

Wilcoxon Signed–Rank Test

Test: Wilcoxon Signed–Rank Test

Design: Magnitude–sensitive paired comparison of G3 versus G1.

Variables: G1, G3

Null hypothesis: The paired difference distribution is symmetric around zero.

Formula: $W = \min(\text{sum positive absolute-difference ranks}, \text{sum negative ranks})$; zeros are excluded.

Source rows: 649

Calculated metrics:

w_statistic: 25595.5

p_value: 0

nonzero_pairs: 464

zero_pairs: 185

rank_biserial: 0.525482017055988

median_difference: 1

positive_rank_sum: 82284.5

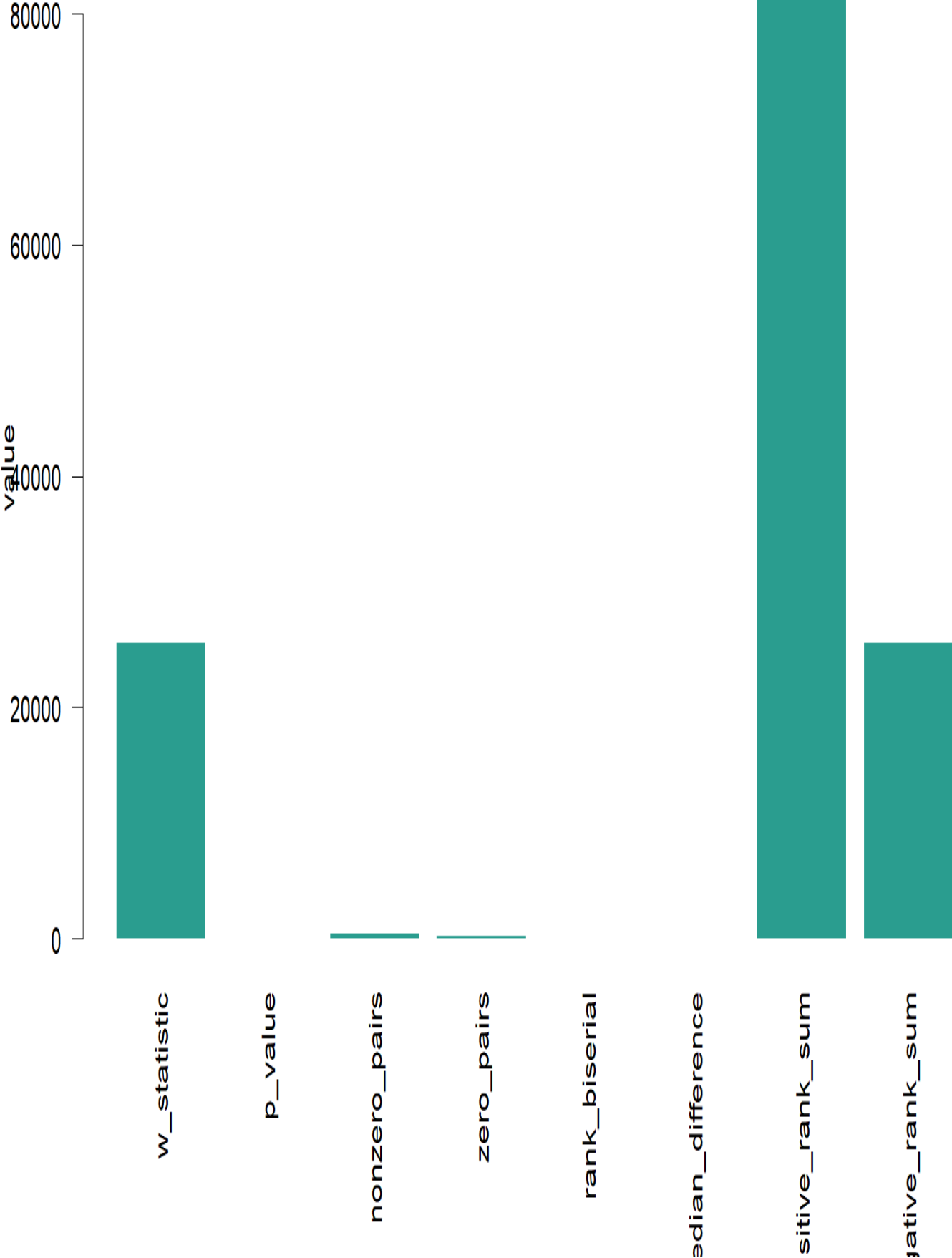
negative_rank_sum: 25595.5

Interpretation:

