

Advisor-Meeting Preparation Guide

This guide prepares you to explain and defend every analysis decision in your meeting with your academic advisor.

Q1: Why was the Pearson correlation analysis chosen for H1?

The Pearson correlation analysis was selected for H1 based on the study's design and measurement structure.

We chose the Pearson correlation because H1 simply asks how two continuous composite scores—academic self efficacy and learning persistence—relate to one another, without any grouping or causal claim. Since both scales are means of multiple items, treated as continuous, and we checked the scatterplot for a linear pattern, reasonable spread, and no overly influential points, Pearson correlation is the natural and defensible way to summarize the strength and direction of their association along with its confidence interval. This matches the cross-sectional, single-time-point design, where we are only describing an association, not testing group differences or making causal statements.

Q2: Why this test and not Spearman correlation?

Pearson correlation was used instead of Spearman correlation because Spearman correlation was kept as a backup. It is used only if your data do not meet the conditions Pearson correlation needs, which we check before the test is run..

We used the Pearson correlation here because both scale scores are interval-level, continuous measures, and the choice of test is made at the design/selection stage before any assumption checks are run. Our reading is that the Spearman correlation exists only as the pre-specified fallback that would be triggered if normality or related assumptions failed once the data were actually examined, so applying it at selection would be premature. Since the scatterplot, linearity, and influential-observation checks are part of the Pearson workflow itself, we're confident the Pearson correlation is the structurally appropriate and defensible choice for this analysis.

Full versions of the findings

The findings chapter reports each result in the form most coursework expects. Below, every hypothesis also appears in its full version, with the elements some instructors ask for. If yours are required, replace the section in the chapter with the version below (copy and paste). The numbers are identical in both versions.

Where a hypothesis was tested with a test that has both a one-tailed and a two-tailed form, its block below also gives the other form: the same test statistic with the other p value, ready to paste. Unlike the full versions, the p value there differs from the chapter's.

Hypothesis 1

What the full version adds

- Confidence interval for the effect size: The confidence interval shows the range of plausible values for the effect size in the population. A narrow interval means a precise estimate; a wide one means more uncertainty. It is usually reported together with the effect size, when full APA-style reporting is required.

Replaces this section of the findings chapter: Hypothesis 1

The full version, ready to paste

An association analysis was conducted to evaluate this hypothesis.

The findings are consistent with the hypothesis, indicating a statistically significant positive correlation between Academic self efficacy and Learning persistence, such that students reporting greater self efficacy tended also to report greater persistence in

their learning. As this is a cross-sectional, correlational design, this association should not be interpreted as evidence that self efficacy causes persistence.

$N = 180, r(178) = .43, p < .001, p_{\text{adj}} < .001, 95\% \text{ CI } [.31, .55]$ (medium effect)

The result was: supported.

The one-tailed version

A two-tailed test asks whether there is an effect in either direction; a one-tailed test asks only about the direction stated in advance. The test statistic is the same in both; only the p value differs. When the effect runs in the stated direction, the one-tailed p value is half the two-tailed one. The findings chapter reports the two-tailed version, the one the analysis plan fixed for this hypothesis before any test was run.

This hypothesis did not state a direction in advance, so the one-tailed version below is in the direction that was observed. A one-tailed test is appropriate only when the direction was stated before the data were seen; check with your advisor before using it.

In the chapter (two-tailed): $r(178) = .43, p < .001$.

This version, ready to paste

A one-tailed test (Pearson correlation) showed a statistically significant result, $r(178) = .43, p < .001$.