

McDonald's One-Factor Omega Total

Standalone verified Python analysis

Test: McDonald's One-Factor Omega Total

Design: Congeneric reliability of the standardized six-item scale using one principal-axis common factor.

Variables: famrel, freetime, goout, Dalc_R, Walc_R, health

Null hypothesis: The common factor accounts for no reliable variance in the unit-weighted total.

Formula: $\omega_t = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum \psi_i}$.

Source rows: 649

Calculated metrics:

omega_total: 0.11958593232012678

items: 6

n_cases: 649

sum_loadings: 0.7826442649794866

sum_uniqueness: 4.509575828065976

Independent reference values:

omega_total: 0.11958593232012678

items: 6

n_cases: 649

sum_loadings: 0.7826442649794866

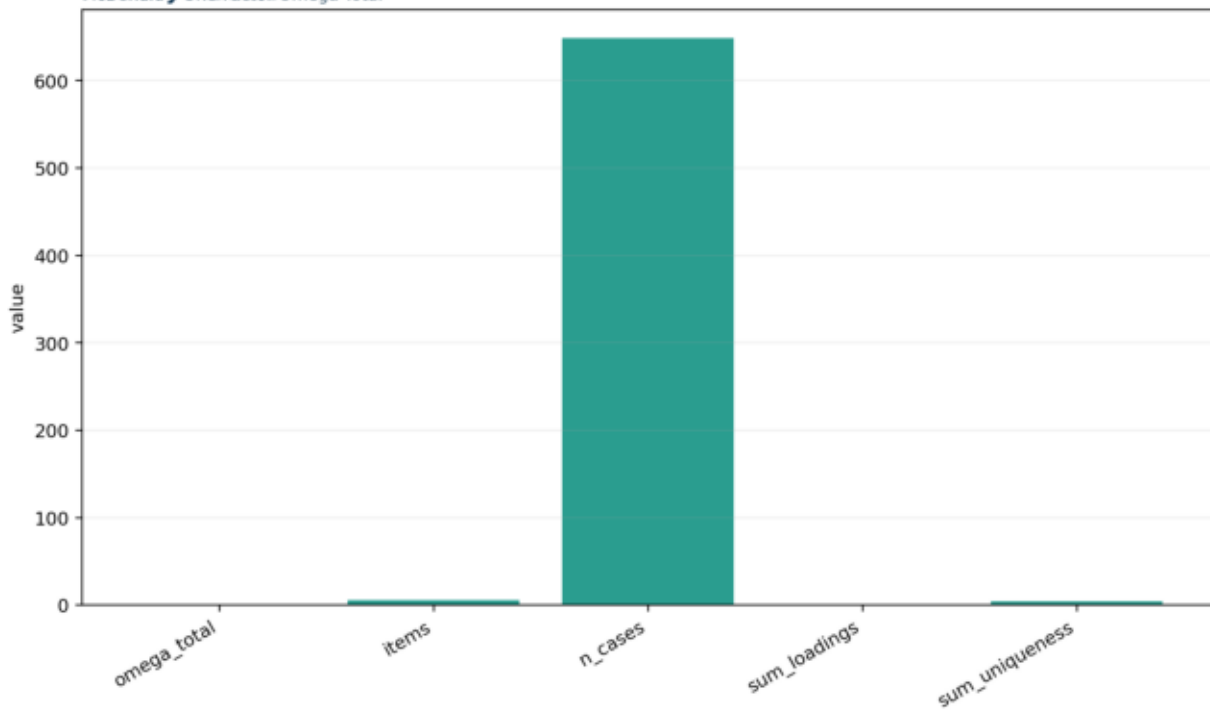
sum_uniqueness: 4.509575828065976

Interpretation:

