

Steel-Dwass-Critchlow-Fligner Test

Standalone verified Python analysis

Test: Steel-Dwass-Critchlow-Fligner Test

Design: All-pairs distribution comparisons of G3 across four school-choice reason groups.

Variables: G3, reason

Null hypothesis: Every pair of reason-group distributions is equal.

Formula: $DSCF_{ij} = \sqrt{2} |z_{ij}|$ from pairwise pooled Wilcoxon ranks; p uses the studentized range.

Source rows: 649

Calculated metrics:

maximum_dscf: 6.717191572198059

minimum_p_value: 1.2110356508943099e-05

comparisons: 6

Independent reference values:

maximum_dscf: 6.717191572198059

minimum_p_value: 1.2110356508943099e-05

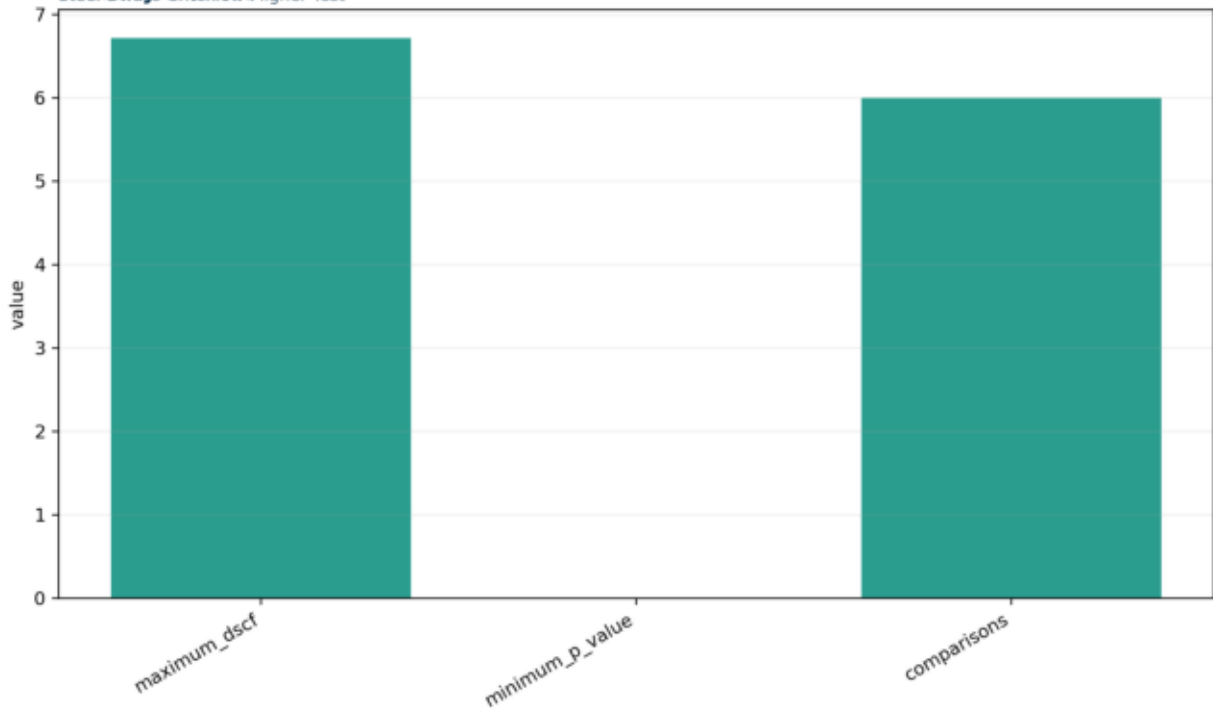
comparisons: 6

Interpretation:

