

Likert Item vs Likert Scale

Standalone verified Python analysis

Method: Likert Item vs Likert Scale

Method type: measurement_comparison

Design: Side-by-side distinction between one ordinal item and a six-item directionally aligned scale.

Variables: famrel, famrel, freetime, goout, Dalc, Walc, health

Inference scope: No hypothesis test is required; the output contrasts item-level and scale-level measurement summaries.

Formula: item=famrel; scale_j=mean(famrel,freetime,goout,6-Dalc,6-Walc,health).

Source rows: 649

Calculated metrics:

item_mean: 3.930662557781202

item_median: 4.0

item_sd: 0.9557168913381863

scale_mean: 3.674884437596302

scale_sd: 0.49493413588832214

item_total_correlation: 0.22659733045787755

scale_alpha: 0.1117626312468654

Independent reference values:

item_mean: 3.930662557781202

item_median: 4.0

item_sd: 0.9557168913381863

scale_mean: 3.674884437596302

scale_sd: 0.49493413588832214

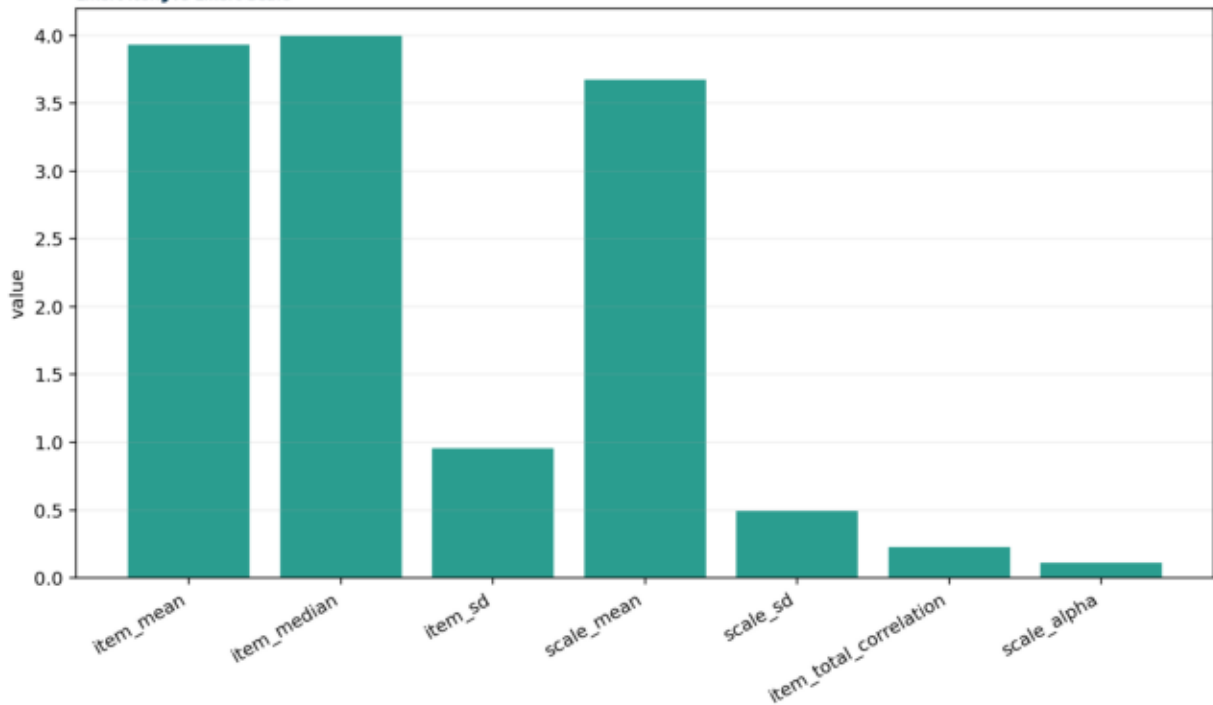
item_total_correlation: 0.22659733045787755

scale_alpha: 0.1117626312468654

Interpretation:

