

Dunn's Post-Hoc Test

Standalone verified Python analysis

Test: Dunn's Post-Hoc Test

Design: Dunn pairwise comparisons of absence distributions across guardian groups with Holm adjustment.

Variables: absences, guardian

Null hypothesis: Every guardian-group pair has the same rank distribution.

Formula: $z_{ij} = (Rbar_i - Rbar_j) / \sqrt{[(N(N+1)/12 - C_{tie})(1/n_i + 1/n_j)]}$

Source rows: 649

Calculated metrics:

variance_base: 32984.660493827156

minimum_raw_p: 0.0002488793627012966

minimum_holm_p: 0.0007466380881038898

Independent reference values:

variance_base: 32984.660493827156

minimum_raw_p: 0.0002488793627012966

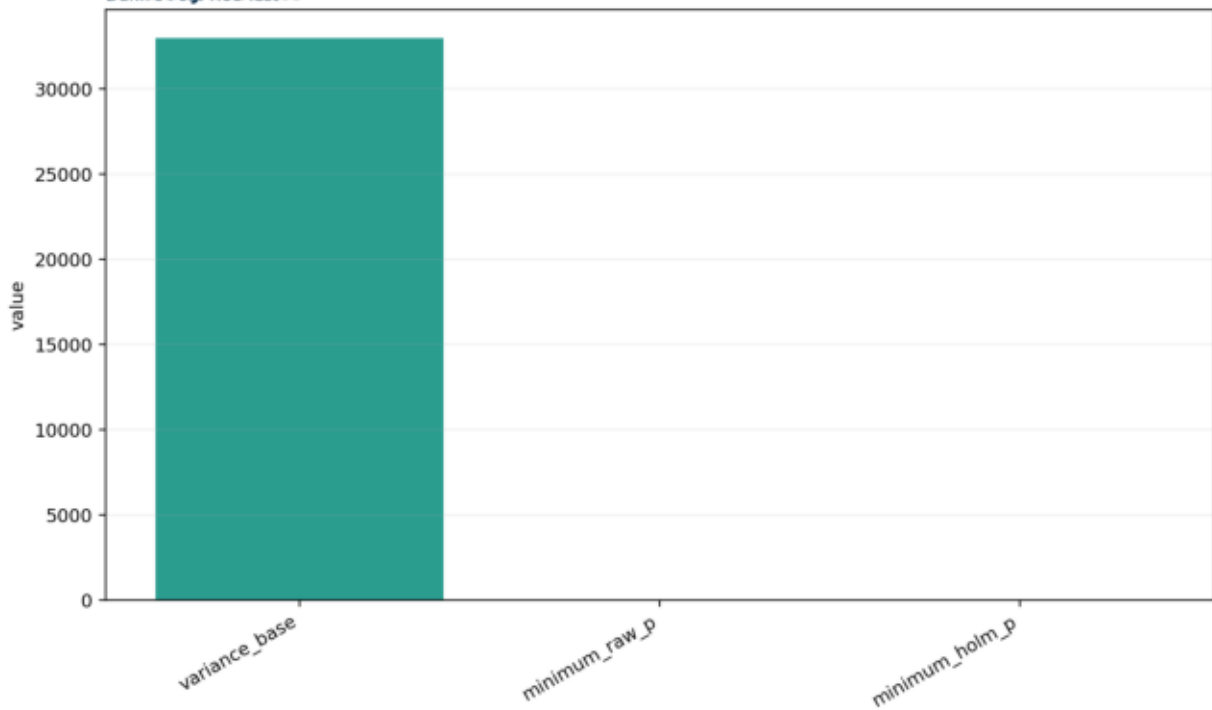
minimum_holm_p: 0.0007466380881038898

Interpretation:

