

Normed Fit Index

Standalone verified Python analysis

Test: Normed Fit Index

Design: Proportional reduction in ML chi-square from independence to target CFA model.

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

Null hypothesis: The target model does not reduce discrepancy relative to independence.

Formula: $NFI = (\chi^2_{\text{baseline}} - \chi^2_{\text{target}}) / \chi^2_{\text{baseline}}$.

Source rows: 649

Calculated metrics:

nfi: 0.9938288776820553

target_chi_square: 13.76397207713822

baseline_chi_square: 2230.3839347203802

chi_square_reduction: 2216.619962643242

Independent reference values:

nfi: 0.9938288776820553

target_chi_square: 13.76397207713822

baseline_chi_square: 2230.3839347203802

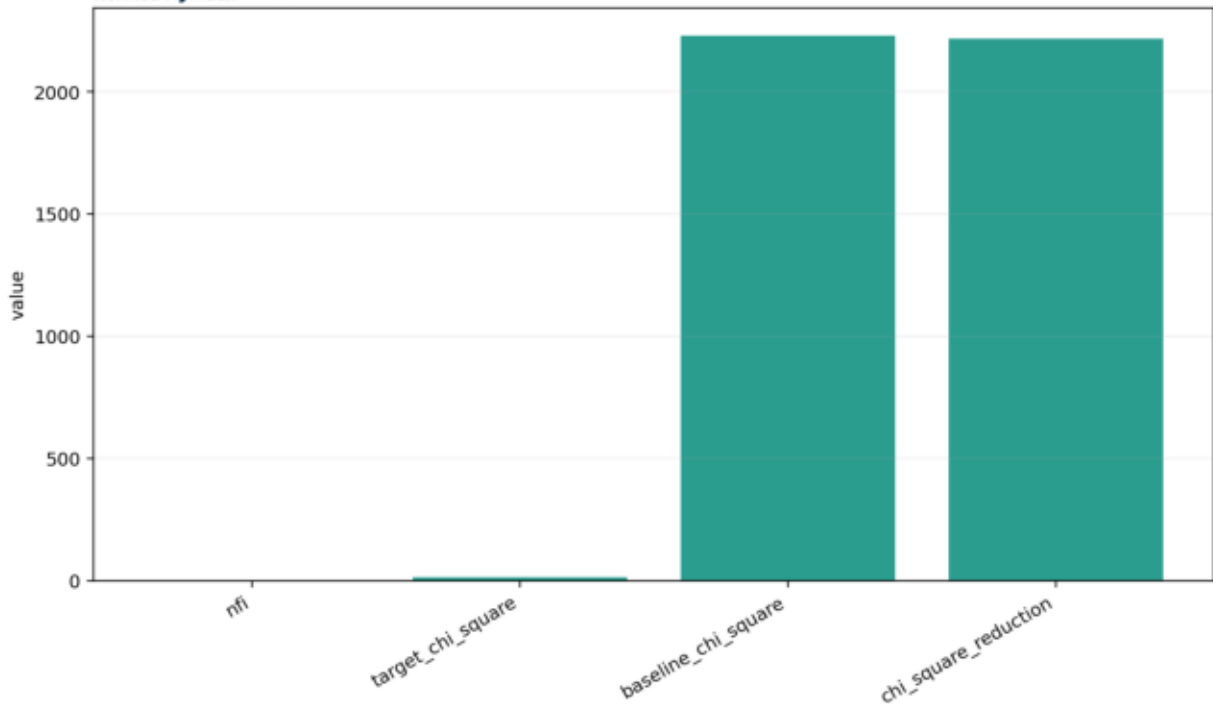
chi_square_reduction: 2216.619962643242

Interpretation:

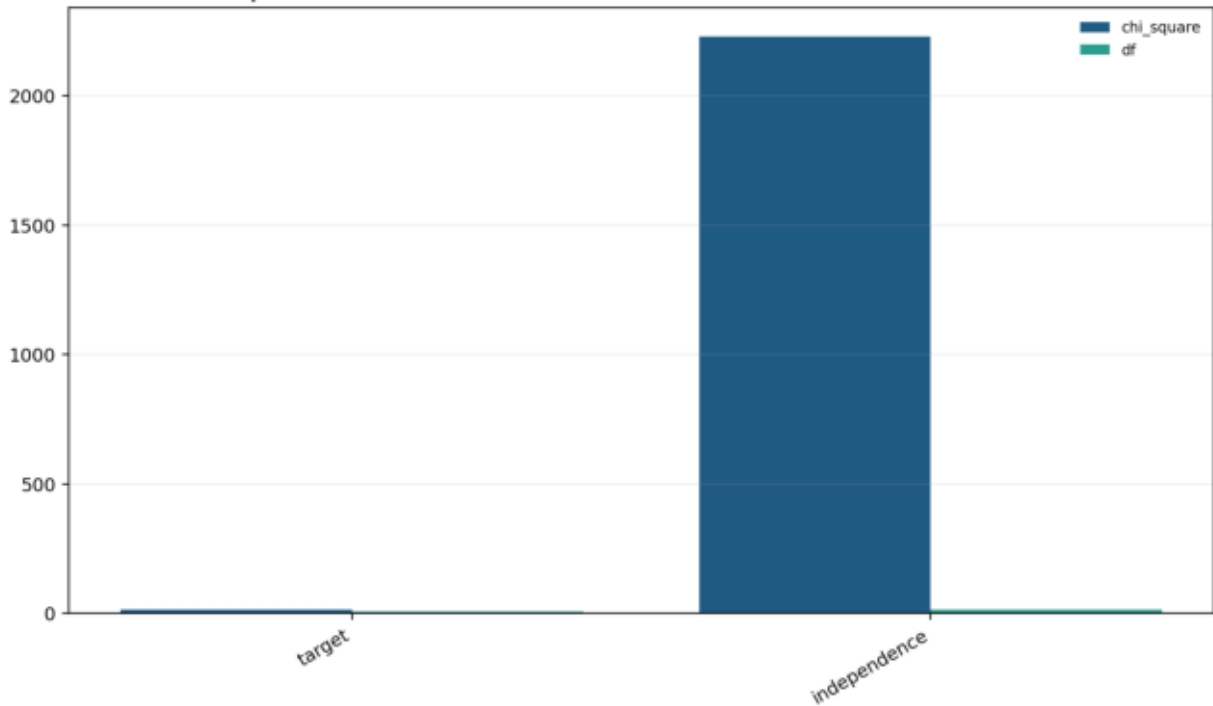
NFI uses raw proportional chi-square reduction without CFI's noncentrality correction.

NFI=0.993829.

