

Composite Score Creation

Standalone verified Python analysis

Method: Composite Score Creation

Method type: scoring_workflow

Design: Six-item wellbeing composite after directionally aligning two alcohol-frequency items.

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

Inference scope: No hypothesis test is required; the task constructs and validates a row-level composite score.

Formula: $Dalc_R = 6 - Dalc$; $Walc_R = 6 - Walc$; $composite_i = mean(valid\ aligned\ items_i)$.

Source rows: 649

Calculated metrics:

composite_mean: 3.674884437596302

composite_sd: 0.49493413588832214

composite_minimum: 2.0

composite_maximum: 4.833333333333333

cronbach_alpha: 0.1117626312468654

complete_scores: 649

Independent reference values:

composite_mean: 3.674884437596302

composite_sd: 0.49493413588832214

composite_minimum: 2.0

composite_maximum: 4.833333333333333

cronbach_alpha: 0.1117626312468654

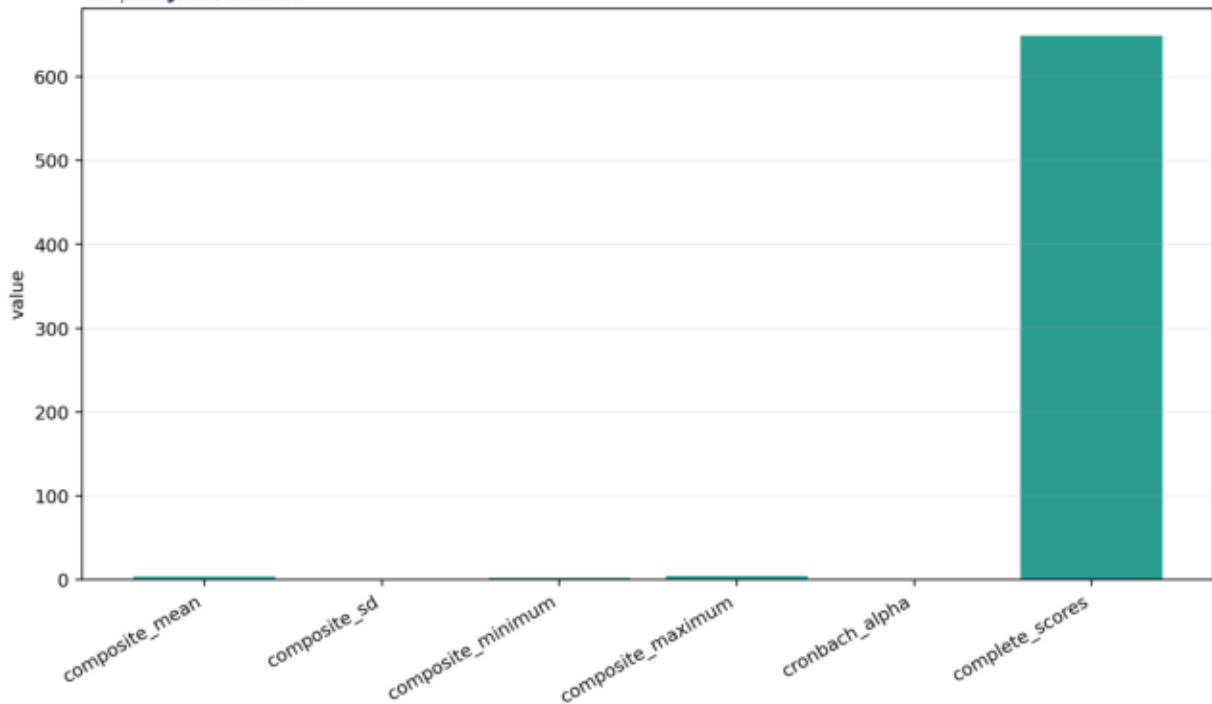
complete_scores: 649

Interpretation:

