

Kruskal Wallis Test for Likert Data

Standalone verified Python analysis

Method: Kruskal Wallis Test for Likert Data

Method type: hypothesis_test

Design: Independent-group comparison of the ordered family-relationship response across maternal-job categories.

Variables: Mjob, famrel

Inference scope: H0: all maternal-job groups have the same family-relationship response distribution.

Formula: $H = [12/(N*(N+1))] * \sum(R_j^2/n_j) - 3*(N+1)$, with tie correction; $\epsilon^2 = (H-k+1)/(N-k)$.

Source rows: 649

Calculated metrics:

kruskal_wallis_h: 2.327258644629535

df: 4

p_value: 0.6758107019647428

epsilon_squared: 0.0

groups: 5

n_cases: 649

Independent reference values:

kruskal_wallis_h: 2.327258644629535

df: 4

p_value: 0.6758107019647428

epsilon_squared: 0.0

groups: 5

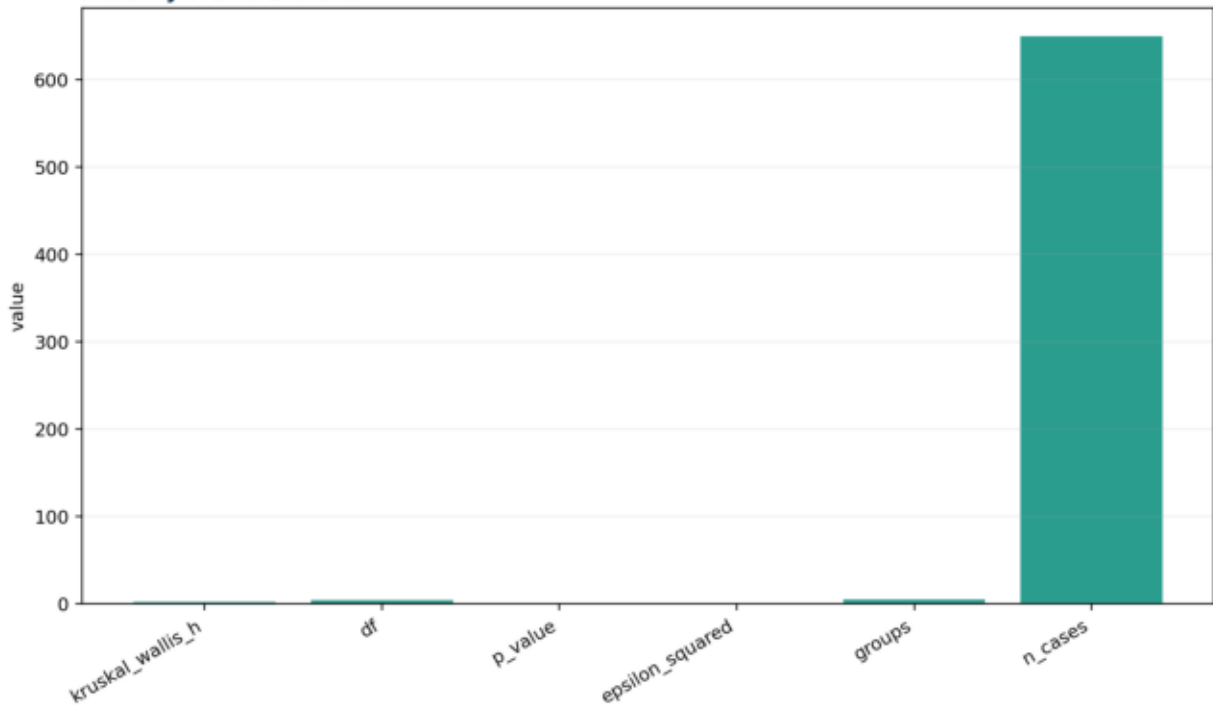
n_cases: 649

Interpretation:

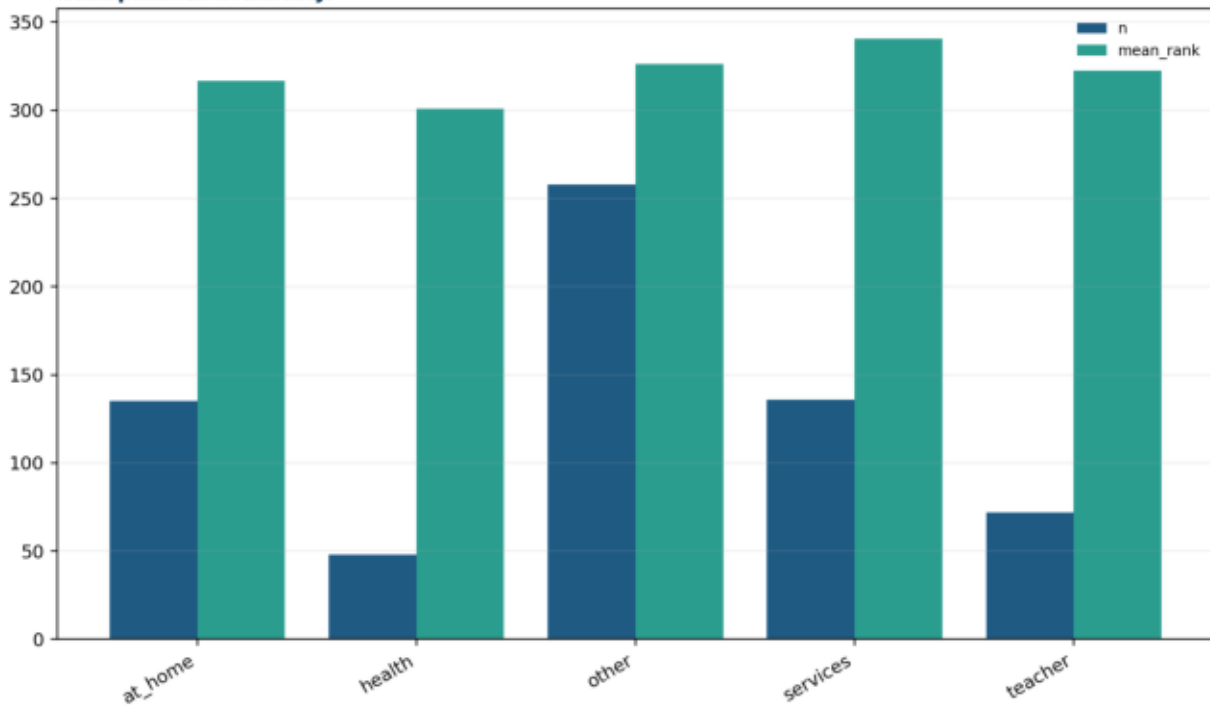
Five maternal-job groups are compared using tie-corrected pooled ranks.

$H=2.327259$, $p=0.675811$, $\epsilon^2=0.000000$.