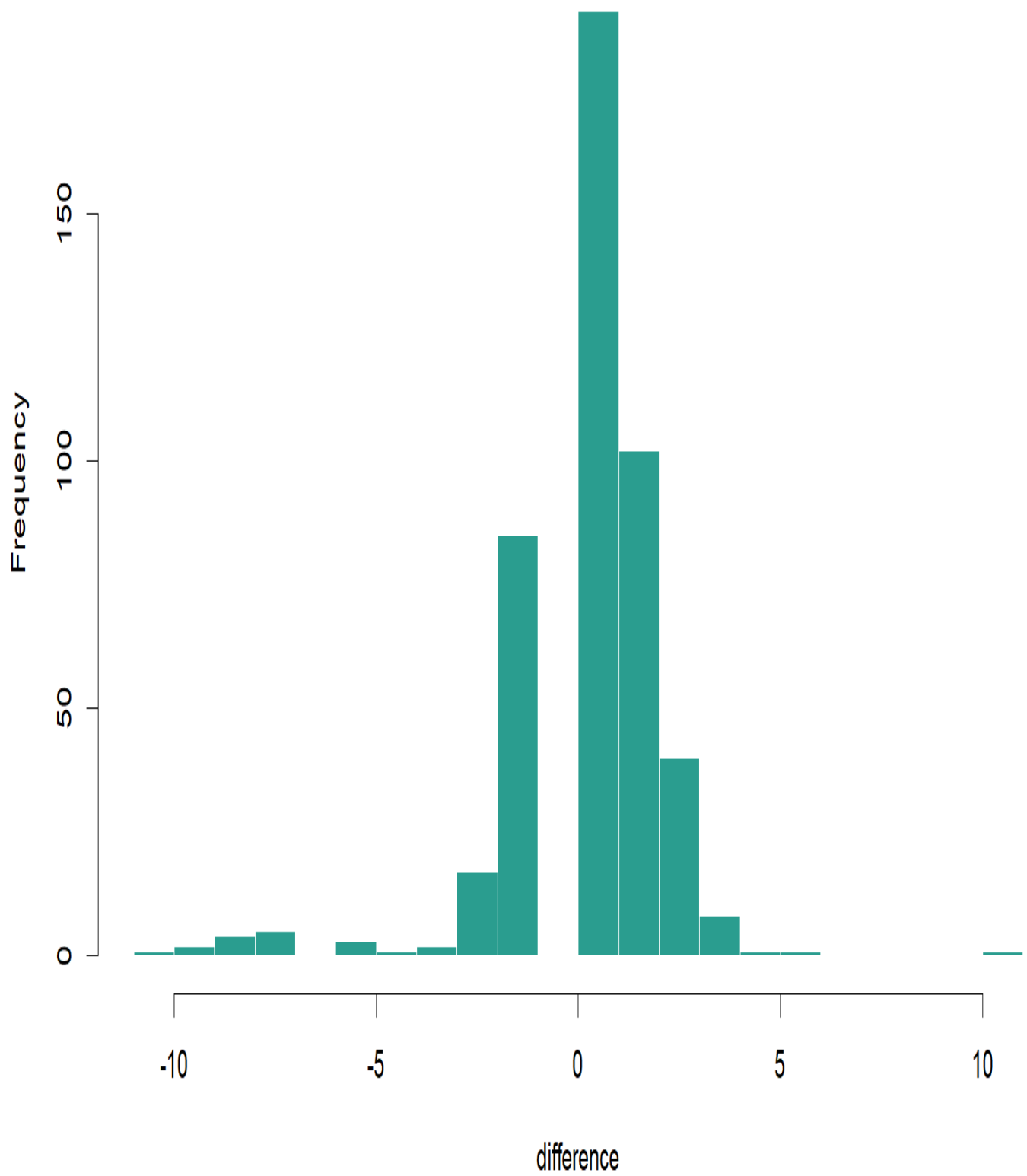
Nonzero absolute differences are midranked and signed.

