Aidan Cataldi
04/24/2026
EX7
Professor Totton
Research Methods 2

Why did we run correlations and regressions for this lab exercise? What properties of the variables made them the appropriate forms of analysis?

The tests ran were appropriate because we were using continuous variables. We used the correlation because we wanted to first figure out the relationship and strength of the relationship between each predictor variable and outcome. Two step regression was used to see if specific predictor variables could explain any added variance.

Three correlations were run in order to determine if MEMTEST, BALARG, and support were correlated to average recall over all of the three trials. BALARG (r (120) = -.025, p = .784) was not found to have significant correlation, support (r (120) = -.080, p = .387) was not found to have significant correlation as well. MEMTEST T (r (120) = .717, p < .001) and Interest (r (120) = .600, p < .001) were positively correlated with the mean recall for the three trials. See figure 1 and 2 for scatter plots of the relationships that were found to be significant.

Figure 1

Scatterplot displaying the relationship between Memtest and AVG Recall

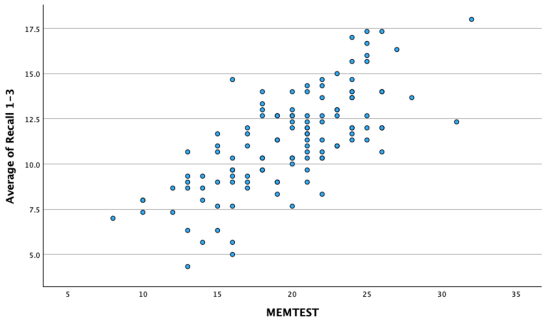
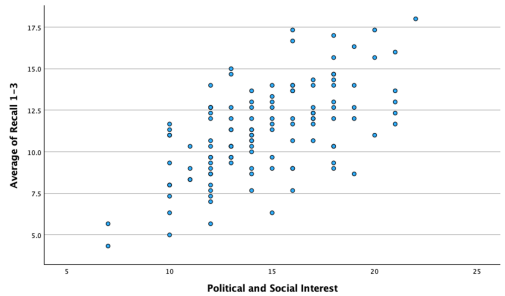


Figure 2

Scatterplot displaying the relationship between Interest and AVG recall



MEMTEST and Intrest were used in a hierarchical linear regression in order to predict average recall over 3 trails. In the first south model, MEMTEST served as a significant predictor of average recall over trials; (β = .43, t(120) = 11.17, p < .001). This model explained a significant portion of the mean recall variance. R^2 = .51, F (1, 118) = 124.71, p < .001. The regression for the first model was mean recall over 3 trails = 0.43 MEMTEST) + 2.74.

Shown in the second model, MEMTEST again significantly predicted mean recall over 3 trails (β = .34, t(120) = 9.06, p < .001). Political and social interest was shown to be a significant predictor of mean recall(R^2 = .62, F(2, 117) = 96.92, p < .001). The regression equation for the second model was mean recall over 3 trails–.341(Memtest) + .312(Interest) -.04

The second model explained a larger portion of variance in recall than the first. 51.4% versus 62.4% respectively, and therefore was a better fit for the data (F Change (2, 117) = 34.13, p < .001).

MEMTEST and interest

Table 1

Summary of Regression Analysis for Models 1 and 2 Predicting Average Recall over 3 Trails.

Model	Effect	Estimate	SE	95% CI		*p*
				LL	UL	
Model 1	Intercept	2.74	0.79	1.18	4.29	< 0.001**
	MEMTEST	.43	0..04	.36	.51	< 0.001**
Model 2	Intercept	-..04	.84	-1.71	1.63	0.961
	MEMTEST	.34	..04	.27	.42	< 0.001**
	Interest	.31	.5	.21	.42	< 0.001**

* Significant at the .01 level

** Significant at the .001 level

Table 2

Summary of ANOVA results for R^2 values.

* Significant at the .001 level

Model	R^2	*F*	df	*p*
1	0.51	134.75	1, 118	<.001
2	0.62	34.11	1, 117	<.001

Model 1 - Memory Test

Model 2 - Memory, Political and social interest