

Two-Group Median Test

Standalone verified Python analysis

Test: Two-Group Median Test

Design: A 2 x 2 pooled-median test comparing final grades between GP and MS schools.

Variables: G3, school

Null hypothesis: The two school populations have the same median final grade.

Formula: X^2 = Pearson chi-square for group by above/below pooled median.

Source rows: 649

Calculated metrics:

statistic: 30.45161905230017

p_value: 3.4229752833636866e-08

degrees_of_freedom: 1

pooled_median: 12.0

Independent reference values:

statistic: 30.45161905230017

p_value: 3.4229752833636866e-08

df: 1

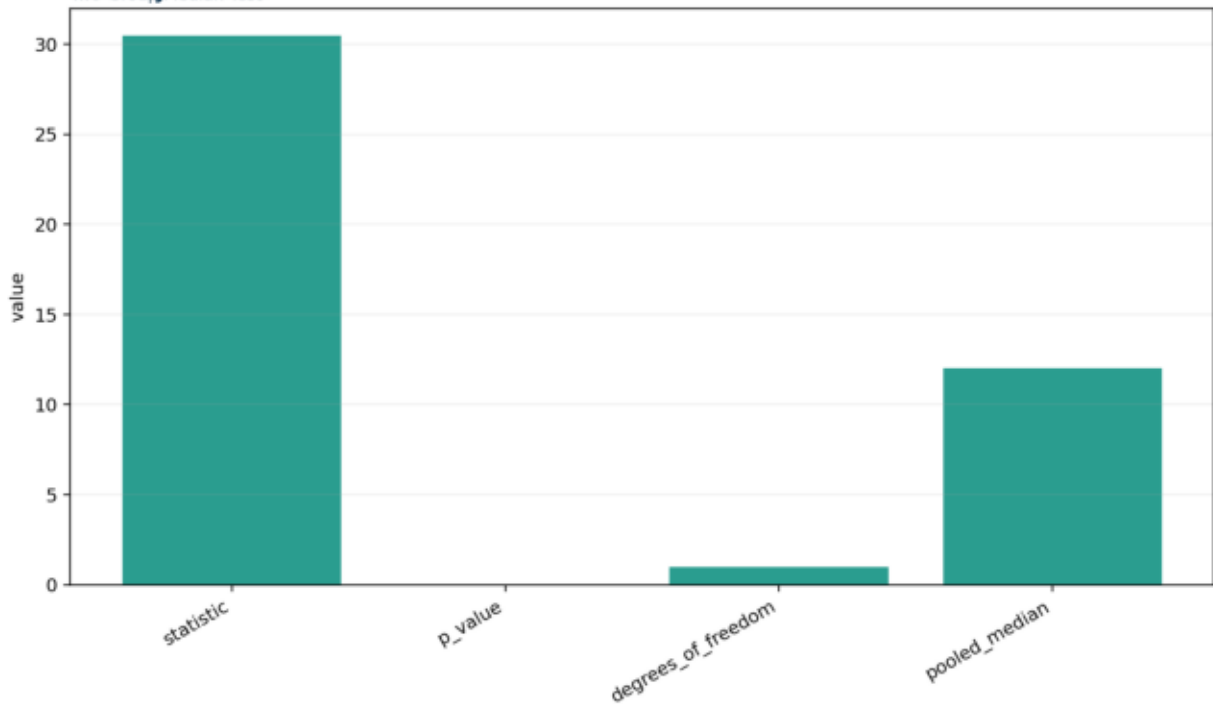
pooled_median: 12.0

Interpretation:

