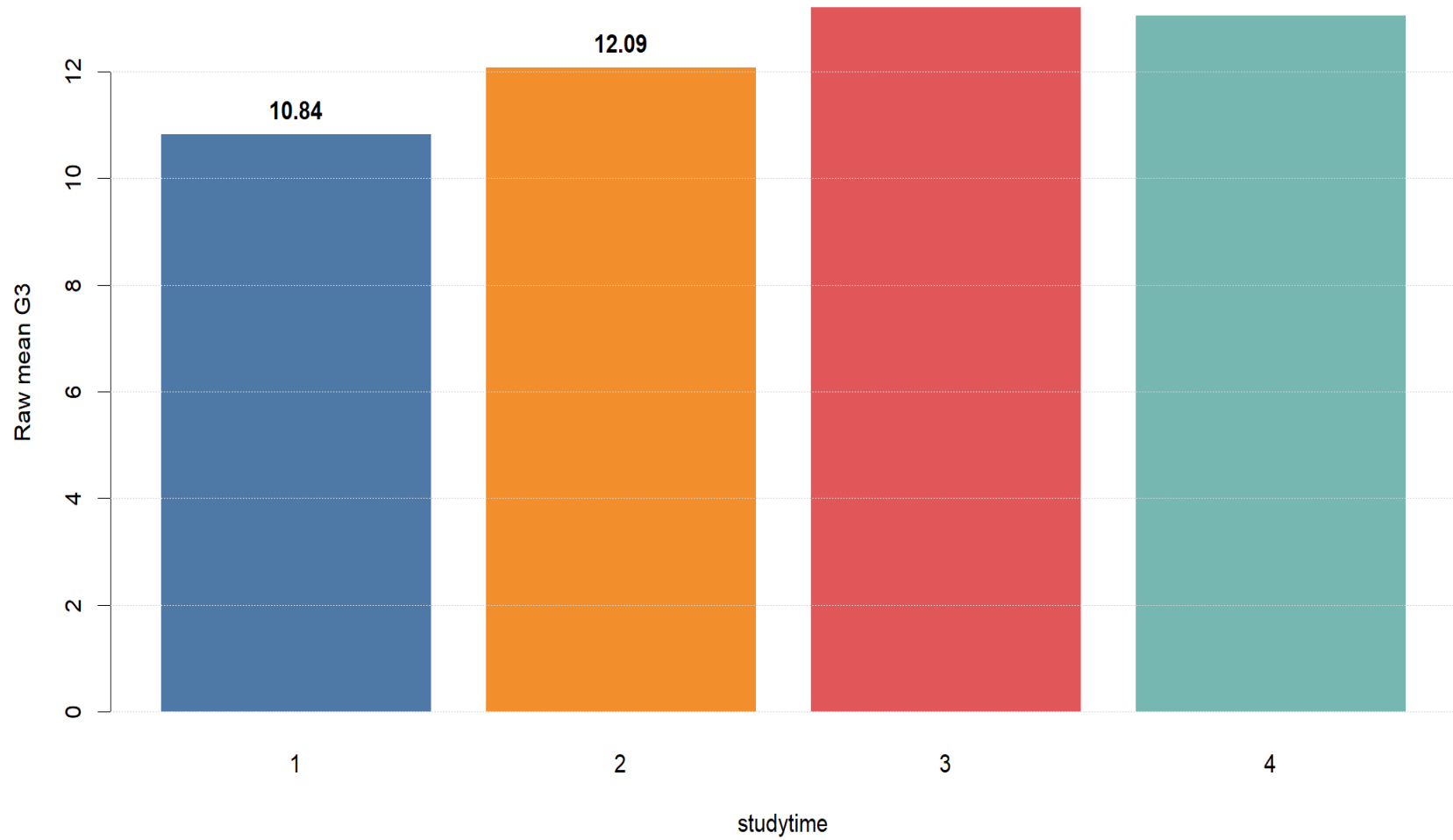
group	n	mean	median	standard_deviation	variance	minimum	maximum	covariate_mean
1	212	10.84434	11	3.218624	10.359541	0	18	4.339623
2	305	12.09180	12	3.243125	10.517860	0	19	3.600000
3	97	13.22680	13	2.502104	6.260524	8	18	2.618557
4	35	13.05714	13	3.038410	9.231933	6	19	2.942857