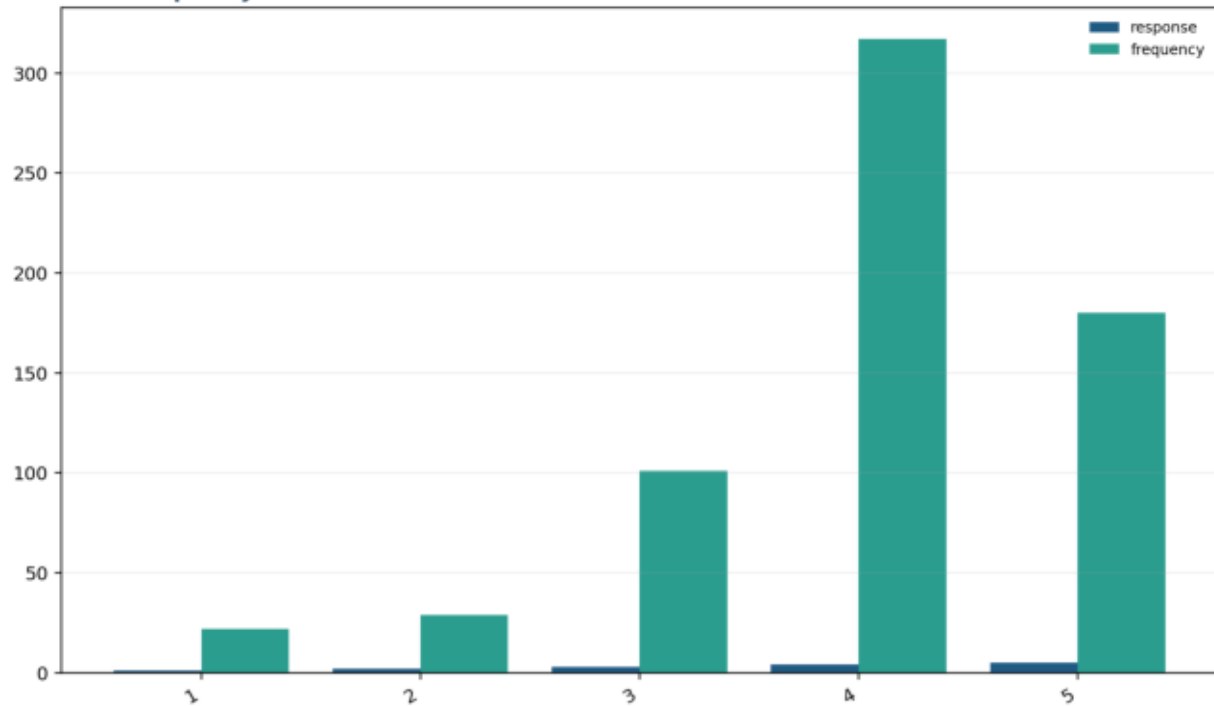
The single item has five ordered categories, whereas the six-item mean has finer score resolution.
Item-total correlation=0.226597; scale alpha=0.111763.