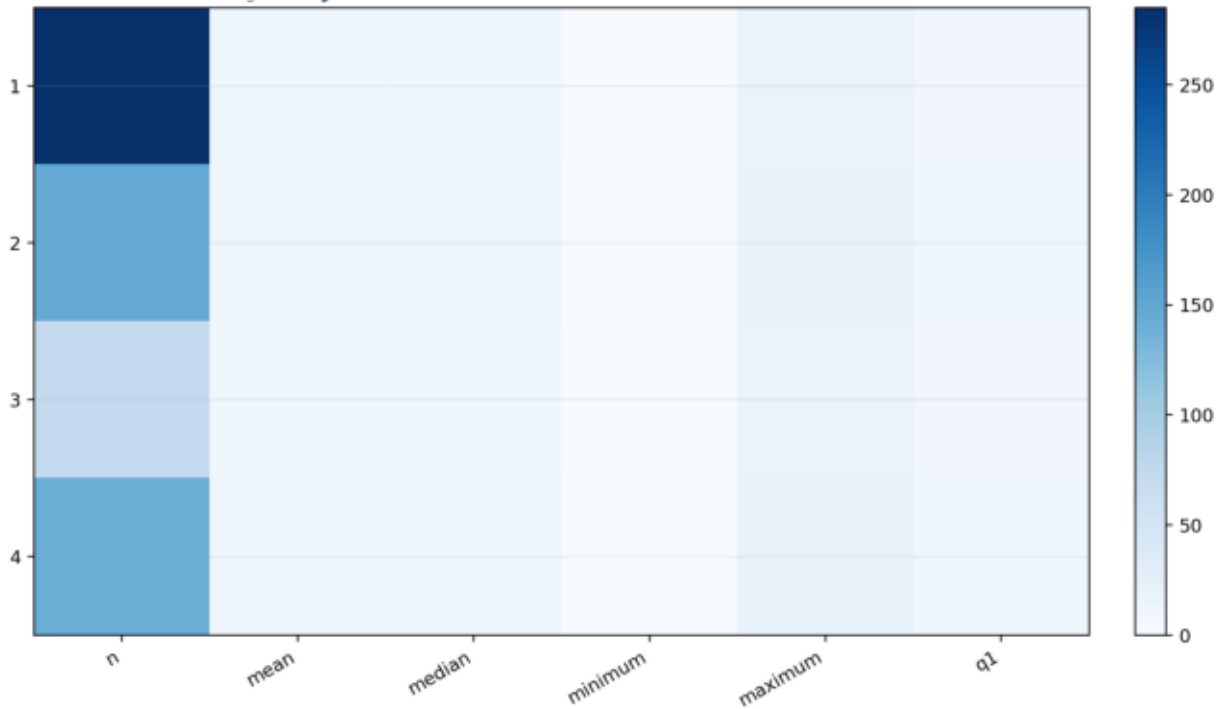
Every pair is pooled and reranked independently before the studentized-range adjustment.

The maximum DSCF statistic is 6.717192.

