

Chi Square for Survey Data

Standalone verified Python analysis

Method: Chi Square for Survey Data

Method type: hypothesis_test

Design: Pearson independence test for respondent sex and intention to pursue higher education.

Variables: sex, higher

Inference scope: H0: sex and higher-education intention are independent in the surveyed sample.

Formula: $X^2 = \sum((O-E)^2/E)$; $V = \sqrt{X^2/(n \cdot \min(r-1, c-1))}$.

Source rows: 649

Calculated metrics:

chi_square: 2.1933257482450594

df: 1

p_value: 0.13860974494854456

cramers_v: 0.0581338679898854

n_cases: 649

minimum_expected_count: 28.280431432973806

Independent reference values:

chi_square: 2.1933257482450594

df: 1

p_value: 0.13860974494854456

cramers_v: 0.0581338679898854

n_cases: 649

minimum_expected_count: 28.280431432973806

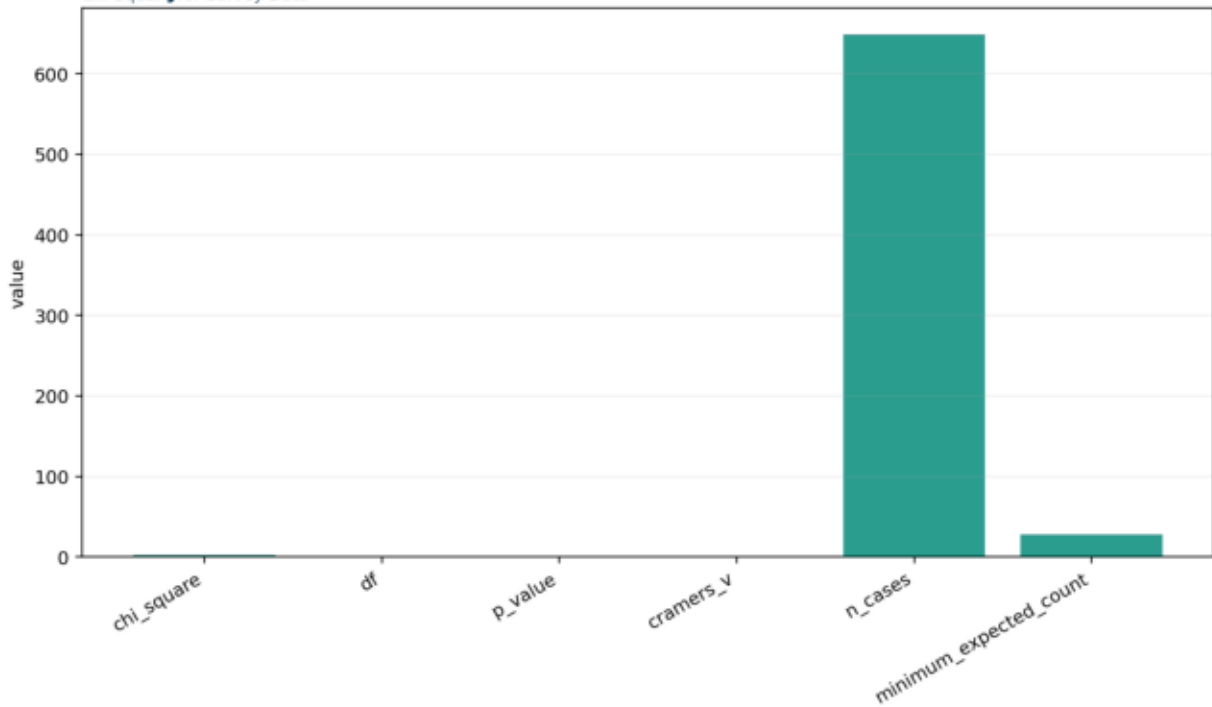
Interpretation:

Pearson independence uses the full sex-by-higher table.