Adjusted means:

group	covariate_set_to	adjusted_mean	ci95_low	ci95_high
1	3.659476	10.87252	10.45006	11.29499
2	3.659476	12.08934	11.73836	12.44032
3	3.659476	13.18367	12.55895	13.80839
4	3.659476	13.02745	11.99072	14.06418

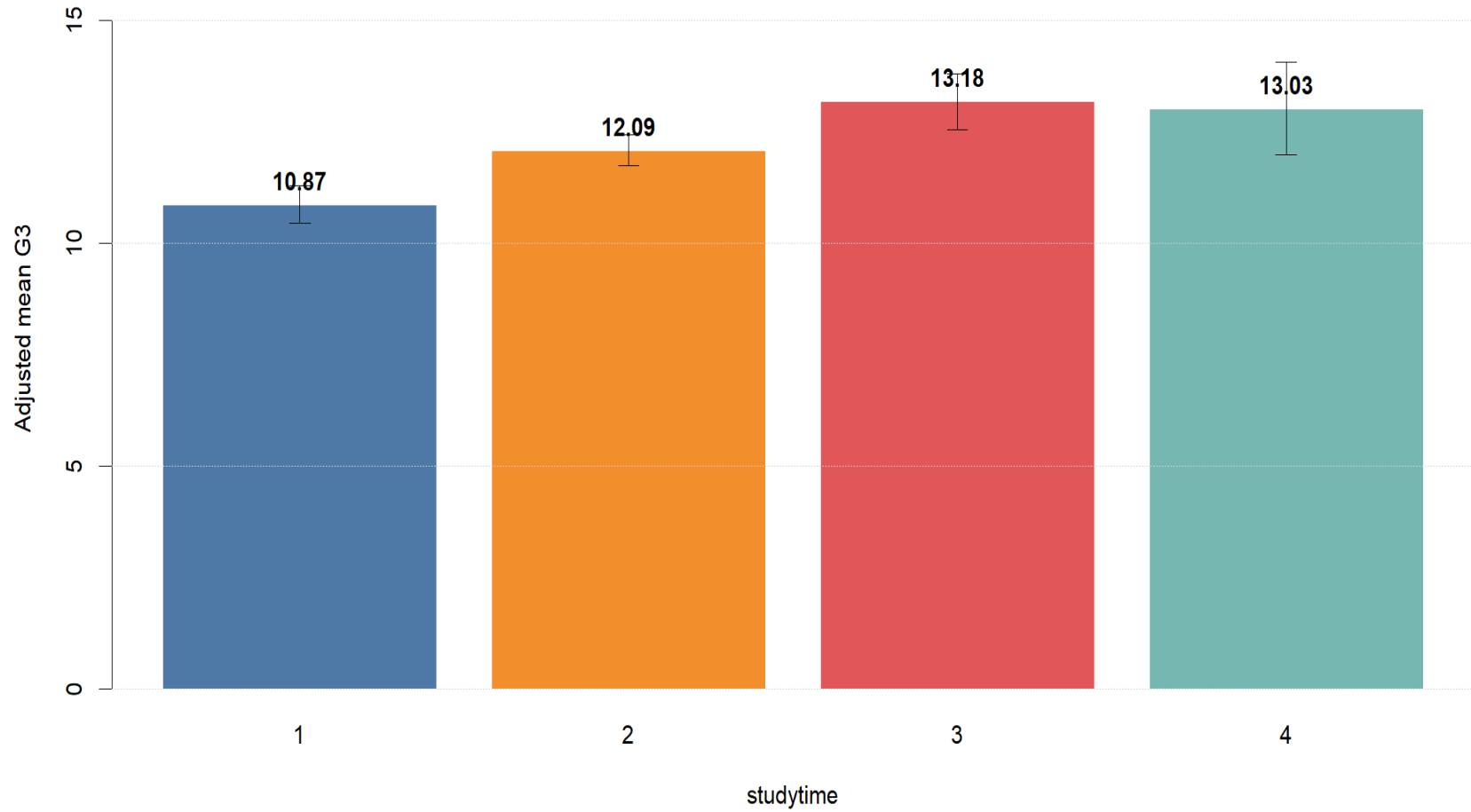
One Way ANCOVA: Raw Mean G3 by Studytime

Raw means are shown before adjusting for the covariate absences.