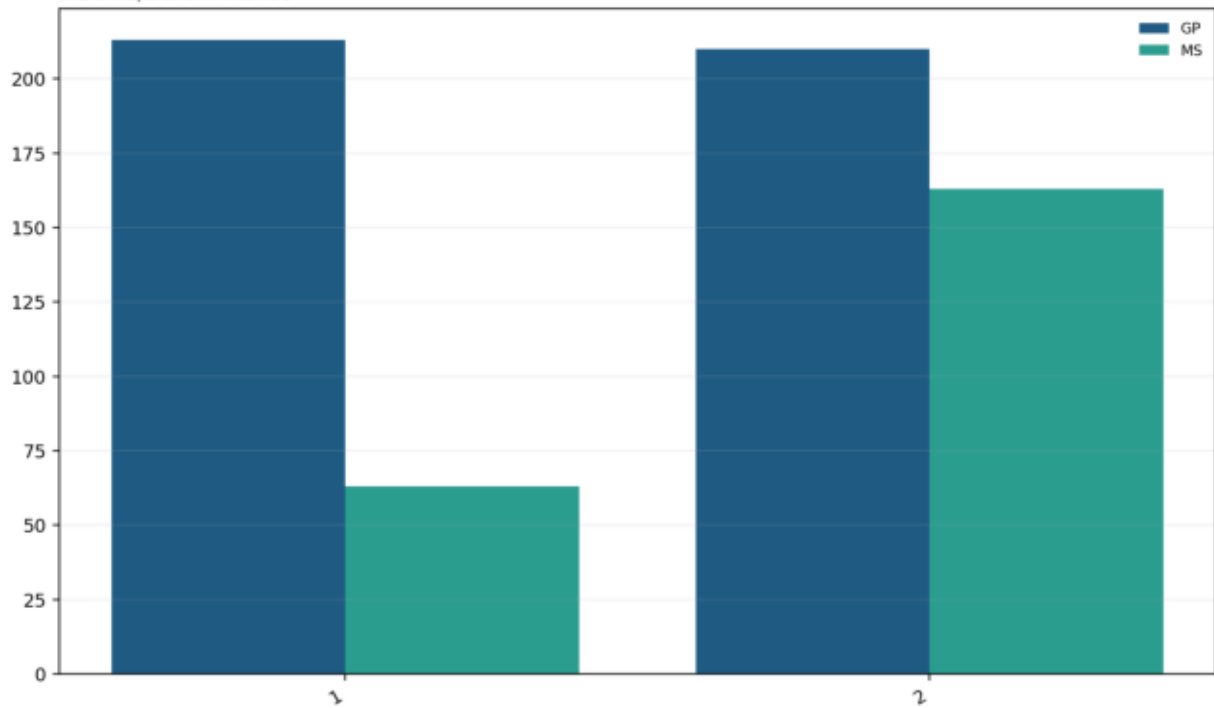
The pooled median is 12; tied scores are placed in the at-or-below row.

The uncorrected 2x2 chi-square is 30.451619.

