Horn's Common−Factor Parallel Analysis

Test: Horn's Common−Factor Parallel Analysis

Design: Principal−axis reduced−correlation eigenvalues compared with 95th−percentile random common eigenvalues.

Variables: G1, G2, G3, famrel, freetime, goout

Null hypothesis: No observed common−factor eigenvalue exceeds its random 95th−percentile counterpart.

Formula: Retain factor j when lambda_j(R with SMC diagonal)>Q_.95[lambda_j(random reduced R)].

Source rows: 649

Calculated metrics:

retained_factors: 2

replications: 200

first_observed_common_eigenvalue: 2.60059316685748

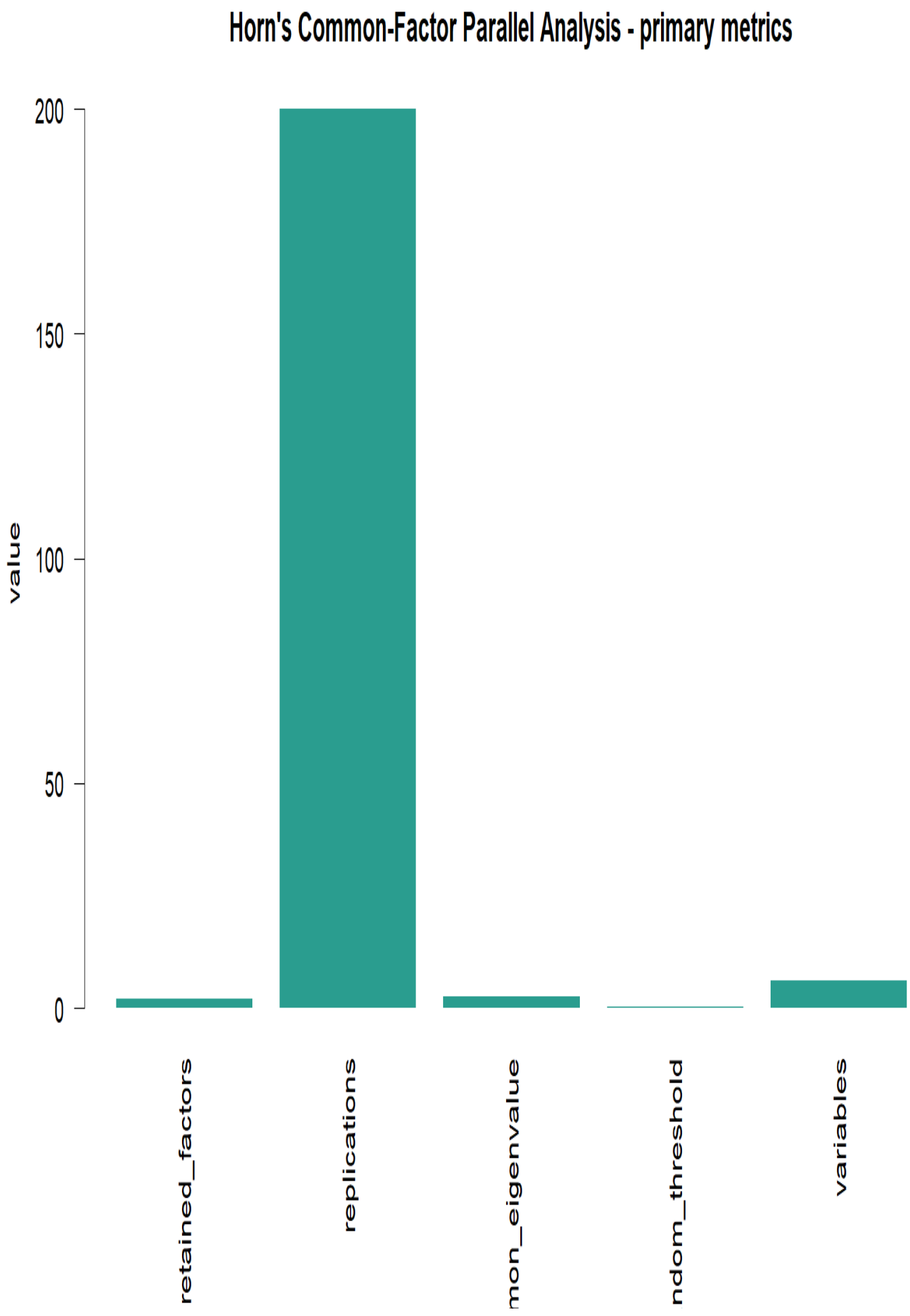
first_random_threshold: 0.207553638348423