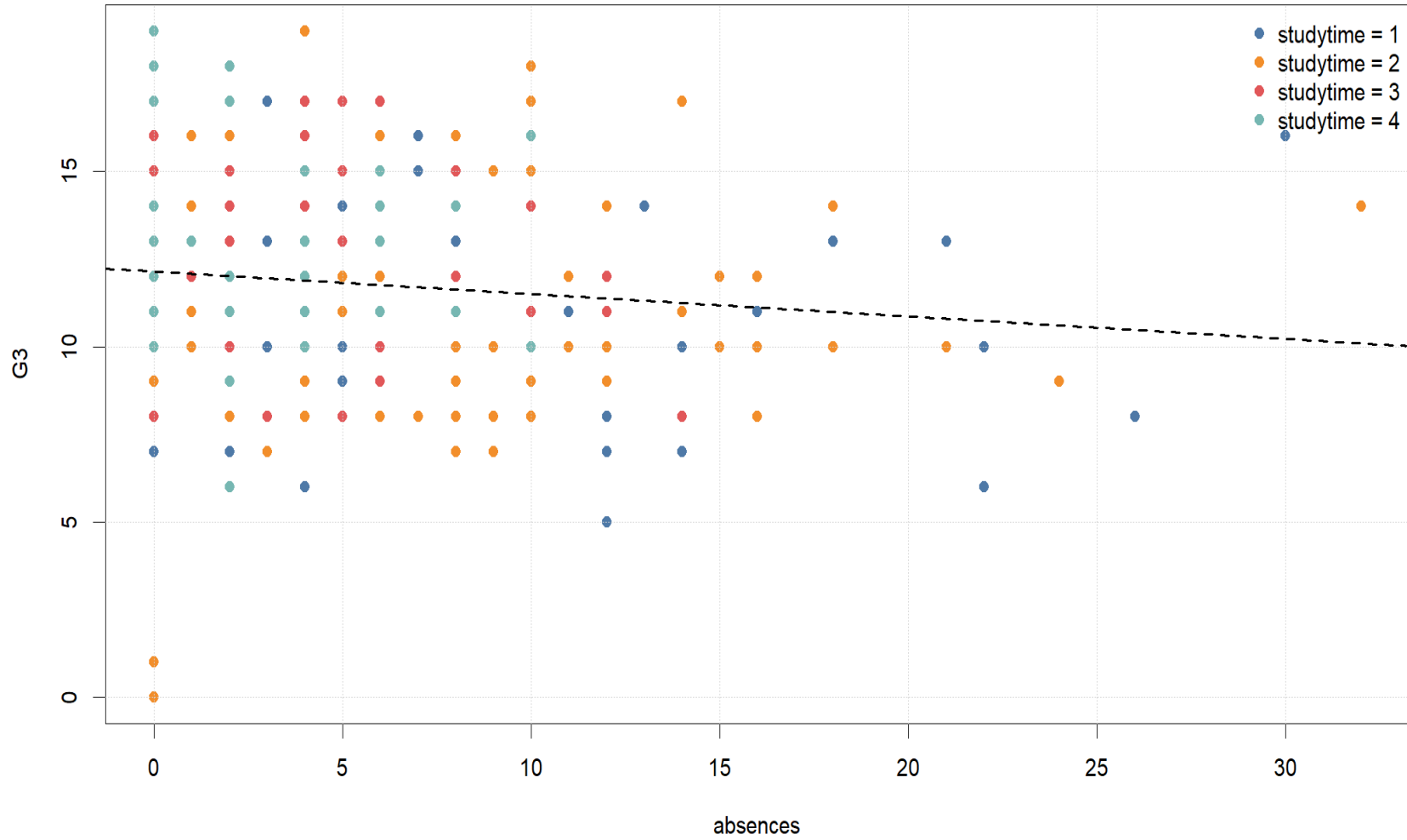
One Way ANCOVA: Adjusted Means with 95% Confidence Intervals

Means are adjusted at the overall mean value of absences.