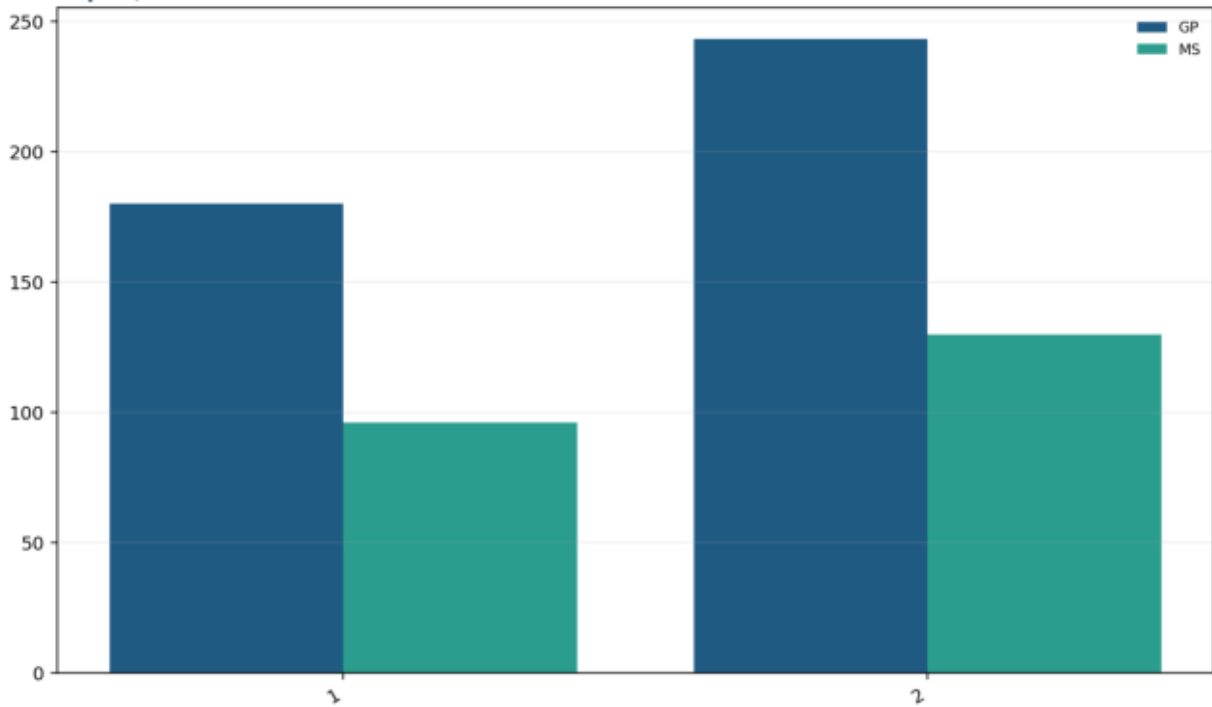
Primary Metrics



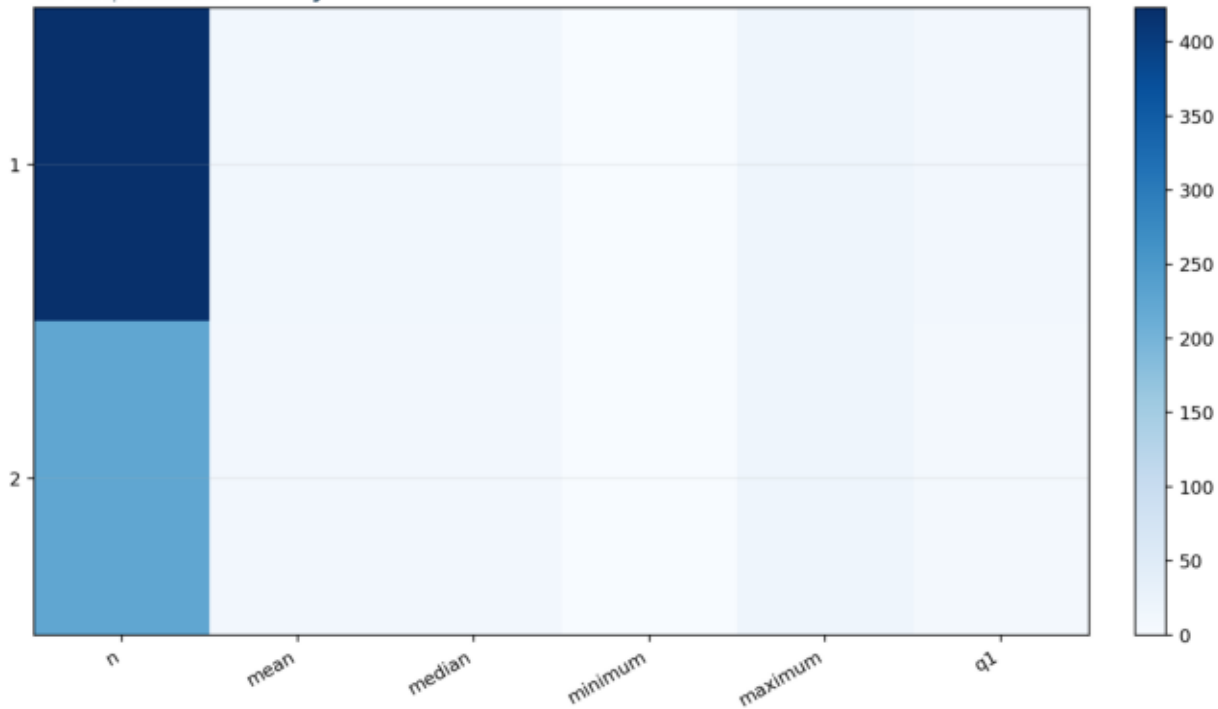
AboveBelowTable



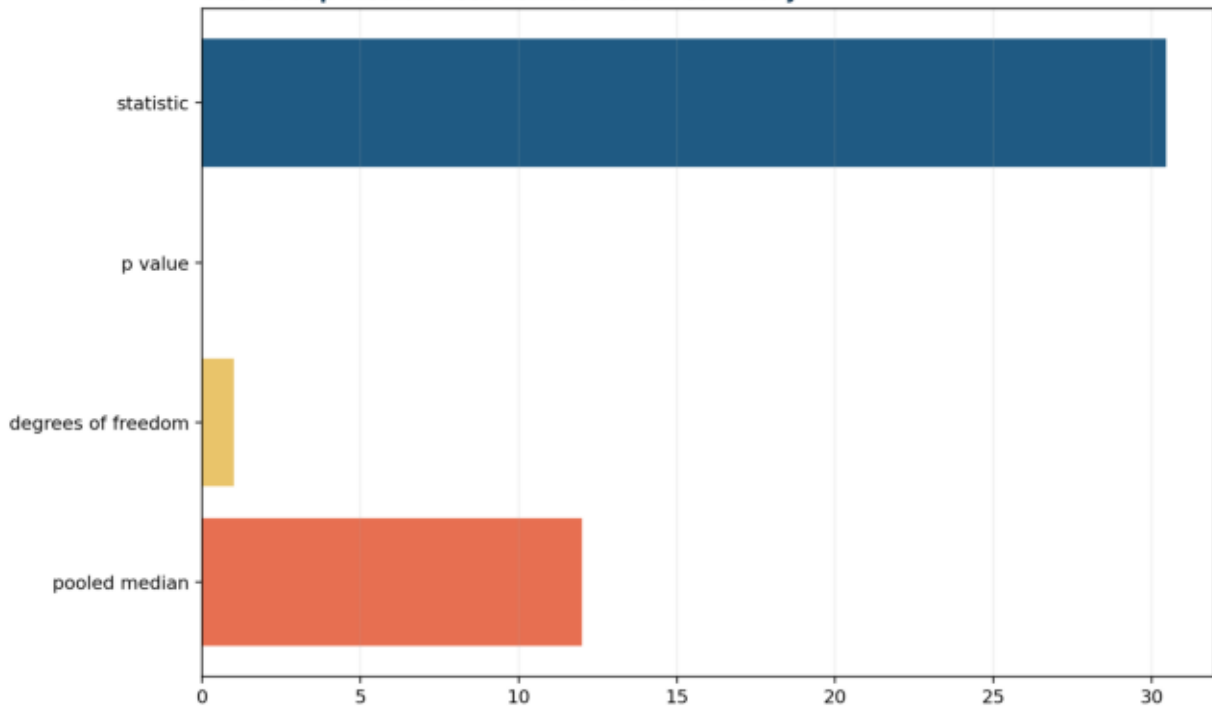
Expected Counts



School Grade Summary



Two-Group Median Test verified result summary



Primary Metrics

metric	value
statistic	30.4516
p_value	3.42298e-08
degrees_of_freedom	1
pooled_median	12

Above Below Table

GP	MS
213	63
210	163

Expected Counts

GP	MS
179.889	96.1109
243.111	129.889

School Grade Summary

school	n	mean	median	minimum	maximum	q1	q3
GP	423	12.5768	13	0	19	11	14
MS	226	10.6504	11	0	19	9	13