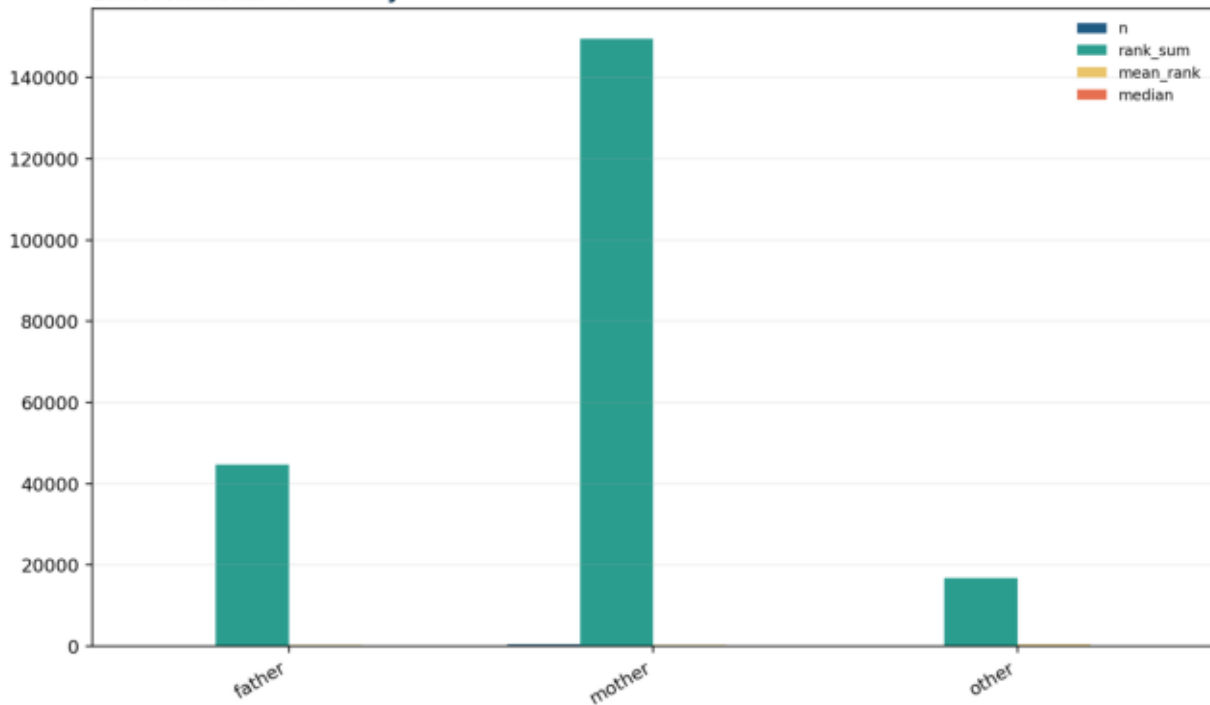
Each guardian pair uses Dunn's pooled tie-corrected normal standard error.

The smallest Holm-adjusted p-value is 0.000746638.