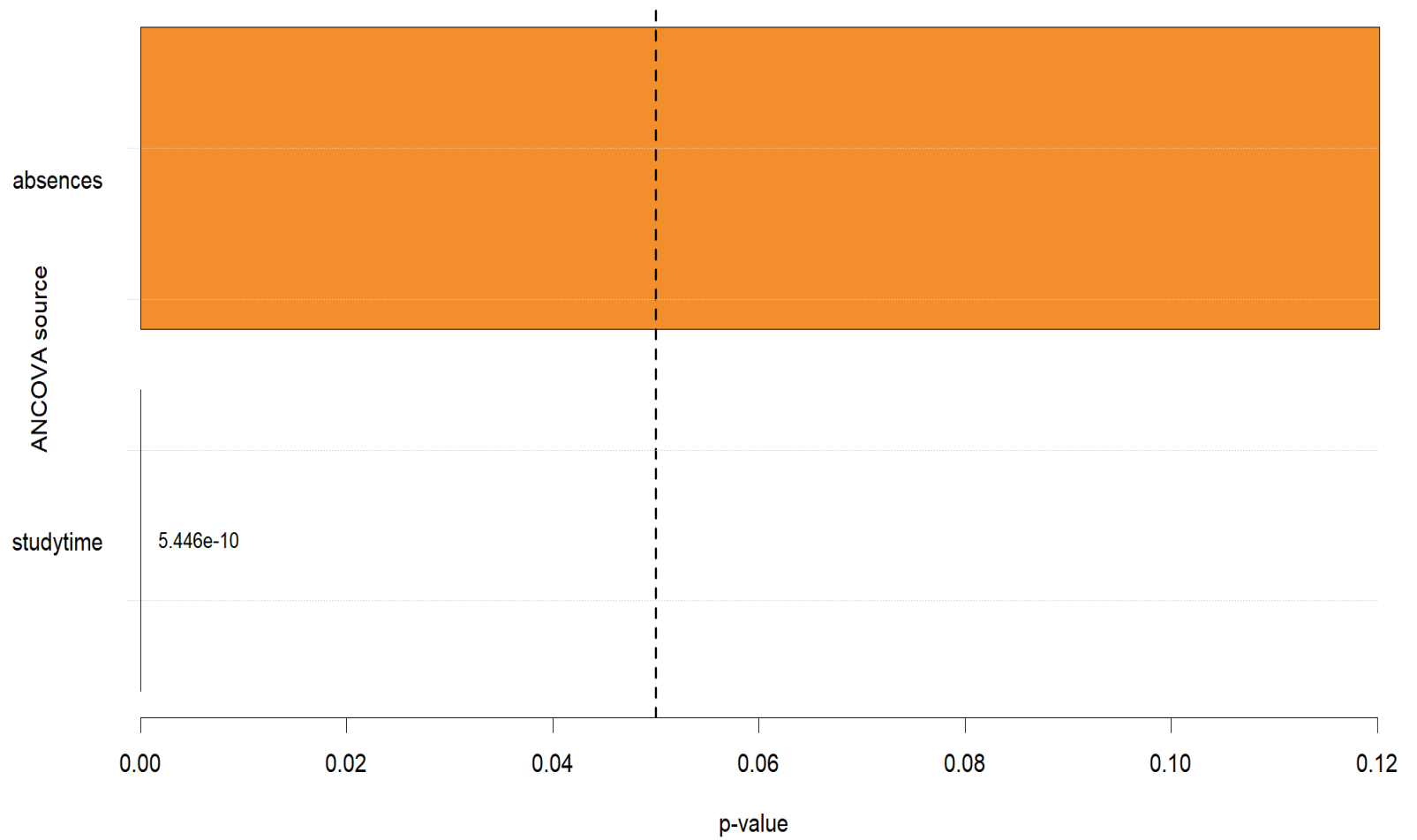
One Way ANCOVA: Outcome by Covariate

Scatter plot shows how G3 relates to absences across studytime groups.