$W = 25595.5$ $p = 0$

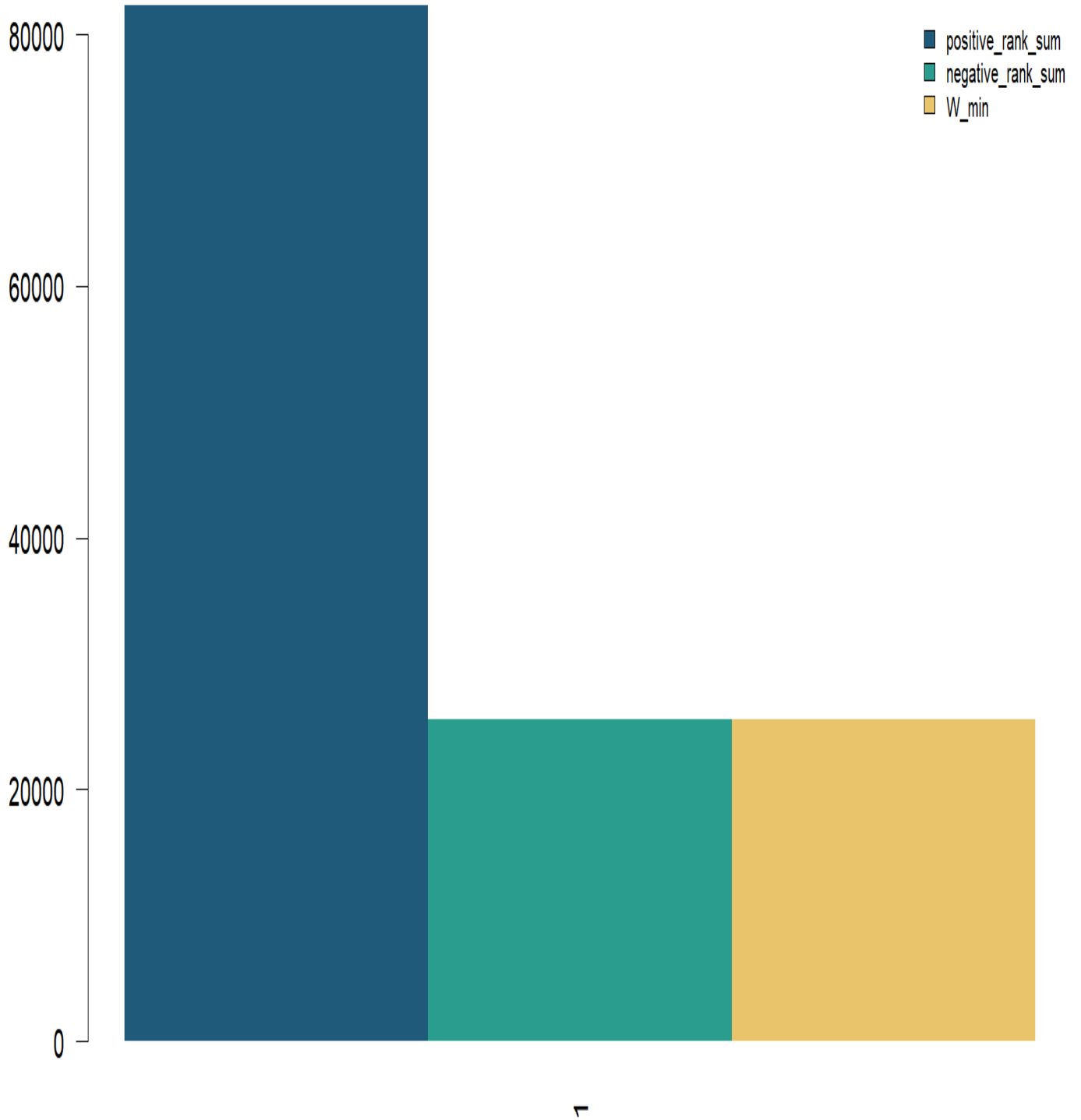
Wilcoxon Signed-Rank Test - primary metrics