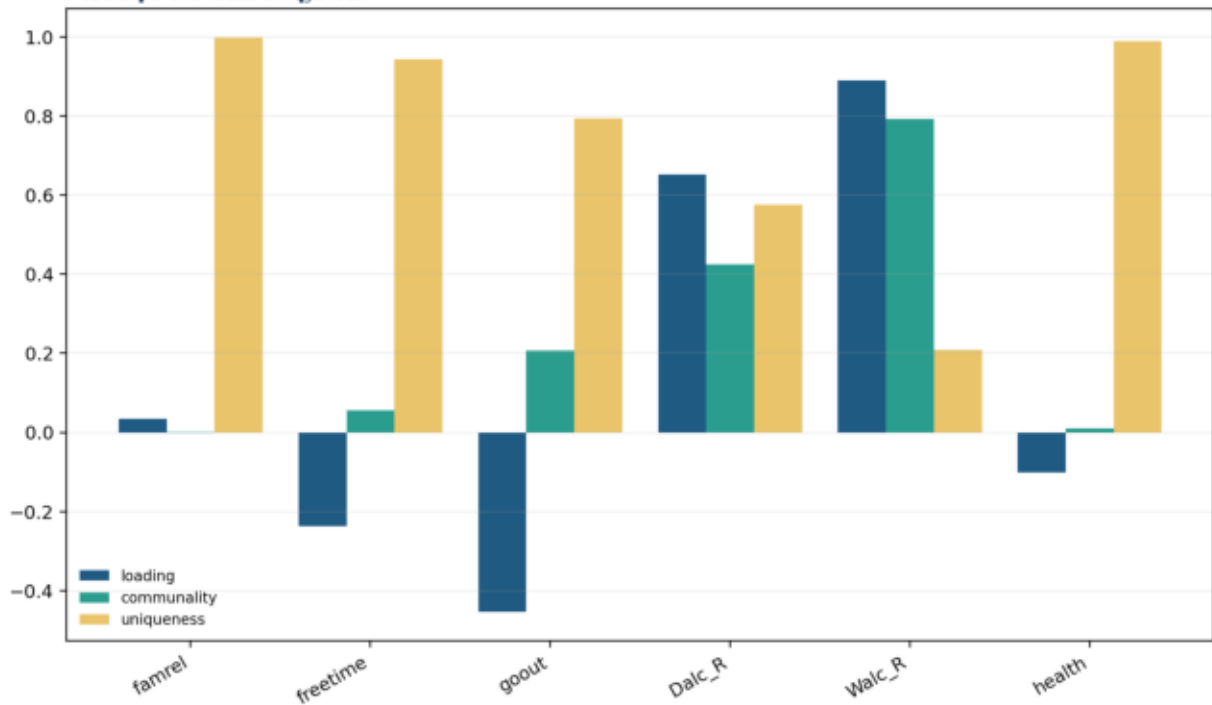
A converged one-factor principal-axis model supplies congeneric loadings and uniquenesses.

McDonald omega total=0.119586.