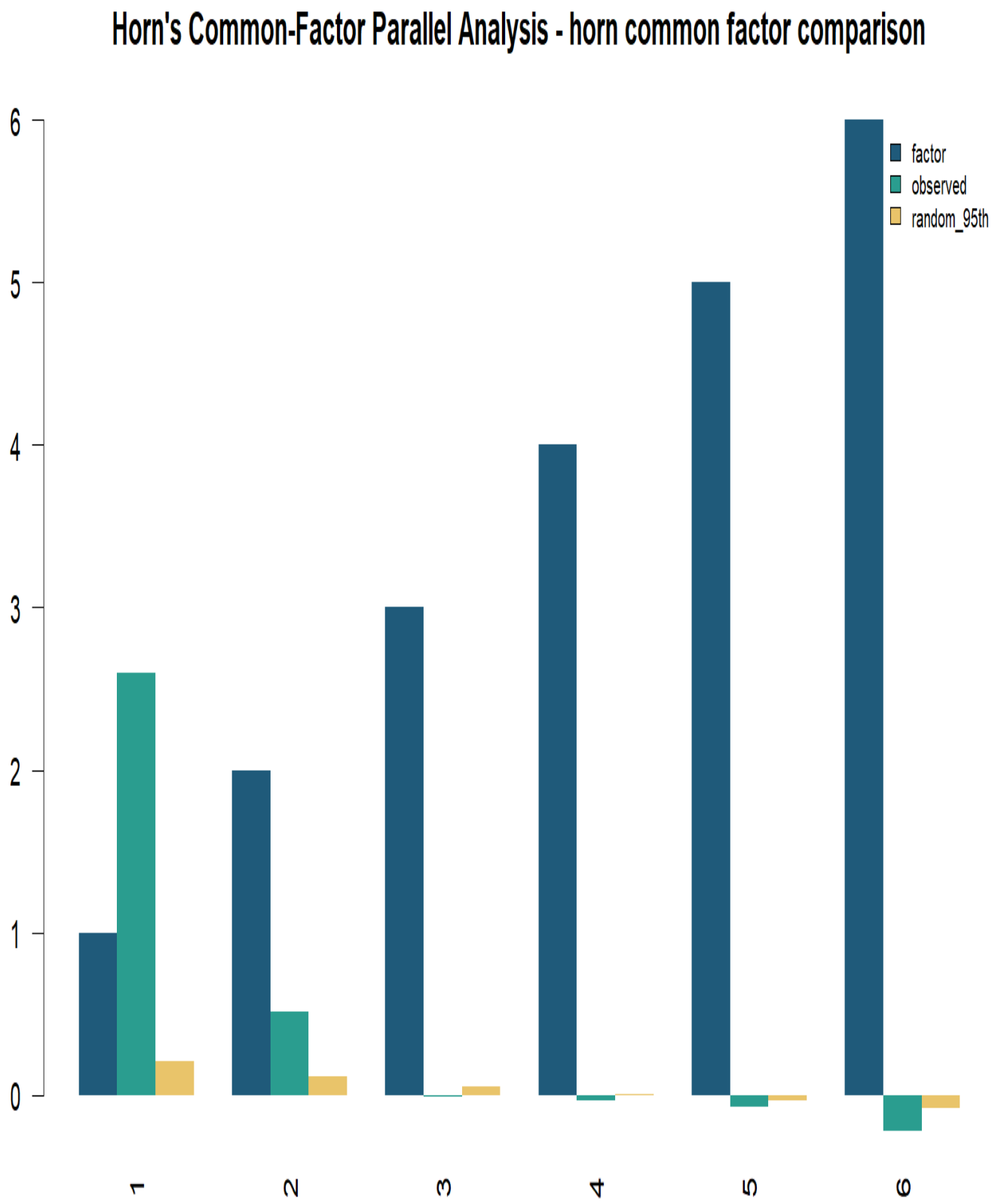
variables: 6