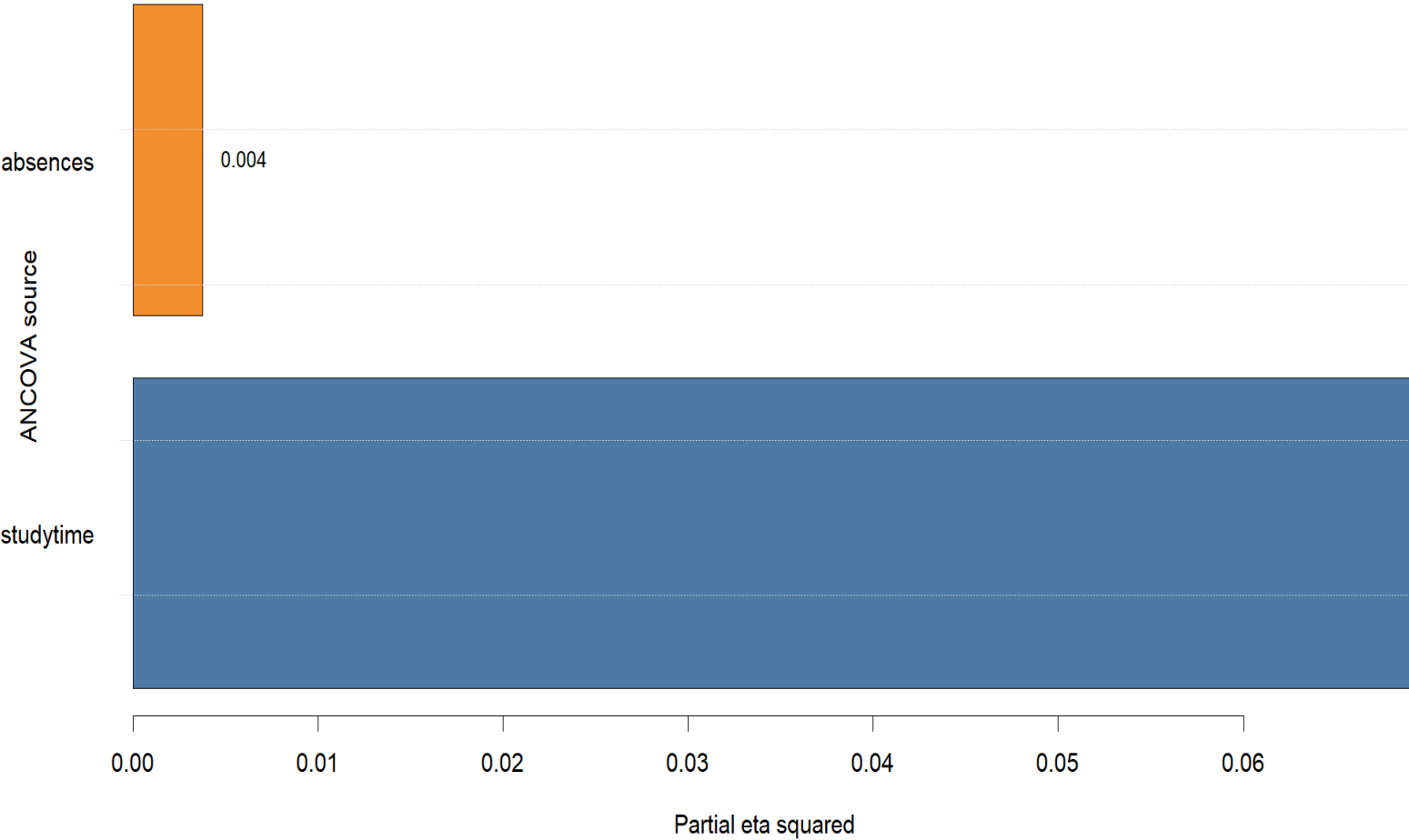
One Way ANCOVA: p-value Decision Summary

The factor is interpreted after controlling for the covariate.



