Cross-tabulation in Jamovi

Exploring relationships

In exploratory data analysis (EDA), we often want to investigate whether variables are related. The type of analysis depends on the type of variables being studied.

Variable types	Analysis
Categorical + Categorical	Cross-tabulation
Numerical + Numerical	Correlation
Multiple Numerical Variables	Correlation Matrix

Cross-tabulation (crosstab)

A **cross-tabulation** summarises the relationship between two categorical variables.

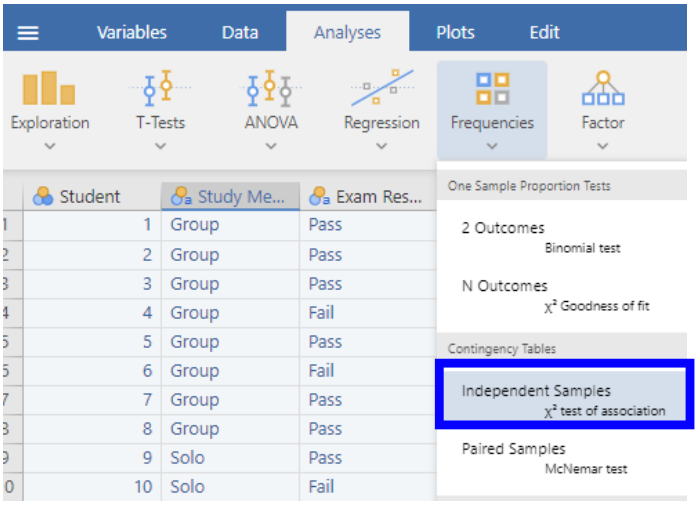
It displays the frequency or percentage of observations in each category combination.

Step 1: Open the analysis

Research question: Does study method influence exam outcome?

From the menu:

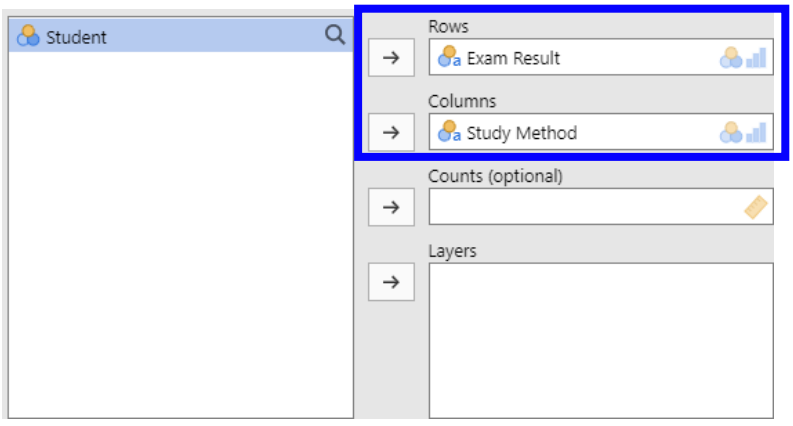
1. Analyses
2. Frequencies
3. Contingency Tables
4. Independent Samples



Step 2: Select variables

Place:

- The outcome/dependent variable in 'Rows'
- The explanatory/independent variable in 'Columns'



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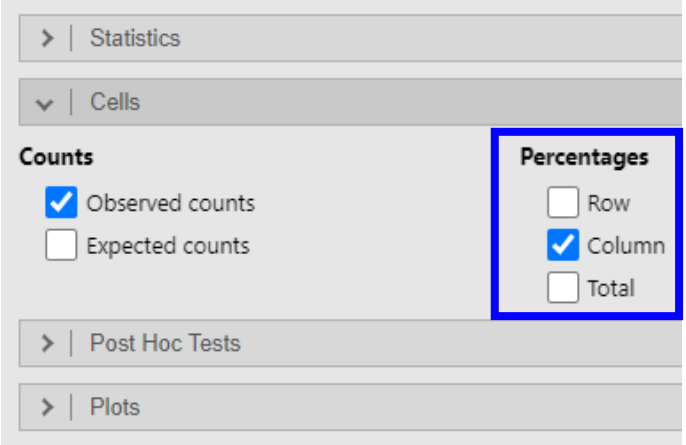
Step 3: Select percentages

Under **Cells**, choose:

- 'Column Percentages'



Percentages make it easier to interpret and make comparisons.

Step 4: Interpret the column percentages

Because the explanatory variable is in the columns, focus on the column percentages.

Contingency Tables

Exam Result		Study Method: Group	Solo	Total
Pass	Observed	6	3	9
	% within column	**75.0%**	37.5%	56.3%
Fail	Observed	2	5	7
	% within column	**25.0%**	62.5%	43.8%
Total	Observed	8	8	16
	% within column	**100.0%**	100.0%	100.0%

$\frac{6}{8} = 75.0\%$

$\therefore$ 75% of the group study method passed

$\frac{2}{8} = 25.0\%$

$\therefore$ 25% of the group study method failed

Students who studied in groups had a higher pass rate (75%) than students who studied alone (37.5%).

This suggests there may be an association between study method and exam success.

Related helpsheets

- Types of Data
- Correlation
- Correlation in Jamovi

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