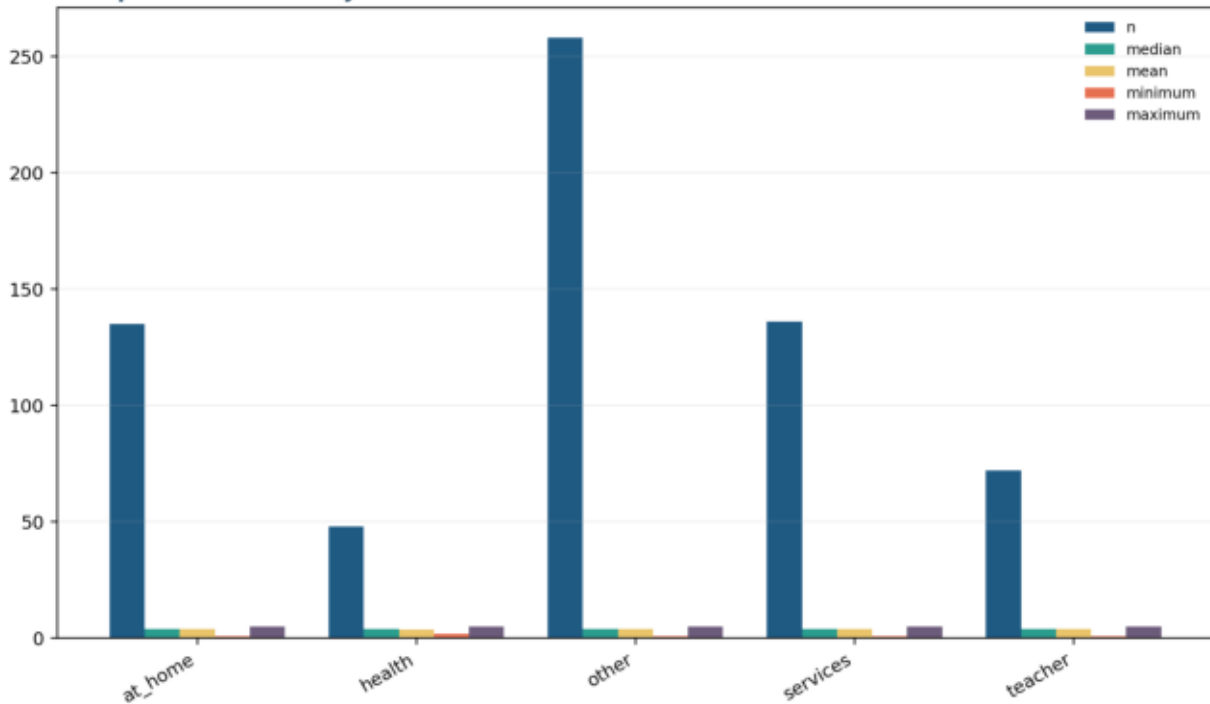
Primary Metrics



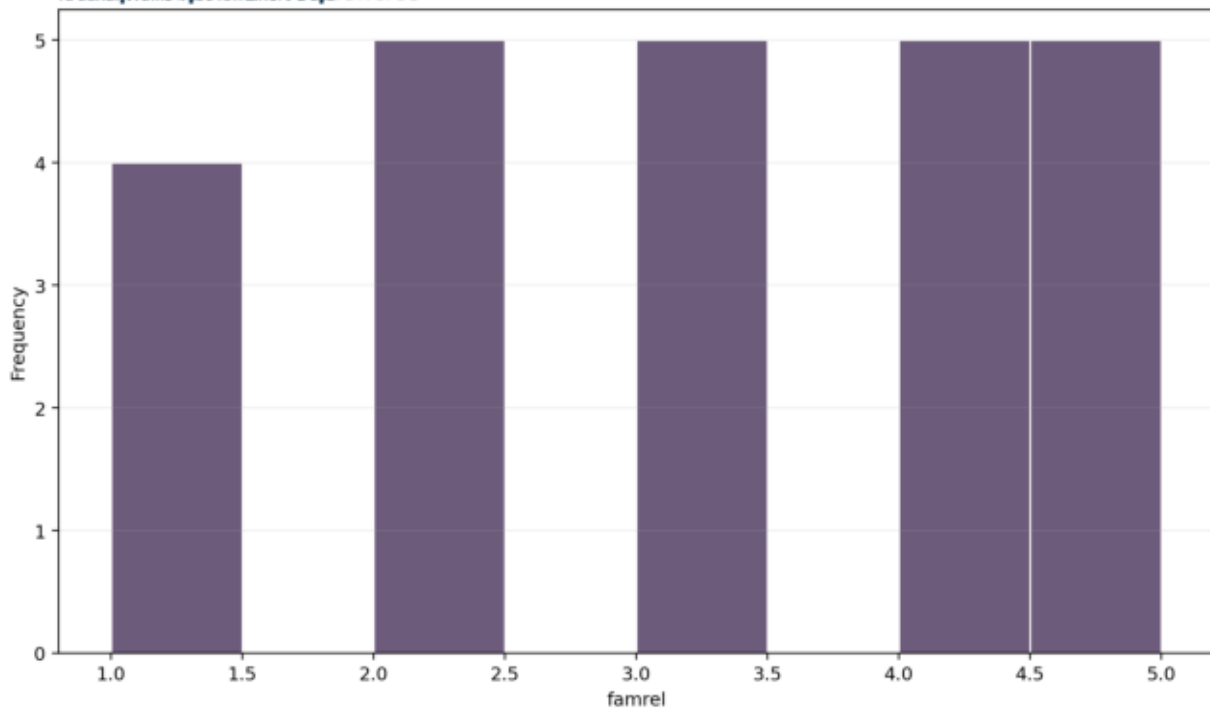
Group/Rank Summary



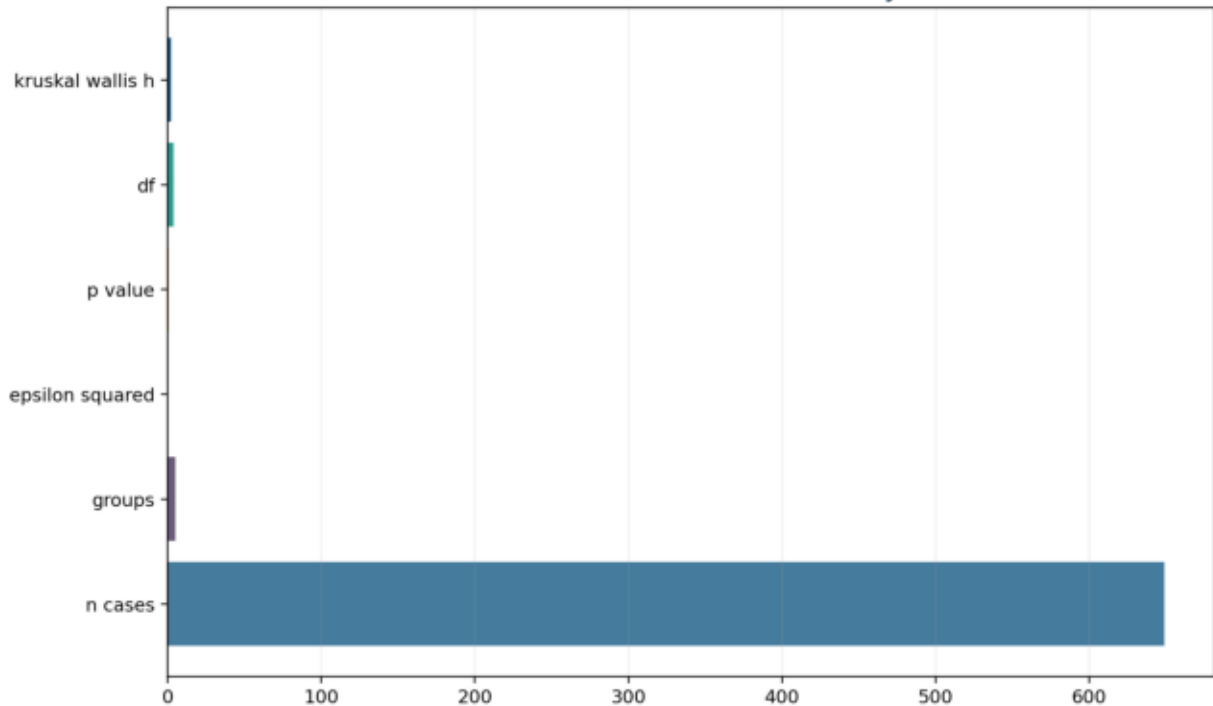
Group Ordinal Summary



Group/Response Frequencies



Kruskal Wallis Test for Likert Data verified result summary



Primary Metrics

metric	value
kruskal_wallis_h	2.32726
df	4
p_value	0.675811
epsilon_squared	0
groups	5
n_cases	649

Group Rank Summary

Mjob	n	mean_rank
at_home	135	316.822
health	48	301.042
other	258	326.231
services	136	340.533
teacher	72	322.556

Group Ordinal Summary

Mjob	n	median	mean	minimum	maximum
at_home	135	4	3.91111	1	5
health	48	4	3.83333	2	5
other	258	4	3.92248	1	5
services	136	4	4	1	5
teacher	72	4	3.93056	1	5

Group Response Frequencies

Mjob	famrel	frequency
other	4	125
other	5	73
at_home	4	70
services	4	65
services	5	43
other	3	39
teacher	4	36
at_home	5	33
at_home	3	22
health	4	21
teacher	5	19
services	3	17
teacher	3	13
health	5	12
other	1	12
health	3	10
other	2	9
at_home	2	7
services	2	7
health	2	5
services	1	4
teacher	1	3
at_home	1	3
teacher	2	1