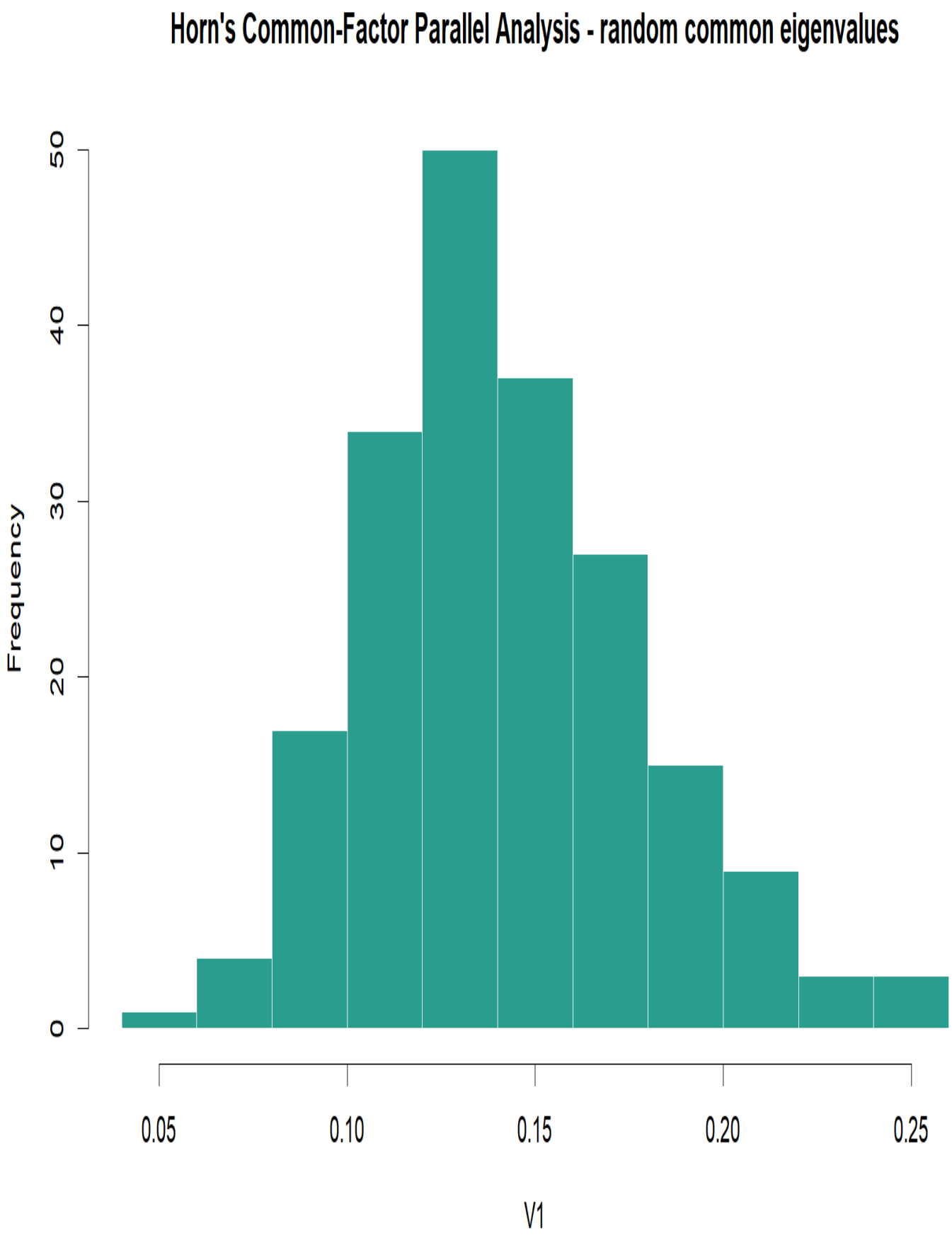
Interpretation:

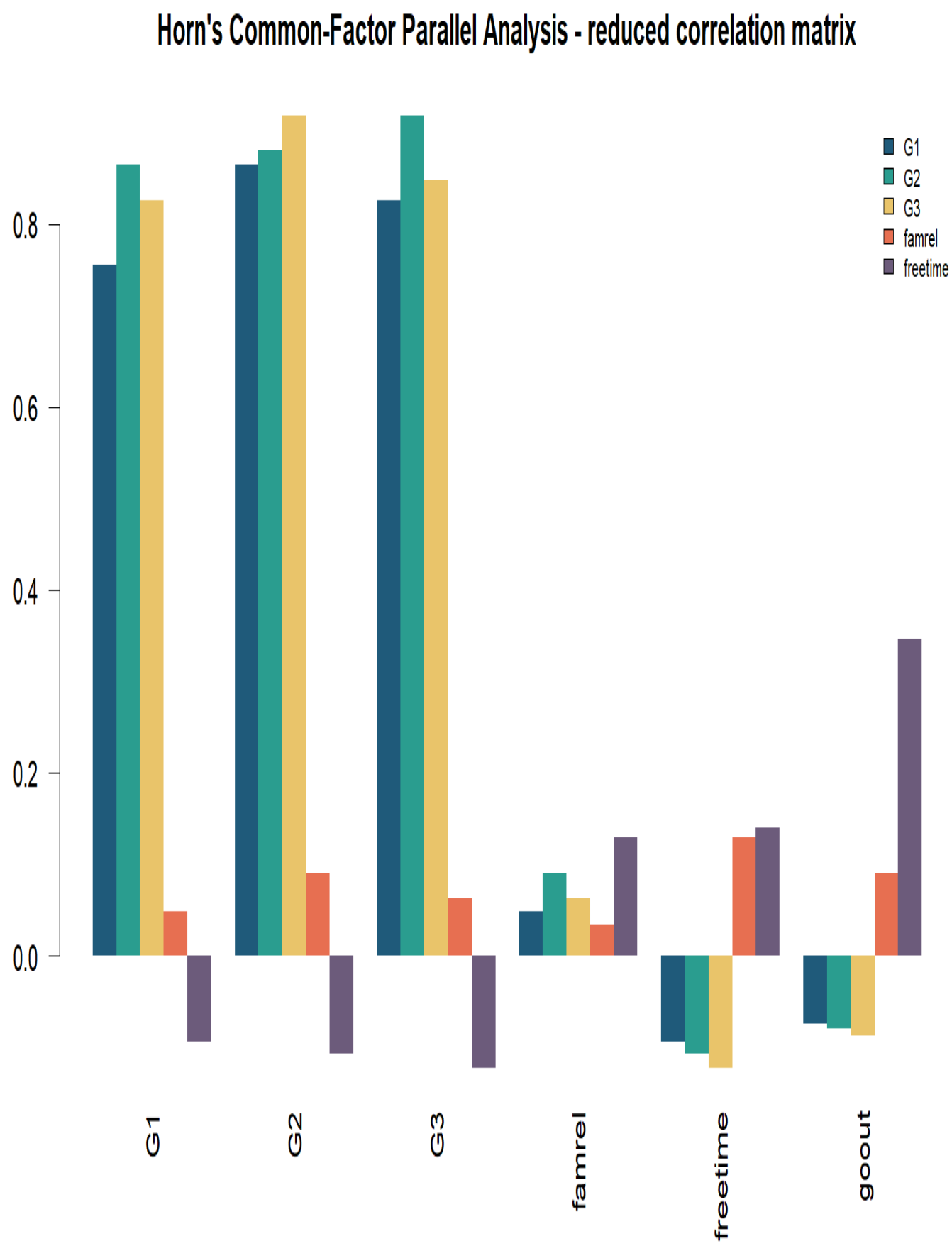
Horn analysis uses SMC diagonals.