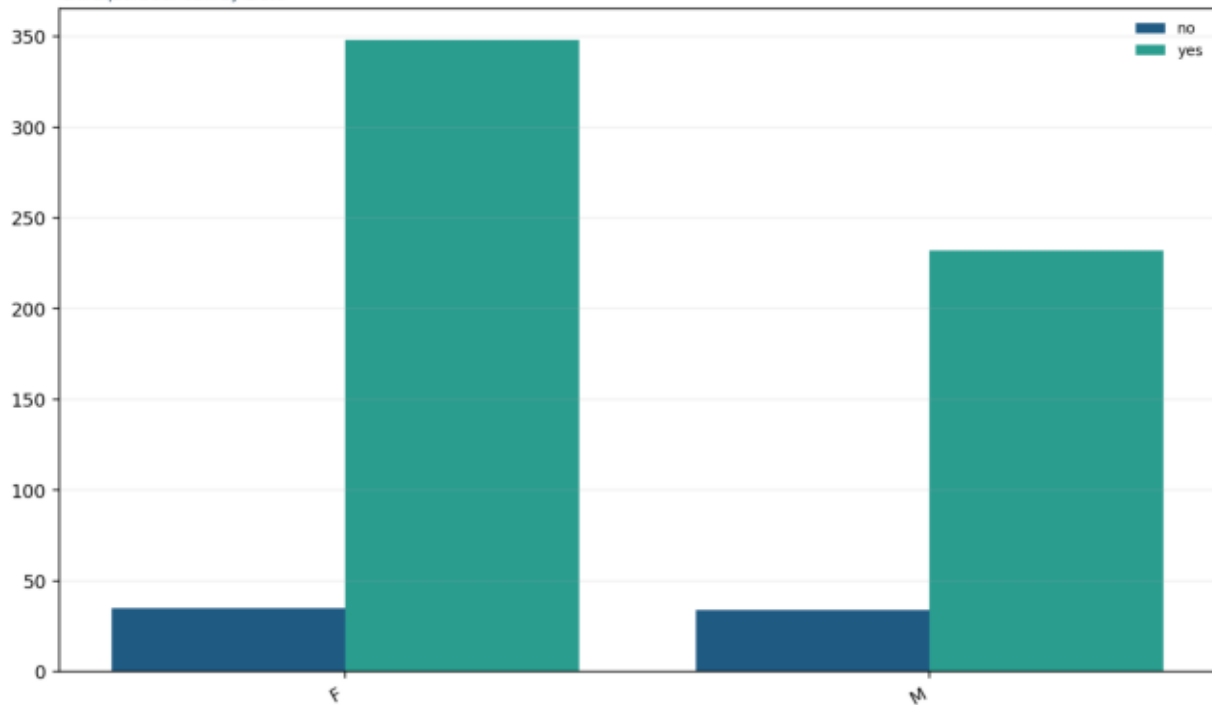
Chi-square(1)=2.193326, p=0.13861, Cramer's V=0.058134.