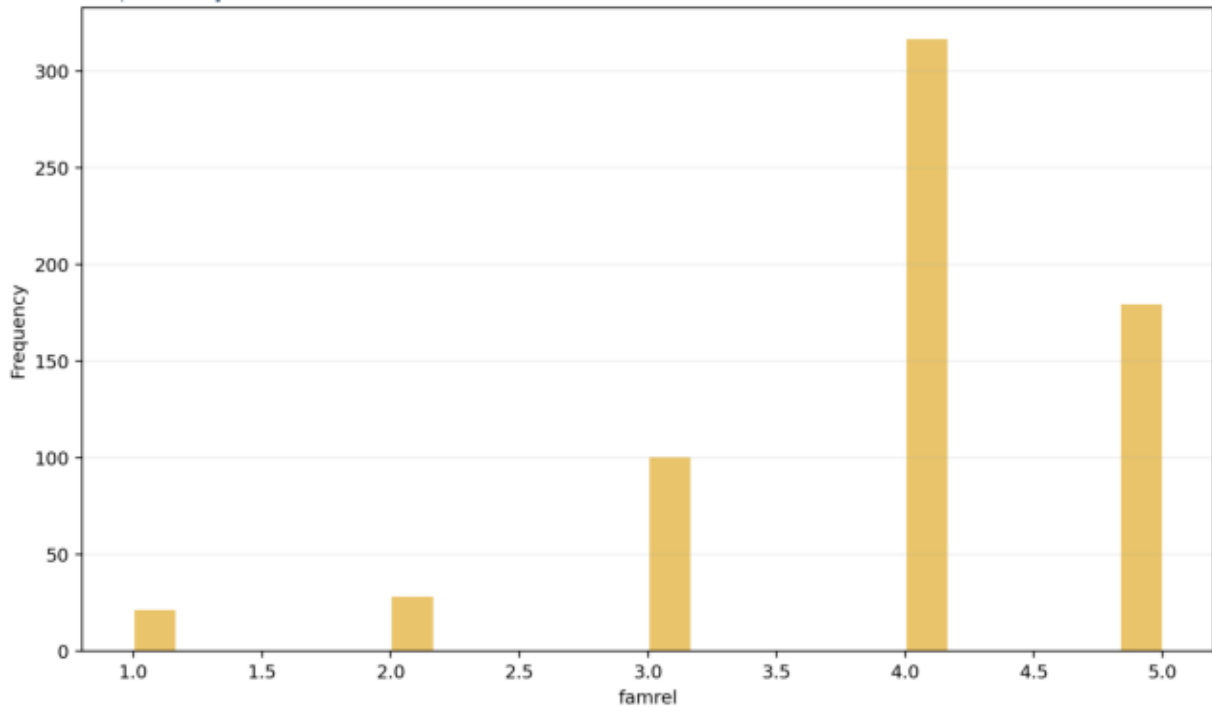
Dalc and Walc are reversed before averaging so all components point in the same direction.

The composite remains on a 1-to-5 scale with mean=3.674884.