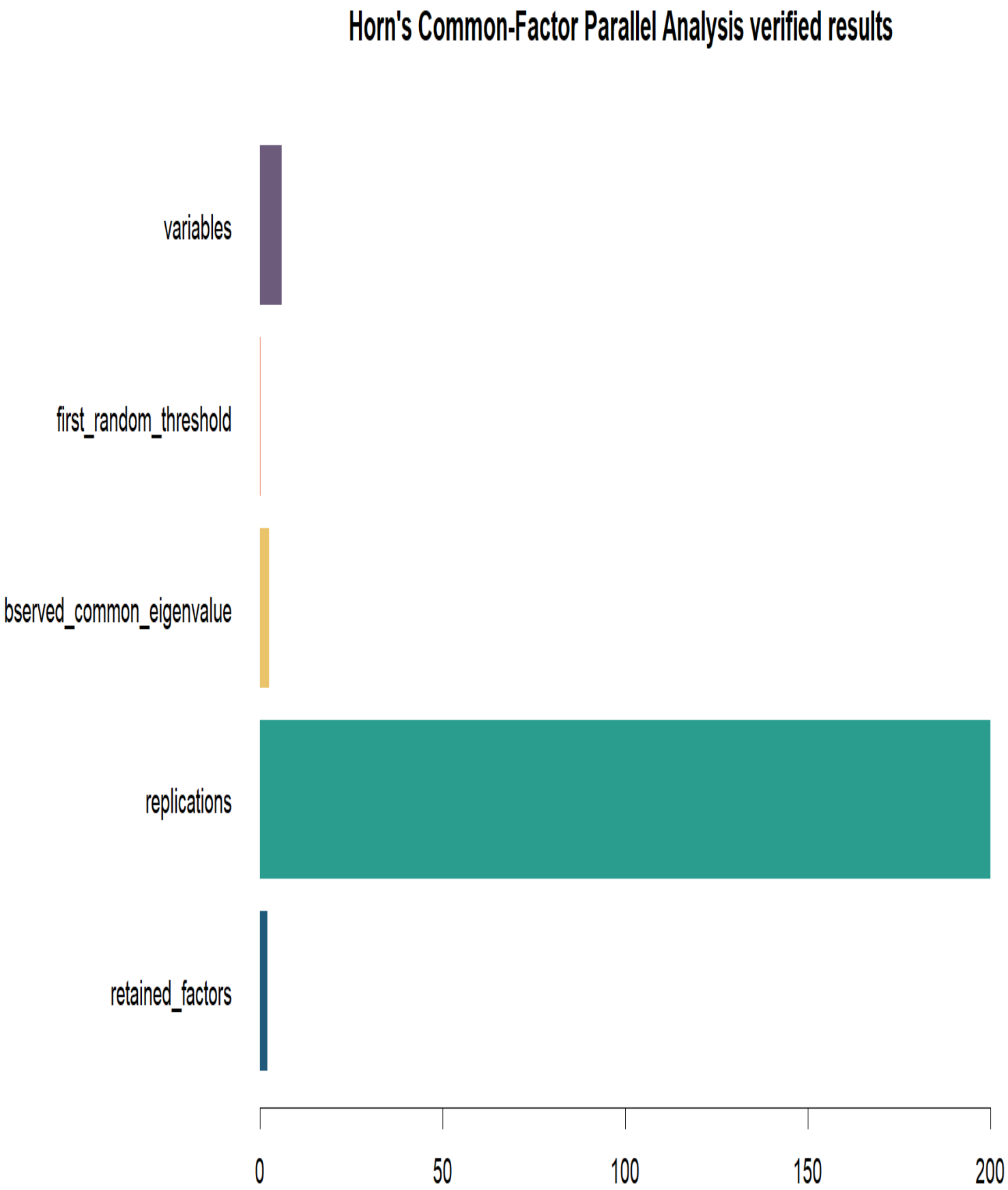
Retained factors 2


Horn's Common-Factor Parallel Analysis - primary metrics
value
200
150
100
50
0
retained_factors
replications
mon_eigenvalue
ndom_threshold
variables


Horn's Common-Factor Parallel Analysis - horn common factor comparison
6
5
4
3
2
1
0
factor
observed
random_95th
1
2
3
4
5
6


Horn's Common-Factor Parallel Analysis - random common eigenvalues
Frequency
0
10
20
30
40
50
0.05
0.10
0.15
0.20
0.25
V1


Horn's Common-Factor Parallel Analysis - reduced correlation matrix
G1
G2
G3
famrel
freetime
0.8
0.6
0.4
0.2
0.0
G1
G2
G3
famrel
freetime
goout


Horn's Common-Factor Parallel Analysis verified results
variables
first_random_threshold
bserved_common_eigenvalue
replications
retained_factors
0
50
100
150
200