

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.

H1 proposes that job autonomy is positively associated with work engagement, and both variables are continuous, roughly interval-level composite scores. In that setting, Pearson correlation is the natural fit because it directly summarizes the strength and direction of a linear association between two continuous measures. We checked the scale distributions and composite scoring beforehand, and since no categorical grouping or prediction model was called for at this step, we recommend the correlation as the straightforward, appropriate choice for testing H1.

Q2: Why was the Multiple linear regression analysis chosen for H2?

The Multiple linear regression analysis was selected for H2 based on the study's design and measurement structure.

Multiple regression fits H2 because the hypothesis explicitly asks whether autonomy and supervisor support jointly predict engagement, beyond what an intercept-only model would explain. This is a question about combined association of two predictors with one continuous outcome, which is precisely what a multiple linear regression is built for, and it also lets us check residuals, error variance, collinearity and influential cases as the plan requires. We recommend this approach because it directly matches the joint-prediction framing of H2, rather than treating the two resources separately as in H1's simple correlation.

Q3: Why was the Independent-samples t-test analysis chosen for H3?

The Independent-samples t-test analysis was selected for H3 based on the study's design and measurement structure.

H3 asks whether mean engagement differs between two naturally occurring, independent groups—hybrid versus onsite employees—so we compared group means directly rather than looking at within-person change or association between continuous variables. We chose the independent t test because it's the standard tool for comparing two independent group means, and we built in a check for equality of variances (applying Welch's correction if needed) so the comparison stays valid even if the groups don't have equal spread. We also report an effect size alongside the p value, since group membership here reflects real-world assignment rather than randomization, so we want to convey both statistical and practical significance clearly.

Q4: Why was the Multiple linear regression analysis chosen for A1?

The Multiple linear regression analysis was selected for the additional exploratory analysis A1 based on the study's design and measurement structure.

This extra analysis (A1) was labeled exploratory rather than a formal hypothesis because it was not one of the three pre-specified tests, but a follow-up sensitivity check built on the H2 regression. We extended that same multiple regression framework by adding work arrangement and tenure as background predictors, which lets us see whether the association between autonomy, support, and engagement holds up once these group differences are taken into account. Using multiple regression here keeps the analysis directly comparable to H2 while letting us judge how robust the original pattern is to reasonable adjustment.

Q5: 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 chose Pearson correlation as the default because autonomy and engagement are both interval/ratio-scaled variables, which is exactly the situation the parametric method is built for. Our analysis plan follows a fixed decision order: the parametric default is selected first, before any assumption checks are run, and we only fall back to the Spearman correlation if normality or homogeneity checks later fail at execution time. Since selection happens independently of those diagnostic outcomes, applying Pearson here is the consistent, defensible choice given the measurement level of the data.

Q6: Why this test and not Simple linear regression?

Multiple linear regression was used instead of Simple linear regression because Simple linear regression fits studies that are built a little differently (another number of groups or measurements, or another kind of answer). Multiple linear regression fits the way your study is built..

We used multiple regression here because H2 explicitly asks how autonomy and supervisor support jointly predict engagement, meaning two predictors enter the model at once rather than one. A simple linear regression only accommodates a single predictor, so it does not match the structure of the research question and variable roles as specified; multiple regression is the model that fits this design cell. We also checked that this choice lets us properly examine collinearity and the joint contribution of both resources, which a single-predictor model could not do.

Q7: Why this test and not Mann-Whitney U test?

Independent-samples t-test was used instead of Mann-Whitney U test because Mann-Whitney U test was kept as a backup. It is used only if your data do not meet the conditions Independent-samples t-test needs, which we check before the test is run..

We applied the independent t test here because the decision about which test to use was made before looking at how the data actually behaved, and it was made on the basis of the data's level of measurement: engagement is an interval/ratio-scaled outcome, which is exactly what the parametric default is built for. Mann-Whitney U is reserved as the fallback that only gets triggered later, during execution, if normality or equal-variance checks fail -- that is a separate, downstream step and not part of how we choose the primary test. Since our reading of the recorded structural reason confirms no assumption failure was used to pick the test at selection time, the t test (with the equal-variances consideration already built in, including Welch's correction where warranted) is the defensible, pre-specified choice to report for H3.

Q8: Why this test and not Simple linear regression?

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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

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): $r(358) = .37, p < .001$.

This version, ready to paste

A one-tailed test (Pearson correlation) showed a statistically significant result, $r(358) = .37, p < .001$.

Hypothesis 3

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): $t(353.17) = 3.05, p = .003$.

This version, ready to paste

A one-tailed test (Independent-samples t-test) showed a statistically significant result, $t(353.17) = 3.05, p = .001$.