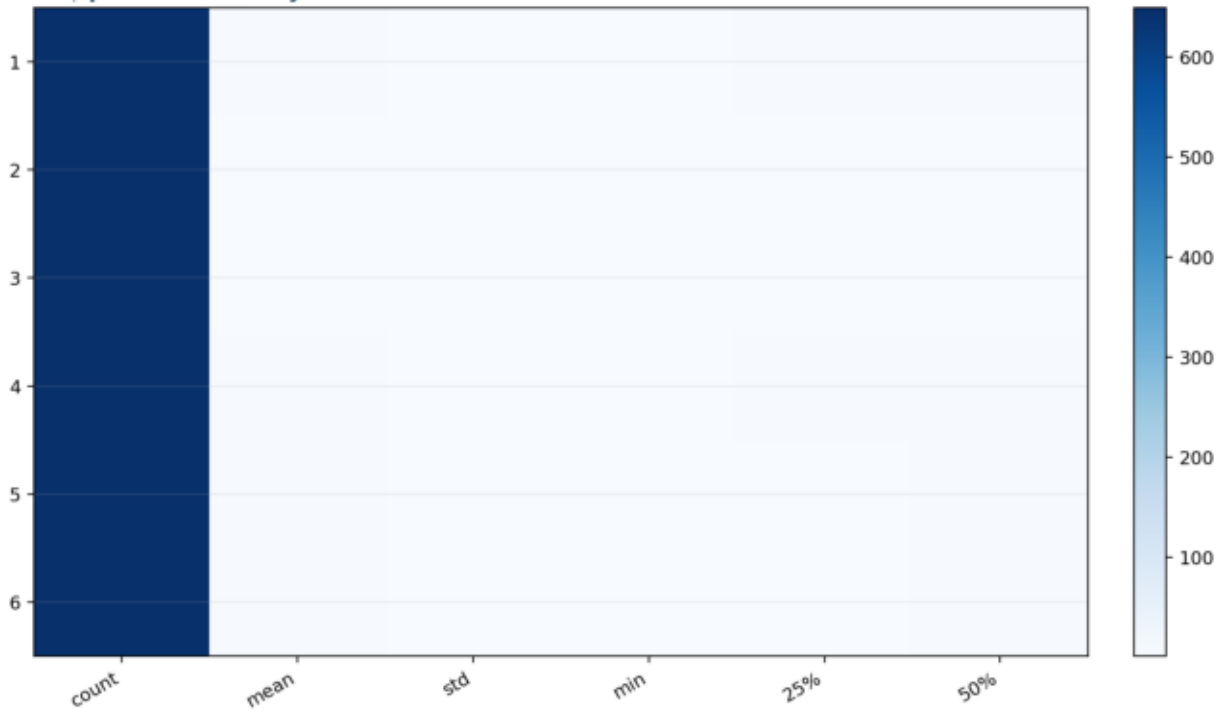
Primary Metrics



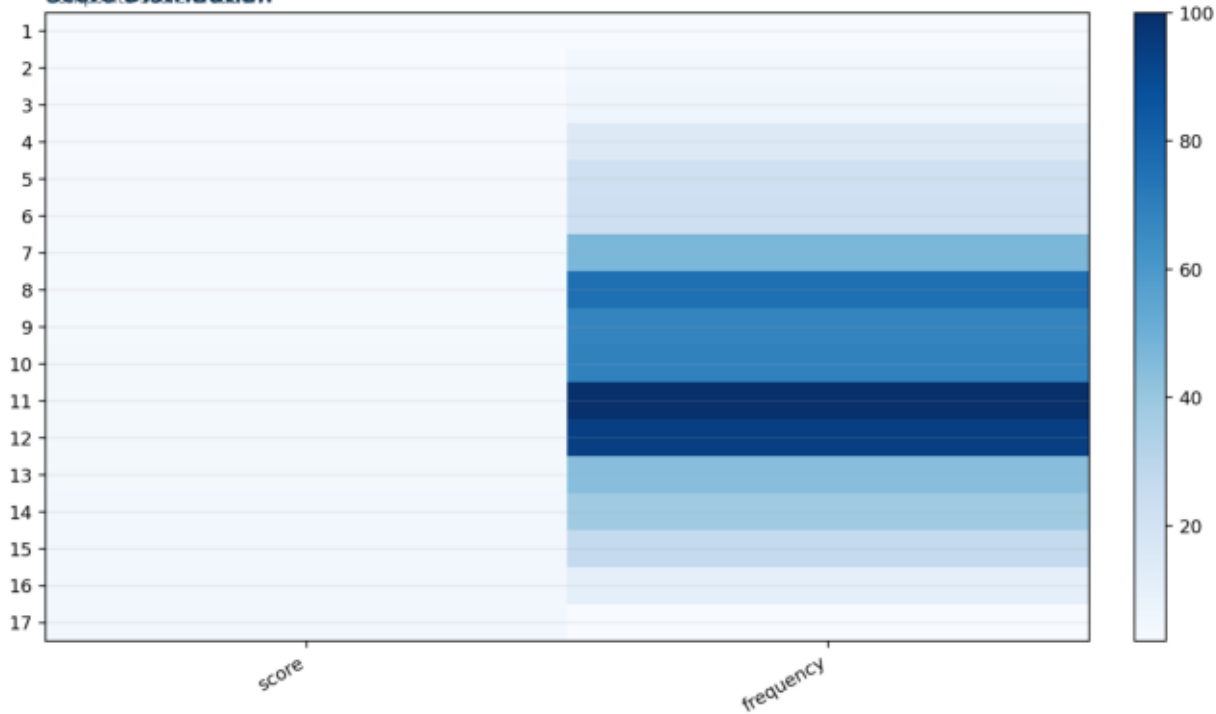
Score Components



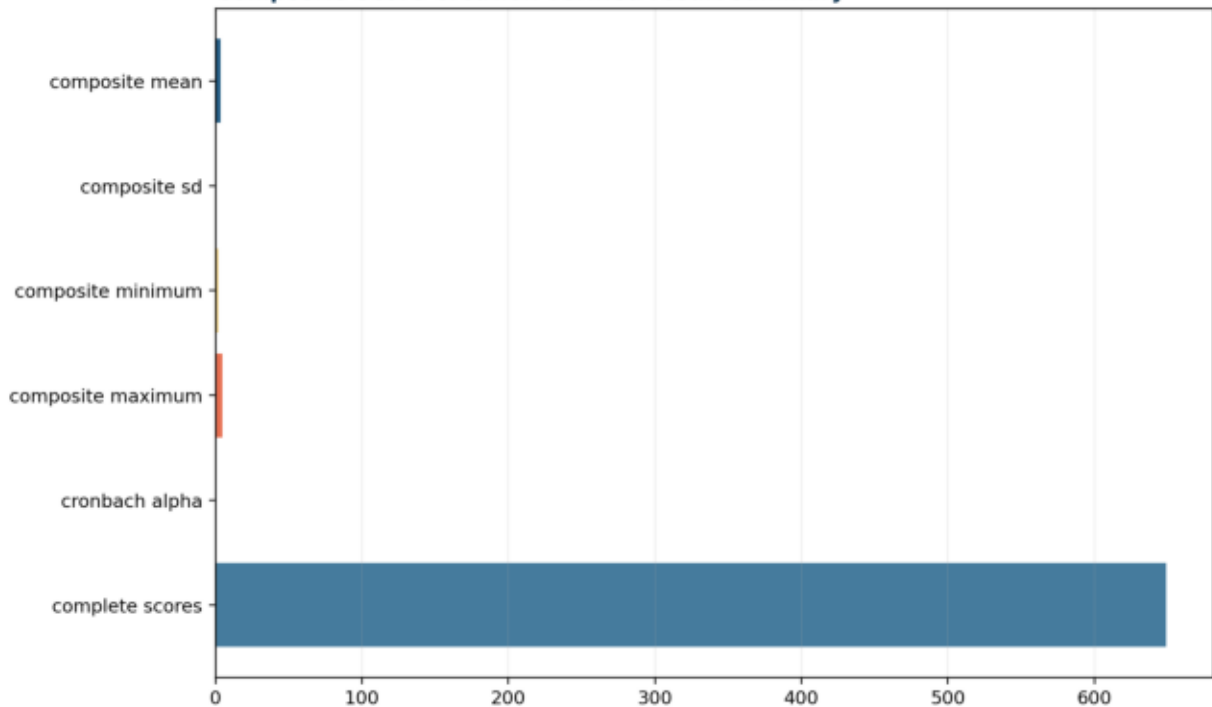
Component Summary



Score Distribution



Composite Score Creation verified result summary



Primary Metrics

metric	value
composite_mean	3.67488
composite_sd	0.494934
composite_minimum	2
composite_maximum	4.83333
cronbach_alpha	0.111763
complete_scores	649

Score Components

famrel	freetime	goout	Dalc_R	Walc_R	health	composite_score
4	3	4	5	5	3	4
5	3	3	5	5	3	4
4	3	2	4	3	3	3.16667
3	2	2	5	5	5	3.66667
4	3	2	5	4	5	3.83333
5	4	2	5	4	5	4.16667
4	4	4	5	5	3	4.16667
4	1	4	5	5	1	3.33333
4	2	2	5	5	1	3.16667
5	5	1	5	5	5	4.33333
3	3	3	5	4	2	3.33333
5	2	2	5	5	4	3.83333
4	3	3	5	3	5	3.83333
5	4	3	5	4	3	4
4	5	2	5	5	3	4
4	4	4	5	4	2	3.83333
3	2	3	5	4	2	3.16667
5	3	2	5	5	4	4
5	5	5	4	2	5	4.33333
3	1	3	5	3	5	3.33333
4	4	1	5	5	1	3.33333
5	4	2	5	5	5	4.33333
4	5	1	5	3	5	3.83333
5	4	4	4	2	5	4
4	3	2	5	5	5	4
1	2	2	5	3	5	3

Component Summary

item	count	mean	std	min	25%	50%	75%	max
famrel	649	3.93066	0.955717	1	4	4	5	5
freetime	649	3.18028	1.05109	1	3	3	4	5
goout	649	3.1849	1.17577	1	2	3	4	5
Dalc_R	649	4.49769	0.924834	1	4	5	5	5
Walc_R	649	3.71957	1.28438	1	3	4	5	5
health	649	3.53621	1.44626	1	2	4	5	5

Score Distribution

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