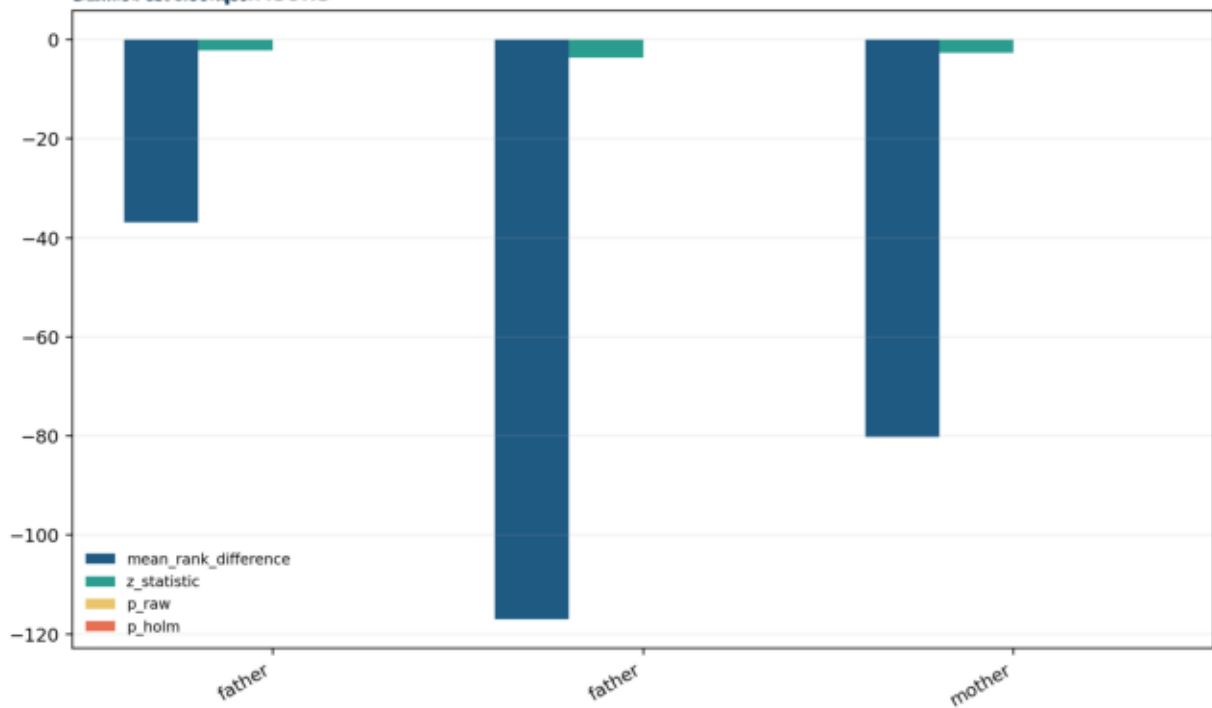
Primary Metrics



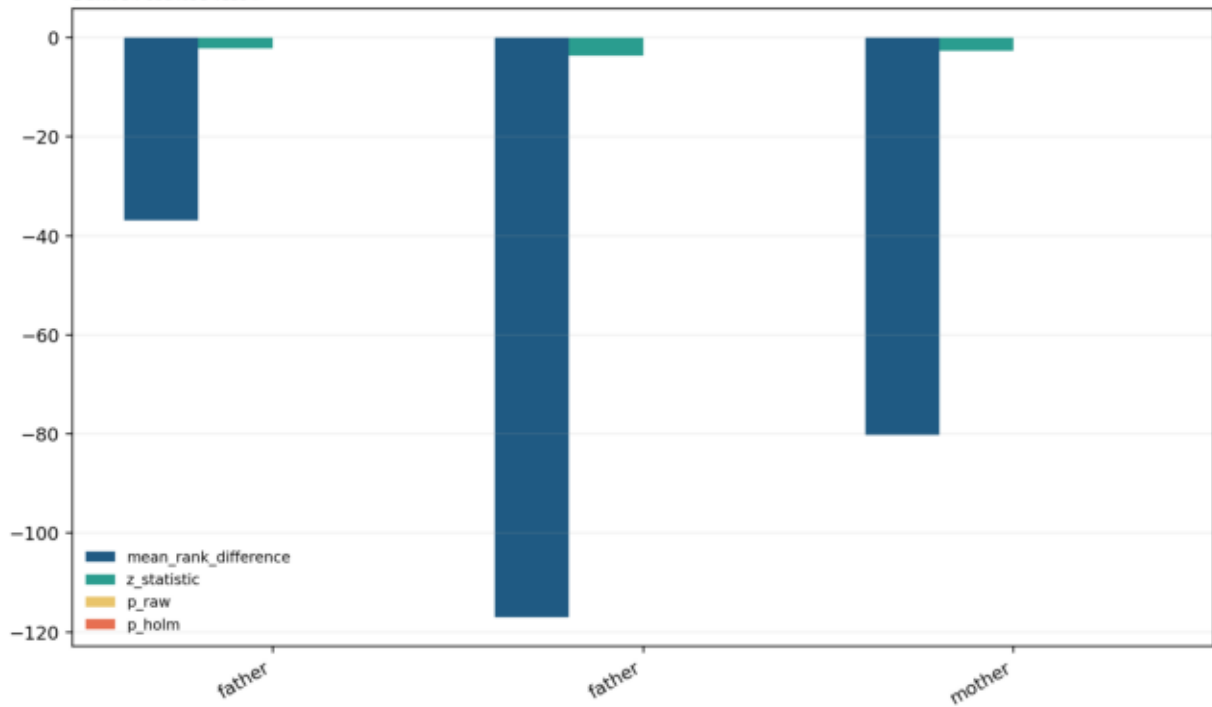
Guardian Rank Summary



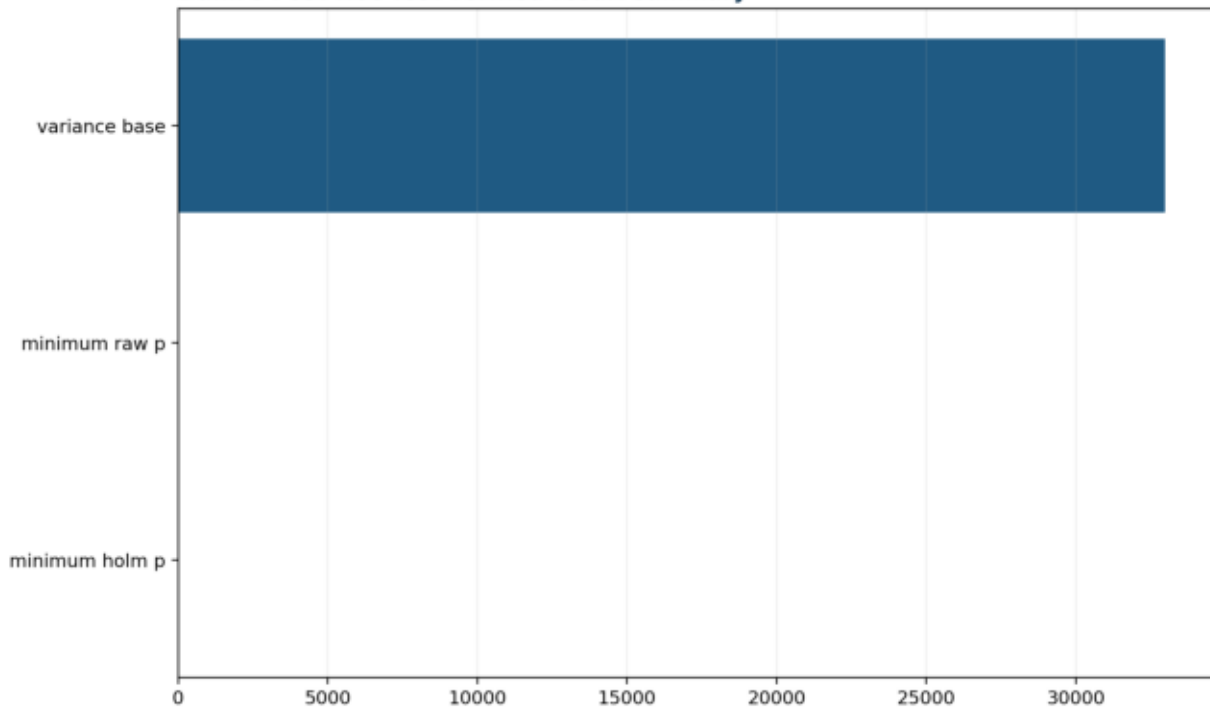
Dunn Z Comparisons



Holm_p Decisions



Dunn's Post-Hoc Test verified result summary



Primary Metrics

metric	value
variance_base	32984.7
minimum_raw_p	0.000248879
minimum_holm_p	0.000746638

Guardian Rank Summary

group	n	rank_sum	mean_rank	median
father	153	44643.5	291.788	2
mother	455	149521	328.618	2
other	41	16760.5	408.793	4

Dunn Z Comparisons

group_1	group_2	mean_rank_difference	z_statistic	p_raw	p_holm
father	mother	-36.83	-2.16993	0.0300123	0.0300123
father	other	-117.005	-3.66341	0.000248879	0.000746638
mother	other	-80.1751	-2.70732	0.00678279	0.0135656

Holm Decisions

group_1	group_2	mean_rank_difference	z_statistic	p_raw	p_holm	reject_holm
father	mother	-36.83	-2.16993	0.0300123	0.0300123	True
father	other	-117.005	-3.66341	0.000248879	0.000746638	True
mother	other	-80.1751	-2.70732	0.00678279	0.0135656	True