Primary Metrics

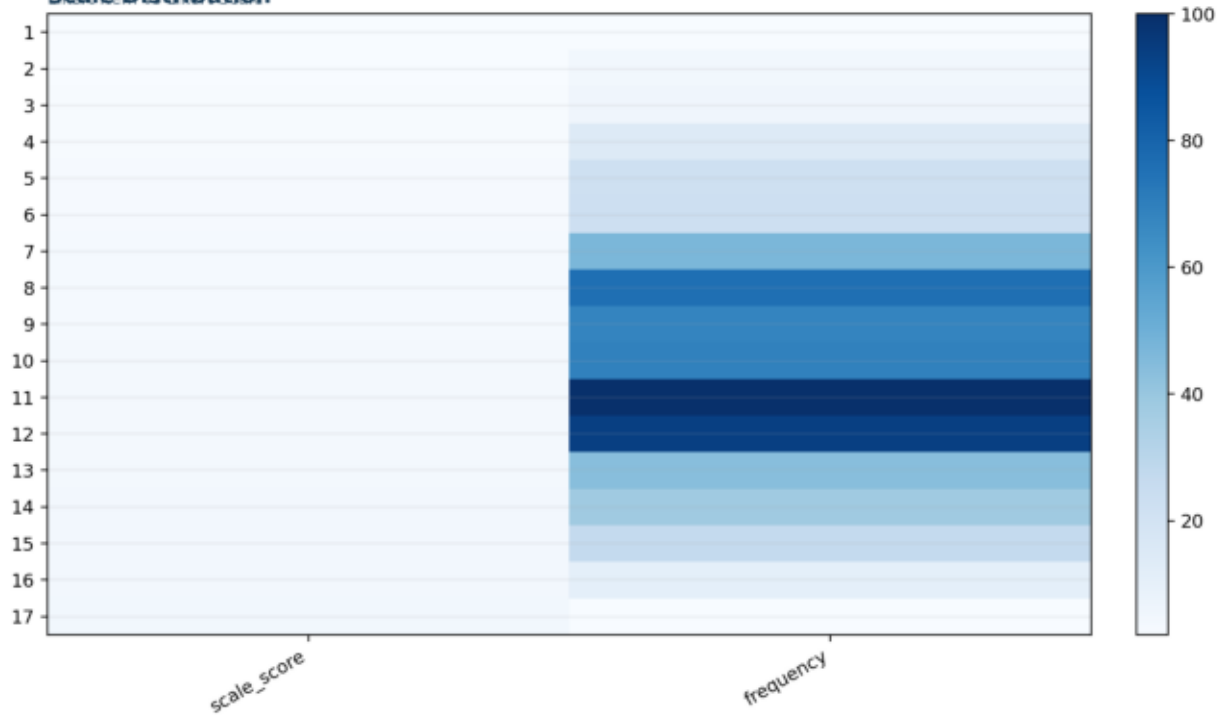


Item Frequency

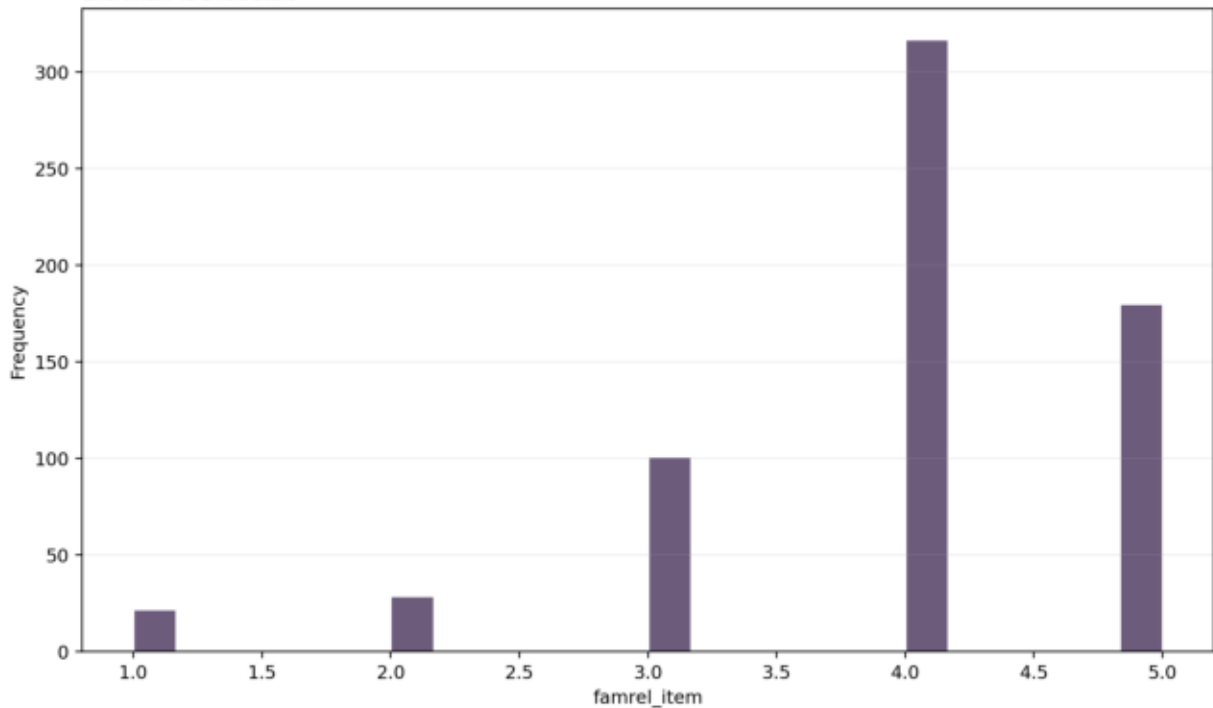
total sale



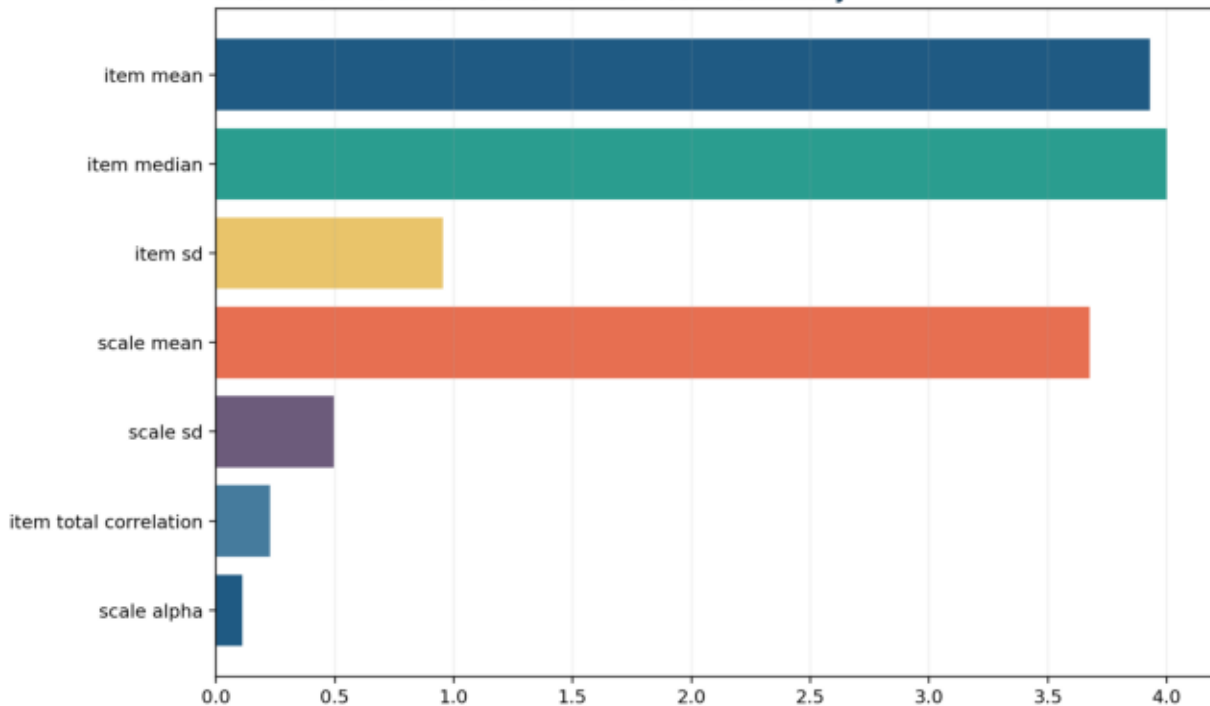
Scale Distribution



Item Scale Pairs



Likert Item vs Likert Scale verified result summary



Primary Metrics

metric	value
item_mean	3.93066
item_median	4
item_sd	0.955717
scale_mean	3.67488
scale_sd	0.494934
item_total_correlation	0.226597
scale_alpha	0.111763

Item Frequency

response	frequency
1	22
2	29
3	101
4	317
5	180

Scale Distribution

scale_score	frequency
2	2
2.33333	5
2.5	6
2.66667	15
2.83333	22
3	23
3.16667	47
3.33333	76
3.5	68
3.66667	69
3.83333	100
4	94
4.16667	44
4.33333	38
4.5	27
4.66667	11
4.83333	2

Item Scale Pairs

famrel_item	scale_score
4	4
5	4
4	3.16667
3	3.66667
4	3.83333
5	4.16667
4	4.16667
4	3.33333
4	3.16667
5	4.33333
3	3.33333
5	3.83333
4	3.83333
5	4
4	4
4	3.83333
3	3.16667
5	4
5	4.33333
3	3.33333
4	3.33333
5	4.33333
4	3.83333
5	4
4	4
1	3