Primary Metrics

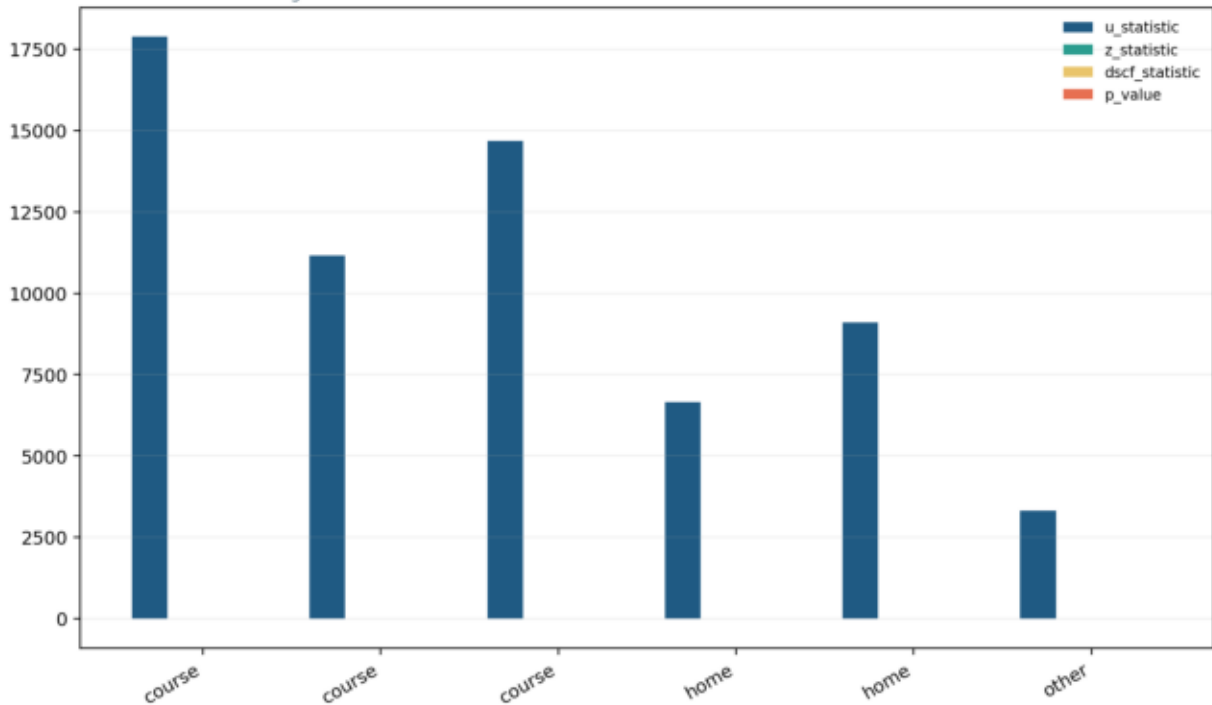


Reason Grade Summary

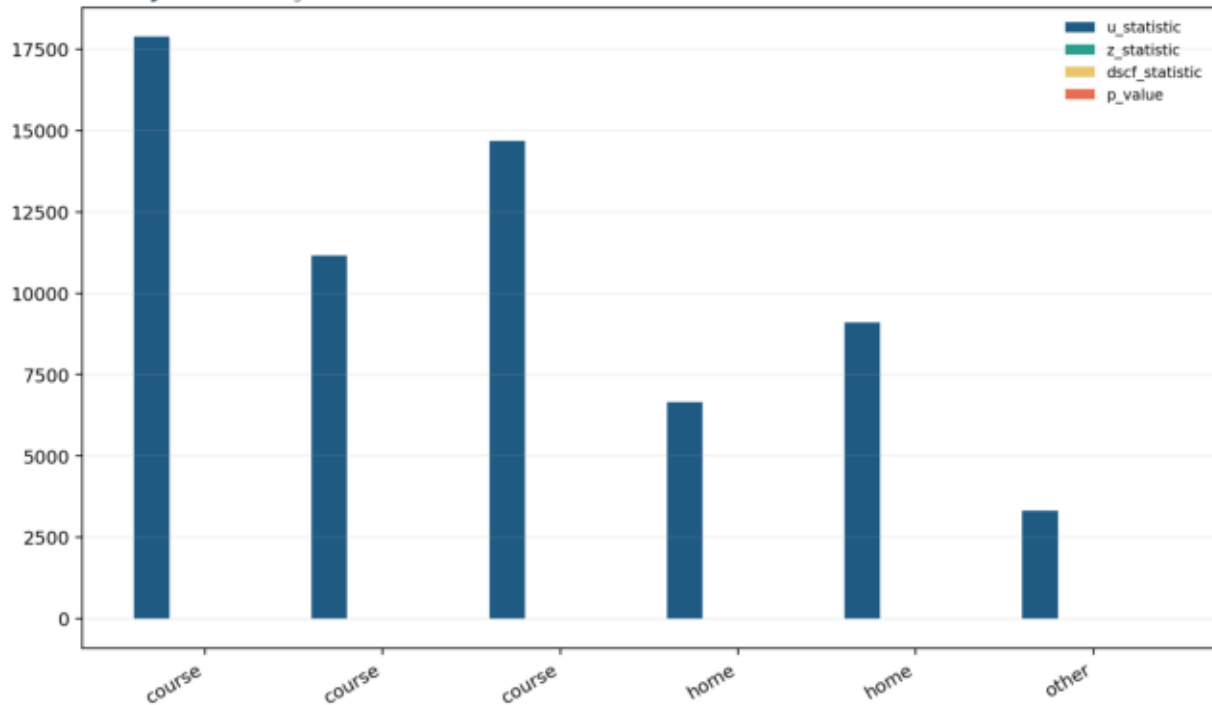


SteelDwass Pairwise

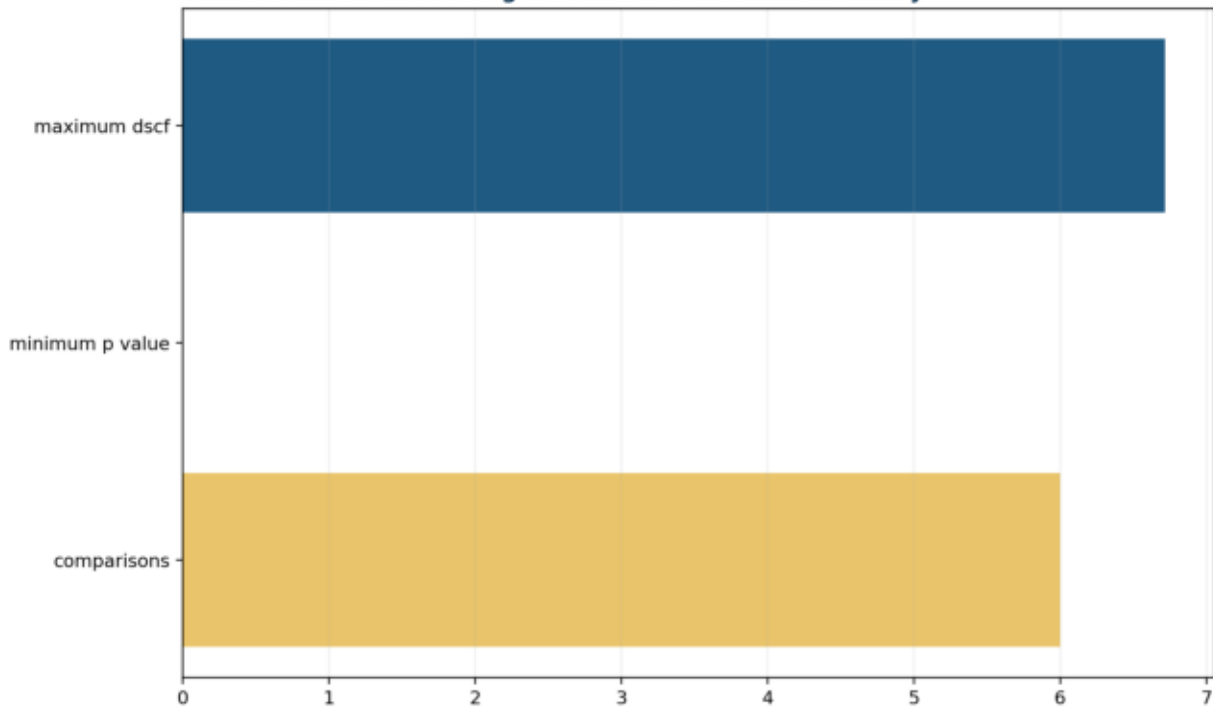
Wilcoxon Signed Rank Test



Familywise Decisions_{test}



Steel-Dwass-Critchlow-Fligner Test verified result summary



Primary Metrics

metric	value
maximum_dscf	6.71719
minimum_p_value	1.21104e-05
comparisons	6

Reason Grade Summary

reason	n	mean	median	minimum	maximum	q1	q3
course	285	11.5474	11	0	18	10	14
home	149	12.1812	12	0	19	11	14
other	72	10.6944	11	0	18	9.75	13
reputation	143	12.9441	13	0	19	11	15

Steel Dwass Pairwise

group_1	group_2	u_statistic	z_statistic	dscf_statistic	p_value
course	home	17891	-2.71239	3.83591	0.03378
course	other	11152.5	1.14874	1.62457	0.659224
course	reputation	14680.5	-4.74977	6.71719	1.21104e-05
home	other	6663	2.93797	4.15491	0.0174009
home	reputation	9101.5	-2.16671	3.06419	0.132591
other	reputation	3319.5	-4.2731	6.04307	0.0001134

Familywise Decisions

group_1	group_2	u_statistic	z_statistic	dscf_statistic	p_value	reject_familywise
course	home	17891	-2.71239	3.83591	0.03378	True
course	other	11152.5	1.14874	1.62457	0.659224	False
course	reputation	14680.5	-4.74977	6.71719	1.21104e-05	True
home	other	6663	2.93797	4.15491	0.0174009	True
home	reputation	9101.5	-2.16671	3.06419	0.132591	False
other	reputation	3319.5	-4.2731	6.04307	0.0001134	True