Primary Metrics

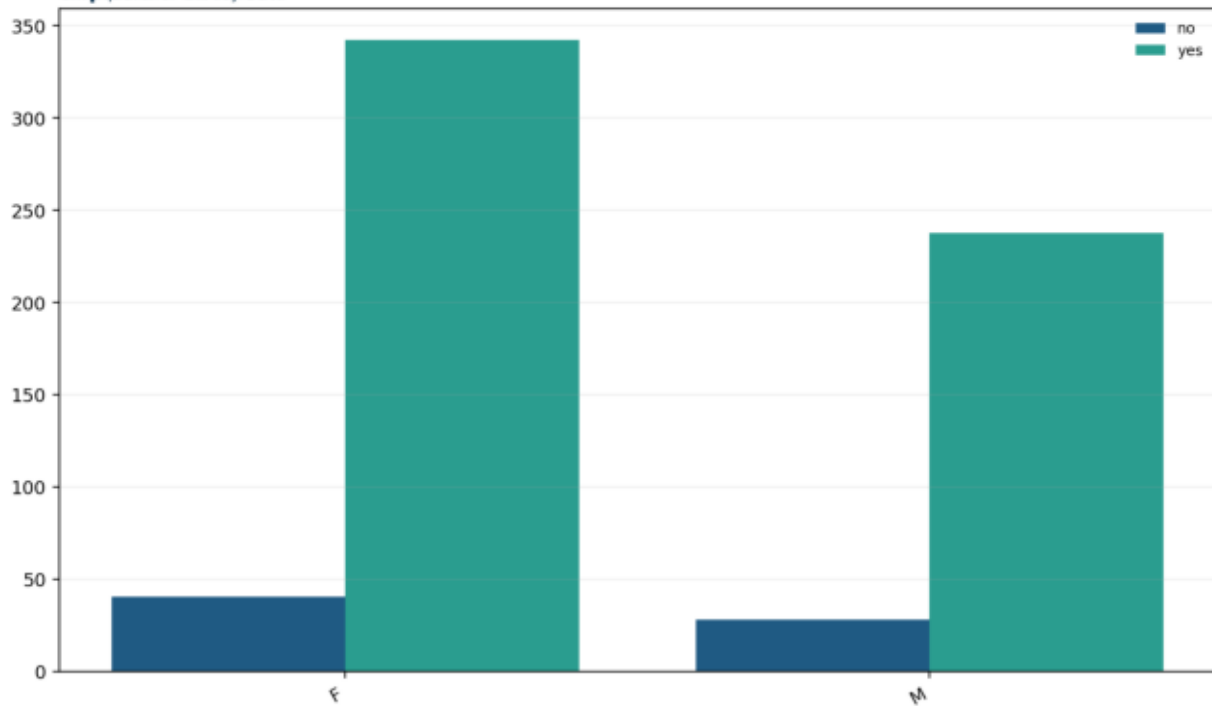
Chi-Square Test for Categorical Data



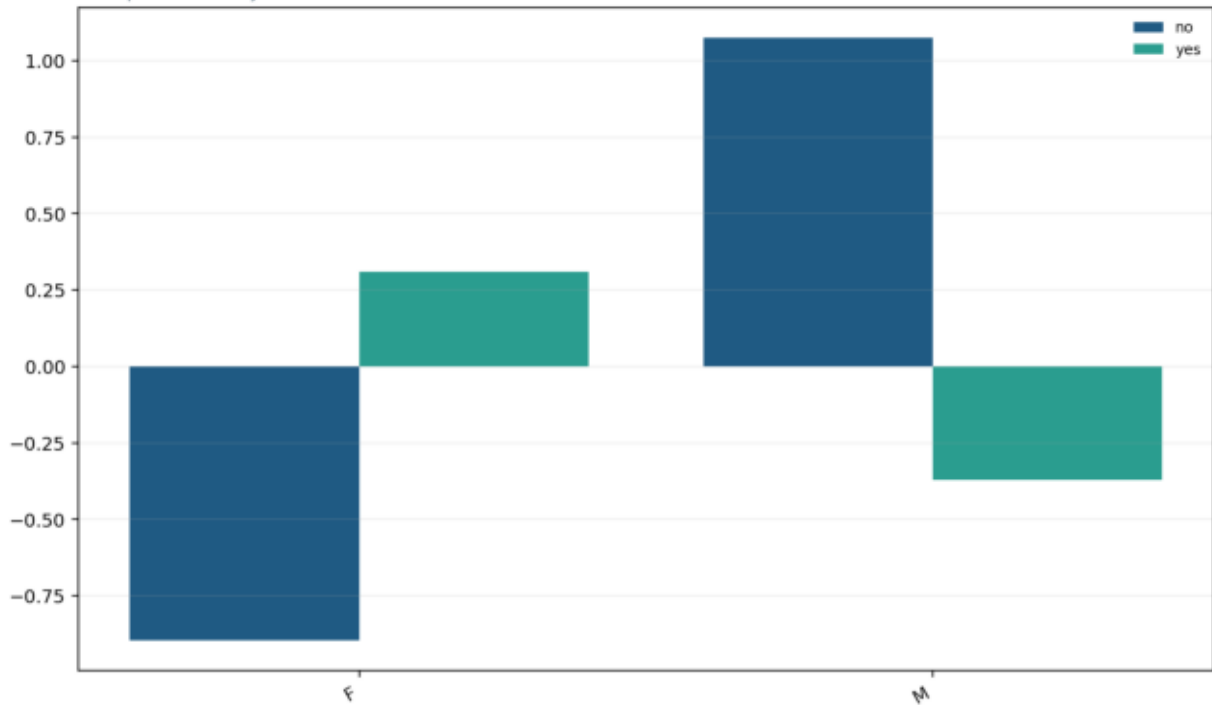
Observed Counts_a



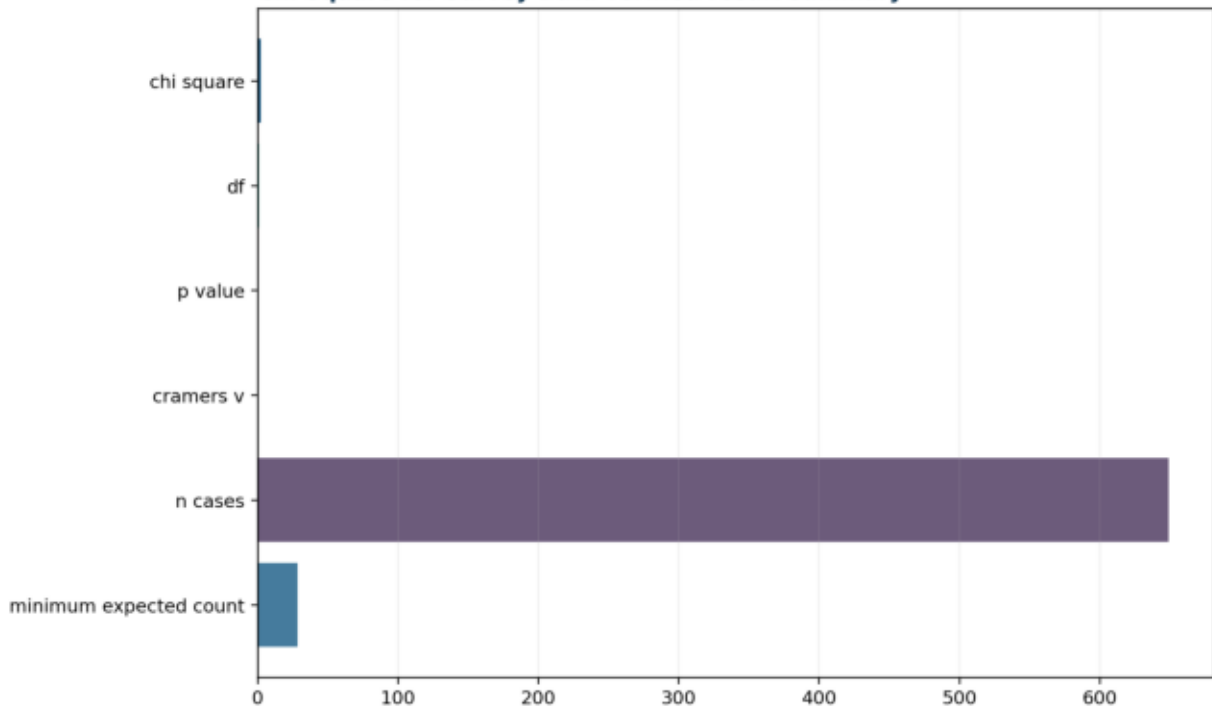
Expected Counts_{ta}



Standardized Residuals



Chi Square for Survey Data verified result summary



Primary Metrics

metric	value
chi_square	2.19333
df	1
p_value	0.13861
cramers_v	0.0581339
n_cases	649
minimum_expected_count	28.2804

Observed Counts

sex	no	yes
F	35	348
M	34	232

Expected Counts

sex	no	yes
F	40.7196	342.28
M	28.2804	237.72

Standardized Residuals

sex	no	yes
F	-0.896317	0.309152
M	1.07552	-0.370963