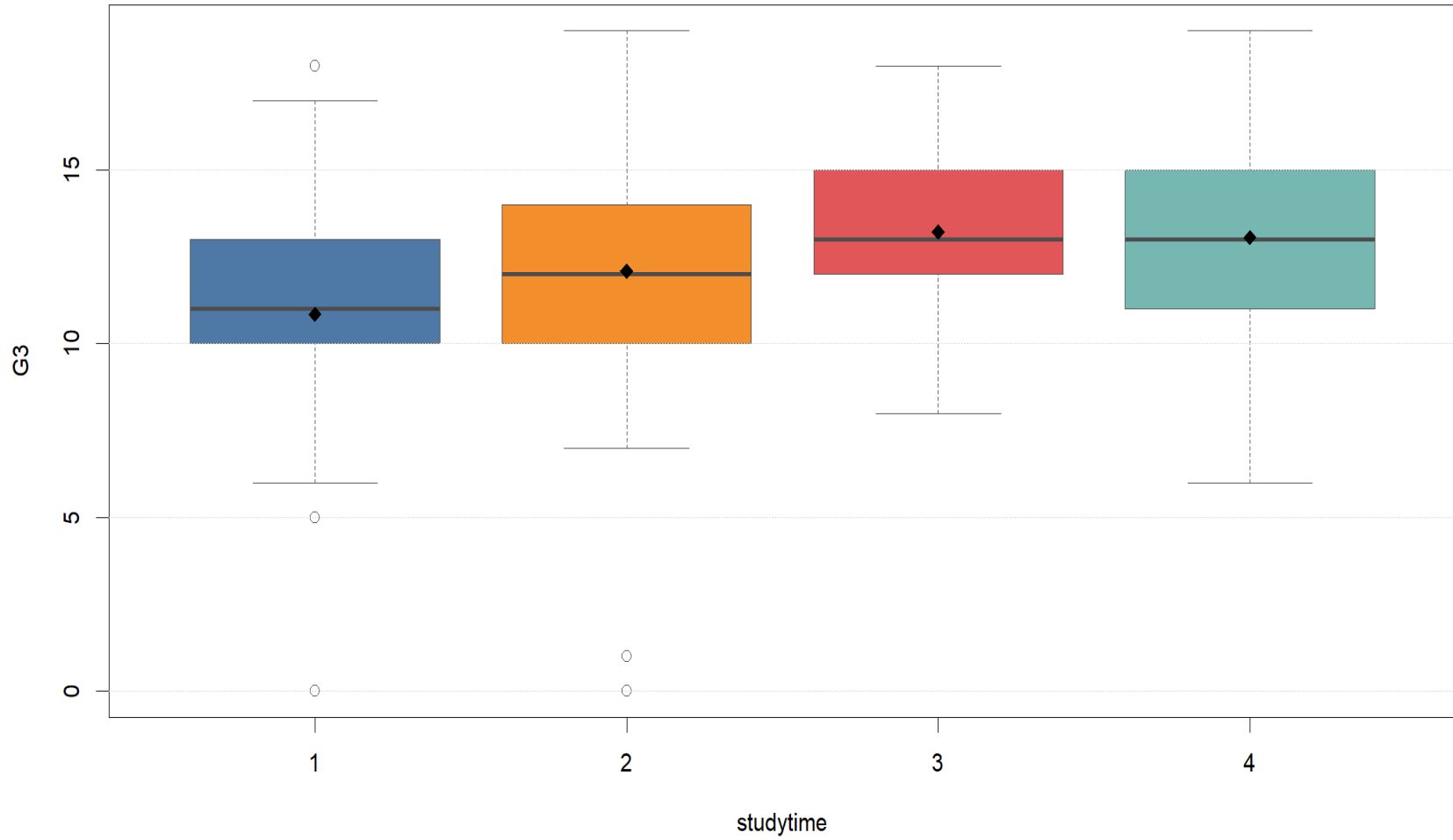
One Way ANCOVA: Effect Size Summary

Partial eta squared shows the relative contribution of the factor and covariate.