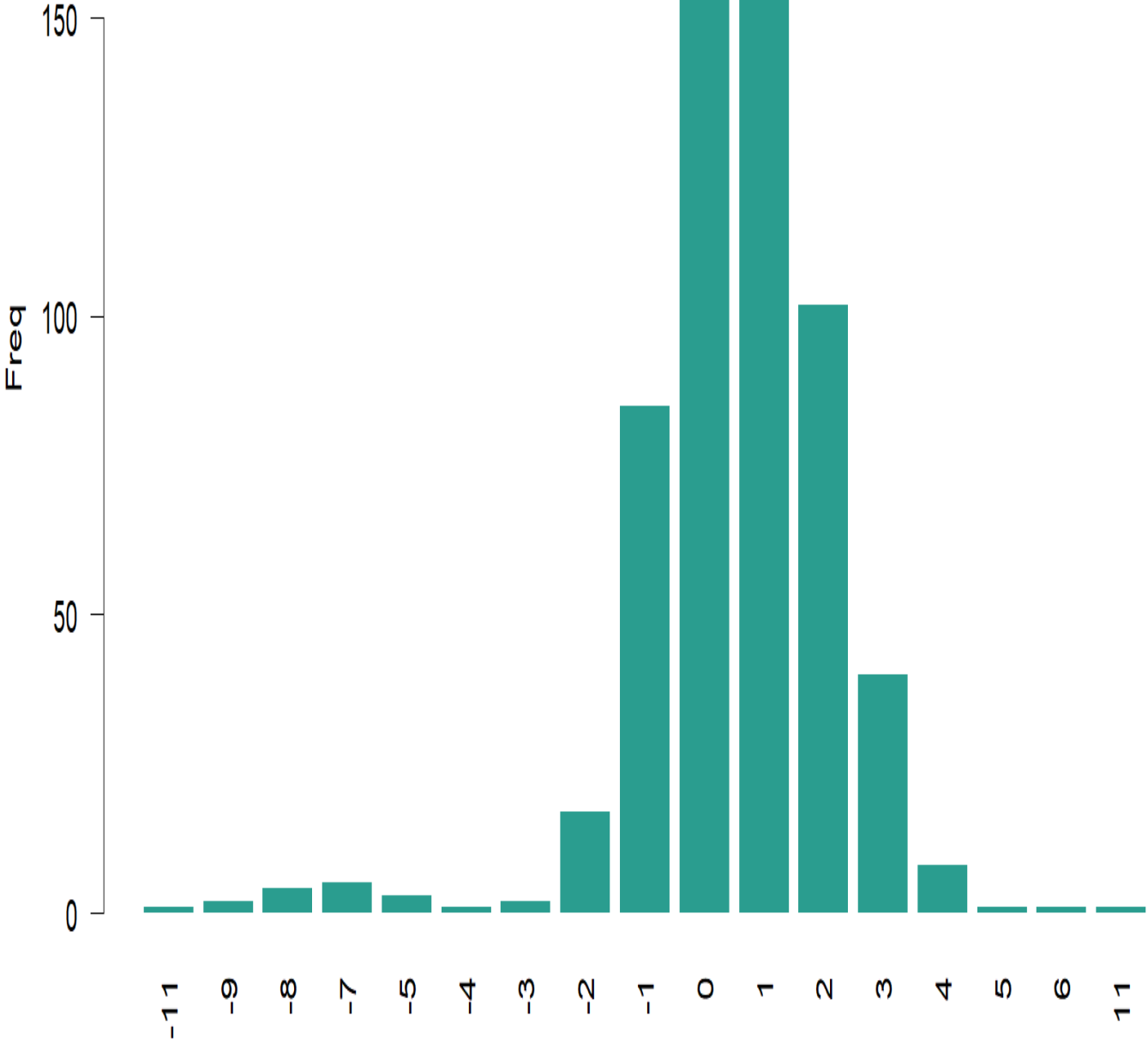
Wilcoxon Signed-Rank Test - signed rank observations



Wilcoxon Signed-Rank Test - rank sum decomposition



Wilcoxon Signed-Rank Test - difference counts



Wilcoxon Signed-Rank Test verified results

negative_rank_sum

positive_rank_sum

median_difference

rank_biserial

zero_pairs

nonzero_pairs

p_value

w_statistic