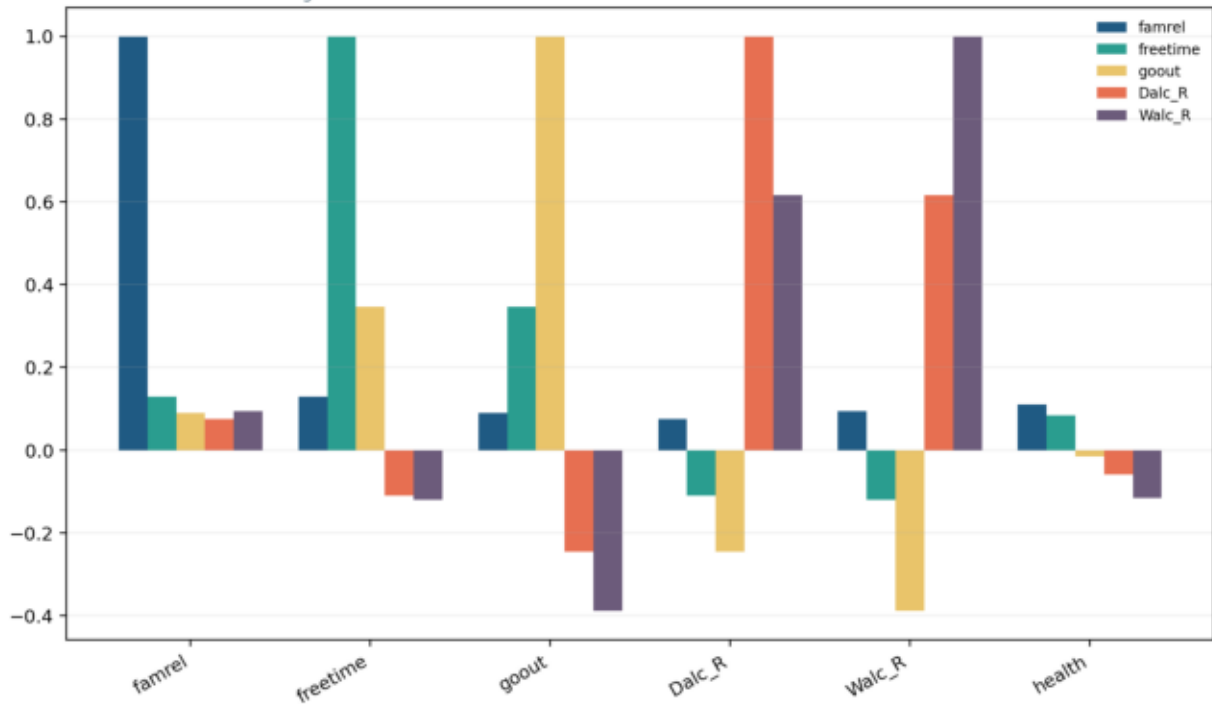
Primary Metrics
Omega Total



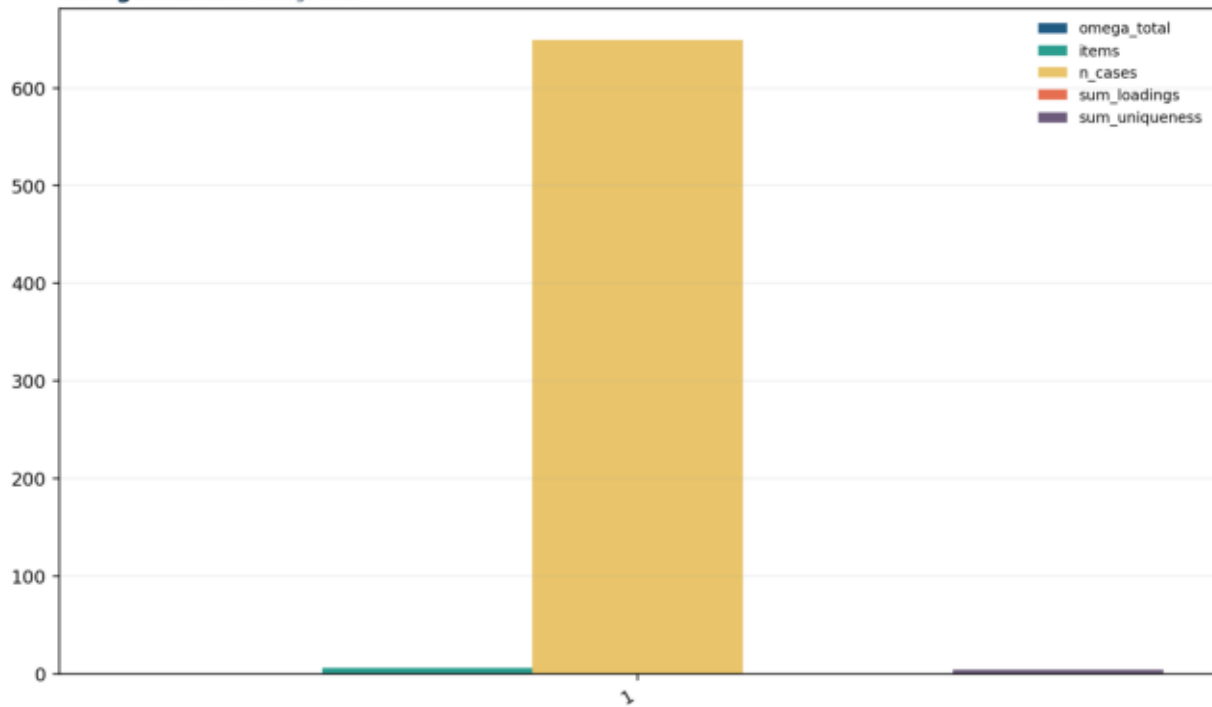
Principal Axis Components



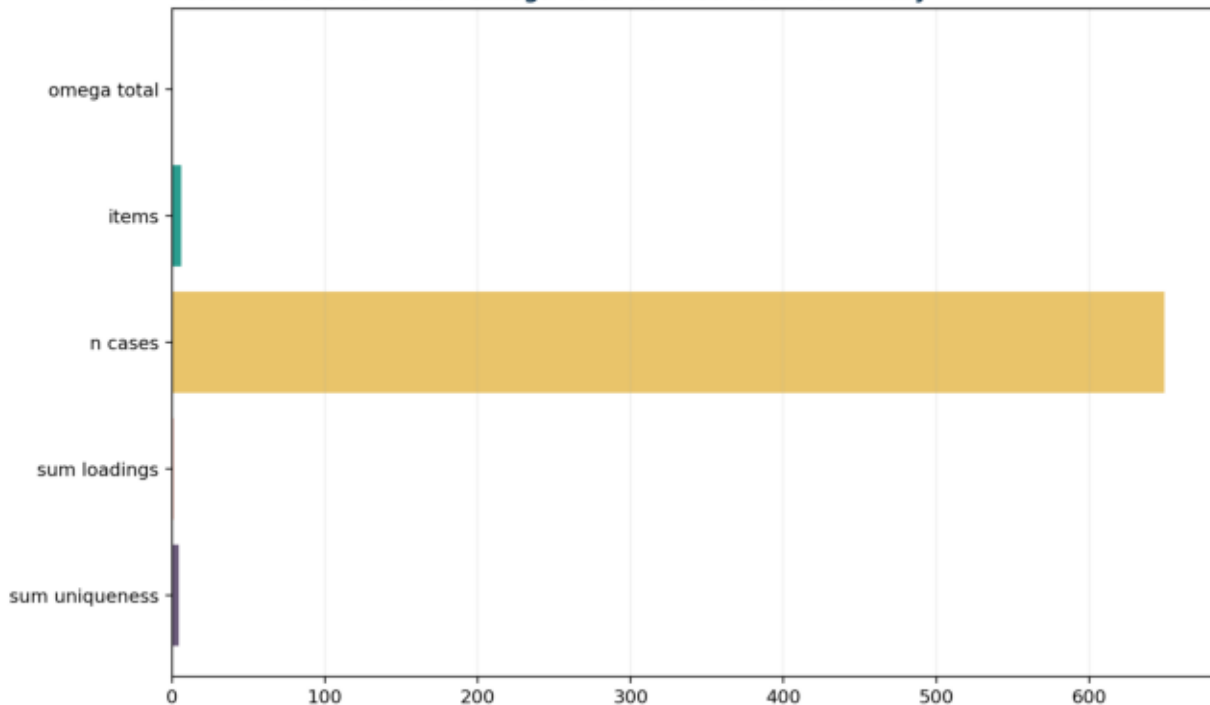
Item Correlation Matrix



Omega Result for Omega Total



McDonald's One-Factor Omega Total verified result summary



Primary Metrics

metric	value
omega_total	0.119586
items	6
n_cases	649
sum_loadings	0.782644
sum_uniqueness	4.50958

Principal Axis Components

item	loading	communality	uniqueness
famrel	0.0336456	0.00113202	0.998868
freetime	-0.237152	0.056241	0.943759
goout	-0.45408	0.206189	0.793811
Dalc_R	0.651767	0.4248	0.5752
Walc_R	0.889825	0.791788	0.208212
health	-0.101361	0.010274	0.989726

Item Correlation Matrix

item	famrel	freetime	goout	Dalc_R	Walc_R	health
famrel	1	0.129216	0.0897066	0.0757672	0.0935108	0.109559
freetime	0.129216	1	0.346352	-0.109904	-0.120244	0.0845264
goout	0.0897066	0.346352	1	-0.245126	-0.38868	-0.0157411
Dalc_R	0.0757672	-0.109904	-0.245126	1	0.616561	-0.0590675
Walc_R	0.0935108	-0.120244	-0.38868	0.616561	1	-0.114988
health	0.109559	0.0845264	-0.0157411	-0.0590675	-0.114988	1

Omega Result

omega_total	items	n_cases	sum_loadings	sum_uniqueness
0.119586	6	649	0.782644	4.50958