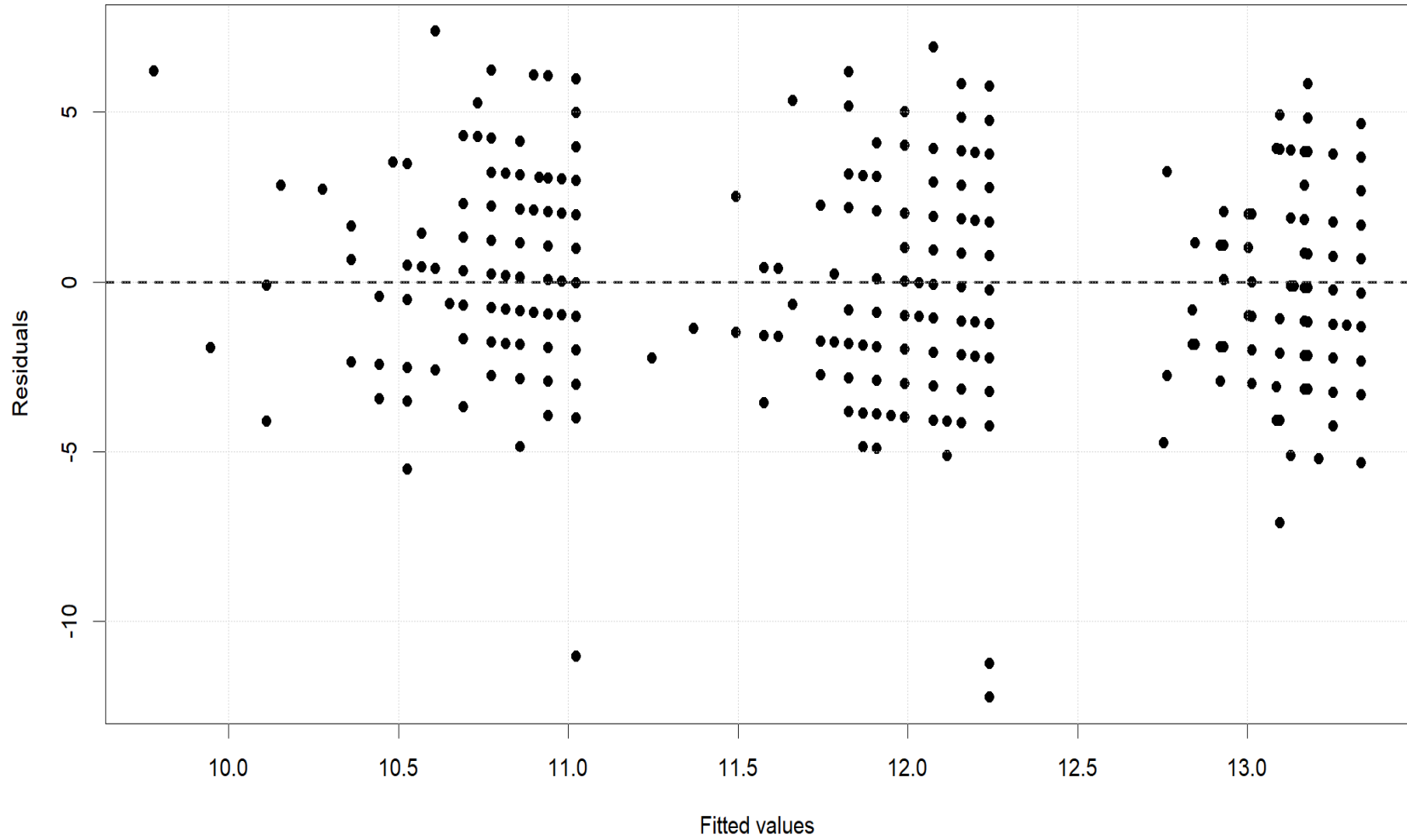
One Way ANCOVA: G3 Distribution by Studytime

Boxplots show spread, medians, mean markers, and possible outliers before adjustment.



One Way ANCOVA: Residuals vs Fitted

A random pattern around zero supports the ANCOVA model assumptions.



One Way ANCOVA: Residual Q-Q Plot

Points close to the reference line support approximate residual normality.

