how to Report Fisher’s Exact Test Results?

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Fisher's Exact Test is a statistical test used to determine the significance of the association between two categorical variables. It is particularly useful when the sample size is small or when the data violates the assumptions of other statistical tests. The results of Fisher's Exact Test provide a p-value, which indicates the probability of obtaining the observed data or more extreme results if the two variables were not associated. A low p-value suggests a strong association between the variables, while a high p-value indicates a weak or non-existent association. These results can help researchers make informed decisions and draw reliable conclusions about the relationship between the categorical variables.

Report Fisher's Exact Test Results

Fisher's exact test is used to determine whether or not there is a significant association between two categorical variables.

It is typically used as an alternative to the when one or more of the cell counts in a 2×2 table is less than 5.

When reporting the results of Fisher's exact test, we usually use the following general structure:

A brief mention of the two variables.
The p-value of the test (and whether it represents a one-tailed or two-tailed p-value).

Here's the exact wording we can use:
Fisher's exact test was used to determine if there was a significant association between and .

There a statistically significant association between and (p =).

The following example shows how to report the results of Fisher's exact test in practice.

Example: Reporting Results of Fisher's Exact Test

Suppose we want to know whether or not gender is associated with political party preference at a particular college.

To explore this, we randomly survey 25 students on campus. The following table shows the results of the survey:

	Democrat	Republican
Female	8	4
Male	4	9

Since one or more of the cell counts in the table is less than 5, we can use Fisher's exact test to determine if there is a statistically significant association between gender and political party preference.

Suppose we carry out the test and get the following results:

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * Party	25	100.0%	0	0.0%	25	100.0%

Gender * Party Crosstabulation

Count

		Party		
		Democrat	Republican	Total
Gender	Female	8	4	12
	Male	4	9	13
Total		12	13	25

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.222[a]	1	.073	.115	.081
Continuity Correction[b]	1.944	1	.163		
Likelihood Ratio	3.293	1	.070	.115	.081
Fisher's Exact Test				.115	.081
N of Valid Cases	25				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.76.

b. Computed only for a 2x2 table

Here is how to report the results of the test:

Fisher's exact test was used to determine if there was a significant association between gender and political party preference.

There was not a statistically significant association between the two variables (two-tailed p = .115).

Things to Keep in Mind

1. Use a descriptive statistics table.

It can be helpful to present a descriptive statistics table that shows the total number of individuals used in the survey or study along with the total proportion of individuals that belonged to each variable in order to give the reader a more complete picture of the data.

2. There is no test statistic to report.

Unlike a Chi-Square test of independence, Fisher's exact test has no test statistic to report.

Instead, we simply report the p-value of the test and note that we used Fisher's exact test. This is a commonly used test, so it's well known that there will be no test statistic included in the final report.

The following tutorials explain how to perform Fisher's exact test in various statistical software:

How to Perform Fisher's Exact Test in R