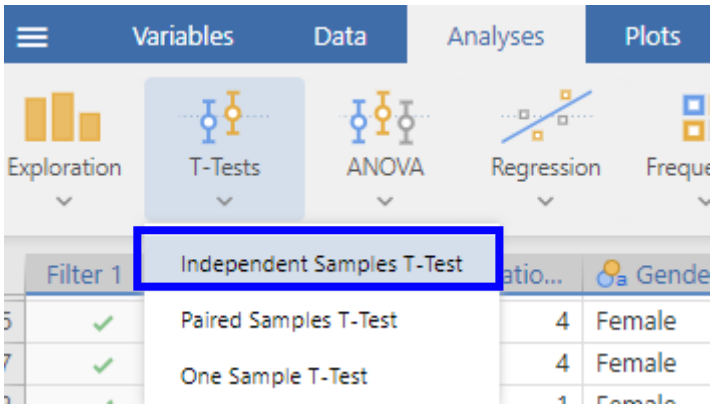
Independent Sample T-Tests in Jamovi

Step 1: Open the analysis

From the menu:

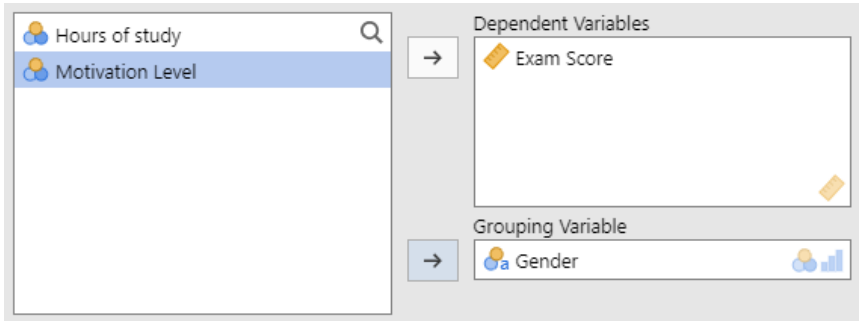
1. Analyses
2. T-Tests
3. Independent Samples T-Test



Step 2: Select variables

Move your variables into the correct fields:

- The outcome variable you are measuring → Dependent Variables
- The group variable → Grouping Variable



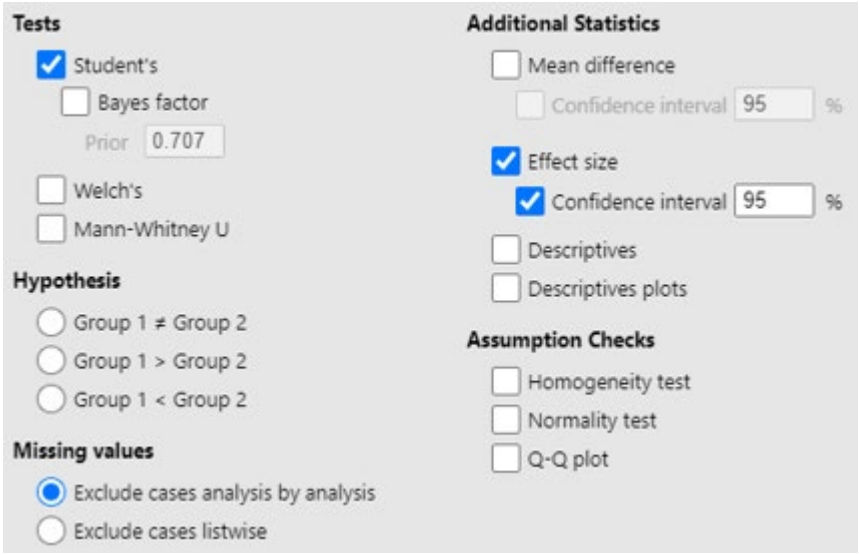
The dependent variable must be continuous, and the grouping variable must be categorical (two groups).

Step 3: Additional statistics

Select **Student's t-test**

Optional additional statistics:

- Mean difference
  - Confidence interval
- Effect size
  - Confidence interval
- Descriptives
- Assumption Checks
  - Normality test
- Q-Q plot



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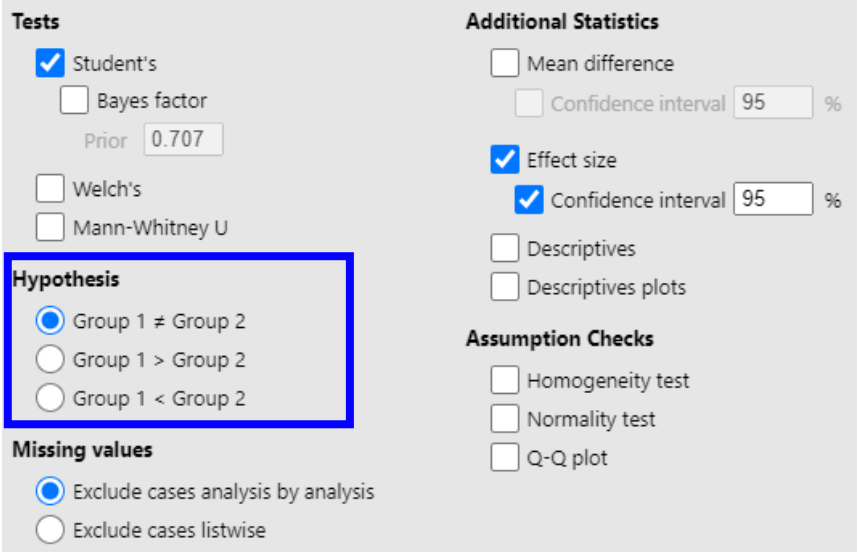
Step 4: Select a Hypothesis

Select a hypothesis to specify the direction of the expected difference:

- **≠ (Two-sided):** tests for any difference
- **> (One-sided):** tests if the first group is greater
- **< (One-sided):** tests if the first group is smaller



Use a one-sided hypothesis only if you have a clear directional prediction before analysing the data. Otherwise, use the default two-sided (≠) test.

Independent Samples T-Test

							95% Confidence Interval	
		Statistic	df	p		Effect Size	Lower	Upper
Exam Score	Student's t	5.69	198	<.001	Cohen's d	0.805	0.516	1.09

Note. H_a $\mu_{Female} \neq \mu_{Male}$

Example interpretation and summary

The independent samples t-test showed that exam scores were significantly different between the two groups, t(198) = 5.69, p < .001, Cohen's d = 0.81, 95% CI [0.52, 1.09].

Interpretation

- p < .001 indicates a statistically significant difference between the groups.
- The 95% confidence interval does not include 0, supporting the presence of a real difference.
- Cohen's d = 0.81 indicates a large effect size, meaning the difference between groups is substantial.

Conclusion

There is a significant difference in exam scores between the two groups (e.g., females and males), with a large effect size indicating a meaningful difference.

Related helpsheets

- One Sample T-Test in Jamovi
- Paired Sample T-Test in Jamovi

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