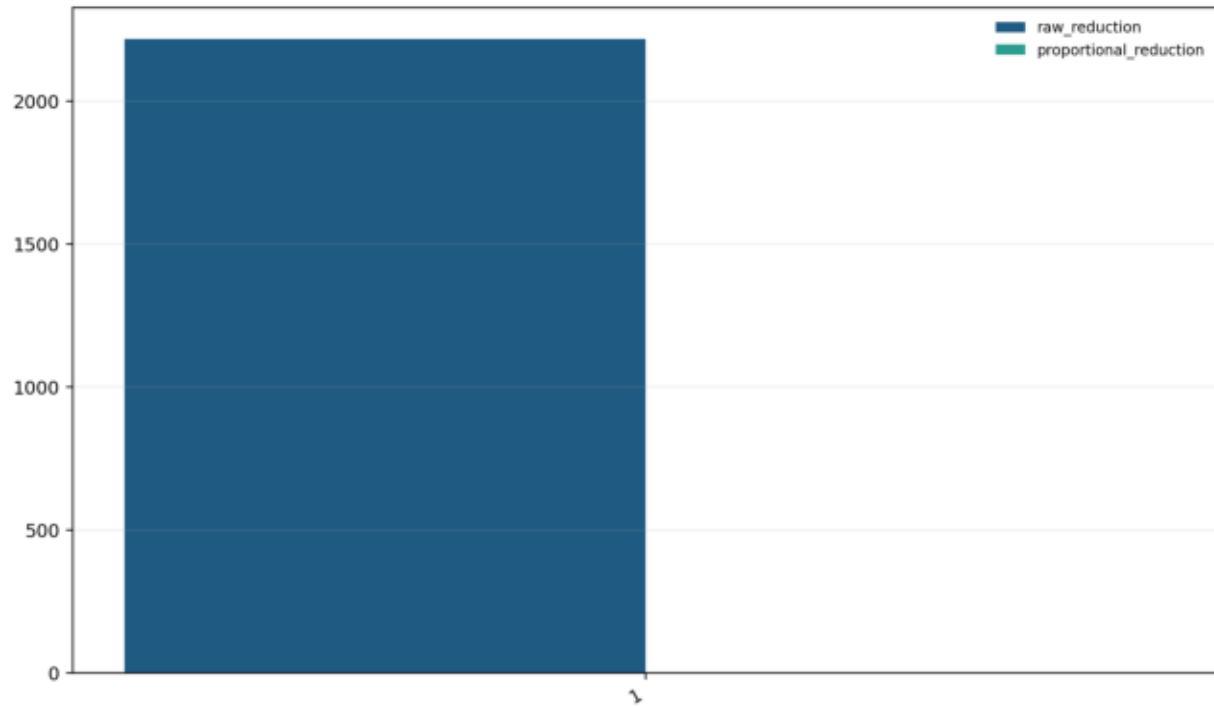
Primary Metrics



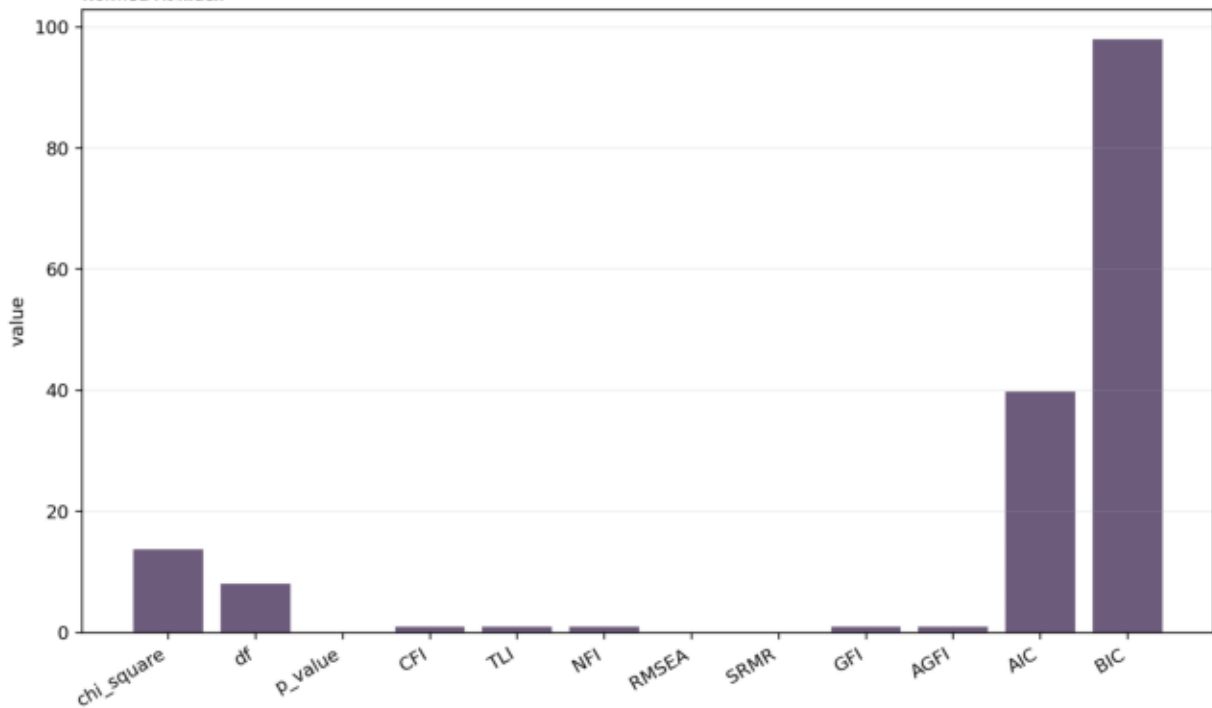
Nfi Model Comparison



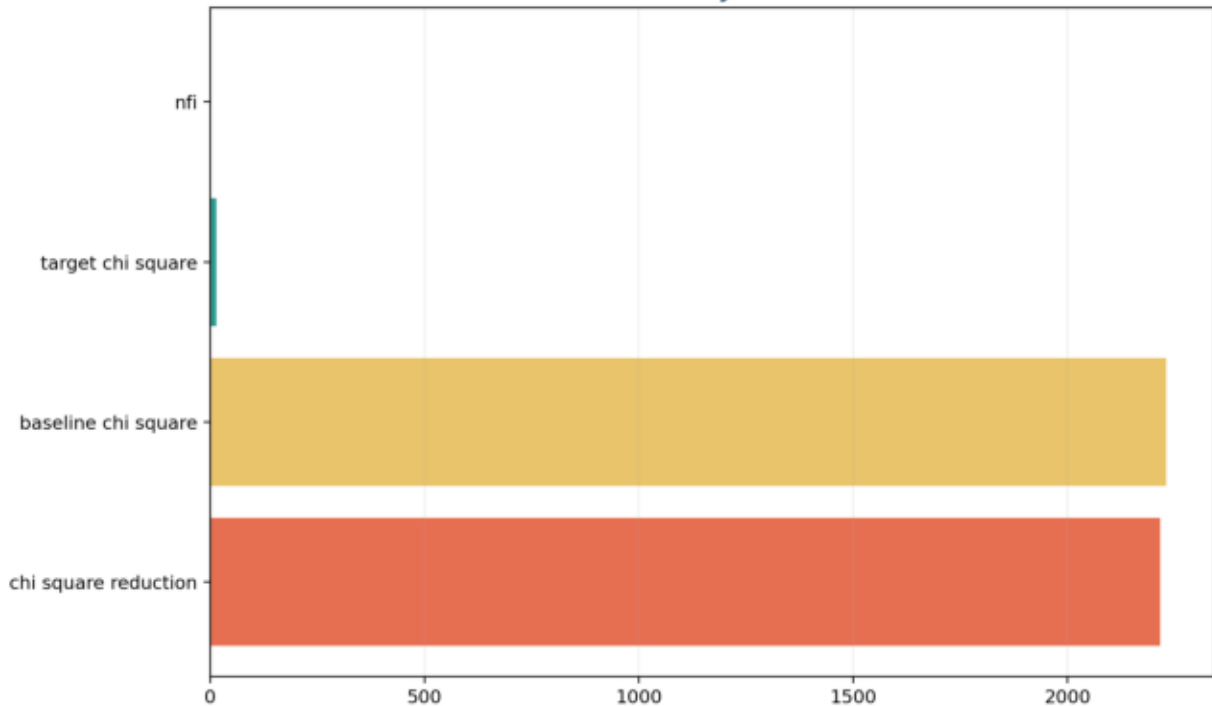
Nfi Reduction



Fit Context



Normed Fit Index verified result summary



Primary Metrics

metric	value
nfi	0.993829
target_chi_square	13.764
baseline_chi_square	2230.38
chi_square_reduction	2216.62

Nfi Model Comparison

model	chi_square	df
target	13.764	8
independence	2230.38	15

Nfi Reduction

raw_reduction	proportional_reduction
2216.62	0.993829

Fit Context

index	value
chi_square	13.764
df	8
p_value	0.0881286
CFI	0.997398
TLI	0.995122
NFI	0.993829
RMSEA	0.0333448
SRMR	0.0356632
GFI	0.992635
AGFI	0.980667
AIC	39.764
BIC	97.9446