

```
109 0 OUTPUT ACTIVATE CompositeScoreCreationOutput.  
109 0 M> OUTPUT ACTIVATE CompositeScoreCreationOutput.  
110 0 TITLE 'Composite Score Creation'.  
110 0 M> TITLE 'Composite Score Creation'.
```

Composite Score Creation

```
111 0
111 0 M>
112 0 GET DATA
112 0 M> GET DATA
113 0 /TYPE=TXT /FILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis
\Composite Score Creation\dataset.csv' /ENCODING='UTF8
' /DELCASE=LINE /DELIMITERS=', ' /QUALIFIER='''
113 0 M> /TYPE=TXT /FILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analy
sis\Composite Score Creation\dataset.csv' /ENCODING='U
TF8' /DELCASE=LINE /DELIMITERS=', ' /QUALIFIER='''
114 0 /ARRANGEMENT=DELIMITED /FIRSTCASE=2
114 0 M> /ARRANGEMENT=DELIMITED /FIRSTCASE=2
115 0 /VARIABLES=
115 0 M> /VARIABLES=
116 0 school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8 Medu F8.0
Fedu F8.0
116 0 M> school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8 Medu F
8.0 Fedu F8.0
117 0 Mjob A16 Fjob A16 reason A16 guardian A16 traveltime F8.0 studytime
F8.0 failures F8.0
117 0 M> Mjob A16 Fjob A16 reason A16 guardian A16 traveltime F8.0 studyti
me F8.0 failures F8.0
118 0 schoolsup A8 famsup A8 paid A8 activities A8 nursery A8 higher A8 in
ternet A8 romantic A8
118 0 M> schoolsup A8 famsup A8 paid A8 activities A8 nursery A8 higher A8
internet A8 romantic A8
119 0 famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F8.0
absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
119 0 M> famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F
8.0 absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
120 0 DATASET NAME CompositeScoreCreationData.
120 0 M> DATASET NAME CompositeScoreCreationData.
121 0 COMPUTE subject_id=$CASENUM.
121 0 M> COMPUTE subject_id=$CASENUM.
122 0 COMPUTE Dalc_R=6-Dalc.
122 0 M> COMPUTE Dalc_R=6-Dalc.
123 0 COMPUTE Walc_R=6-Walc.
123 0 M> COMPUTE Walc_R=6-Walc.
```

Composite Score Creation

```
124 0 COMPUTE scale_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,health).
124 0 M> COMPUTE scale_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,health).
125 0 RECODE sex ('F'=1) ('M'=2) INTO sex_code.
125 0 M> RECODE sex ('F'=1) ('M'=2) INTO sex_code.
126 0 RECODE school ('GP'=1) ('MS'=2) INTO school_code.
126 0 M> RECODE school ('GP'=1) ('MS'=2) INTO school_code.
127 0 RECODE higher internet ('no'=0) ('yes'=1) INTO higher_code internet_code.
127 0 M> RECODE higher internet ('no'=0) ('yes'=1) INTO higher_code internet_code.
128 0 EXECUTE.
128 0 M> EXECUTE.
129 0
129 0 M>
130 0 * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
130 0 M> * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
131 0 TITLE 'Composite Score Creation'.
131 0 M> TITLE 'Composite Score Creation'.
```

Composite Score Creation

```
132 0 SUBTITLE 'Directionally aligned six-item wellbeing mean'.  
132 0 M> SUBTITLE 'Directionally aligned six-item wellbeing mean'.
```

Composite Score Creation Directionally aligned six-item wellbeing mean

```

133  0  COMPUTE valid_components=NVALID(famrel,freetime,goout,Dalc_R,Walc_R,health).
133  0  M>  COMPUTE valid_components=NVALID(famrel,freetime,goout,Dalc_R,Walc_R,health).
134  0  COMPUTE composite_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,health).
134  0  M>  COMPUTE composite_score=MEAN.6(famrel,freetime,goout,Dalc_R,Walc_R,health).
135  0  VARIABLE LABELS composite_score 'Mean of six aligned items on the original 1 to 5 scale'.
135  0  M>  VARIABLE LABELS composite_score 'Mean of six aligned items on the original 1 to 5 scale'.
136  0  DESCRIPTIVES VARIABLES=famrel freetime goout Dalc_R Walc_R health composite_score /STATISTICS=MEAN STDDEV MIN MAX.
136  0  M>  DESCRIPTIVES VARIABLES=famrel freetime goout Dalc_R Walc_R health composite_score /STATISTICS=MEAN STDDEV MIN MAX.

```

Descriptives

Notes

Output Created		18-JUL-2026 13:20:38
Comments		
Input	Data	D:\DATA ANALYSIS\ISM Survey and Likert Scale Analysis\Composite Score Creation\dataset.csv
	Active Dataset	CompositeScoreCreationData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.

Composite Score Creation
Directionally aligned six-item wellbeing mean

Notes

Syntax	DESCRIPTIVES VARIABLES=famrel freetime goout Dalc_R Walc_R health composite_score /STATISTICS=MEAN STDDEV MIN MAX.
Resources	Processor Time 00:00:00.06
	Elapsed Time 00:00:00.06

[CompositeScoreCreationData]

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
famrel	649	1	5	3.93	.956
freetime	649	1	5	3.18	1.051
goout	649	1	5	3.18	1.176
Dalc_R	649	1.00	5.00	4.4977	.92483
Walc_R	649	1.00	5.00	3.7196	1.28438
health	649	1	5	3.54	1.446
Mean of six aligned items on the original 1 to 5 scale	649	2.00	4.83	3.6749	.49493
Valid N (listwise)	649				

```
137 0 RELIABILITY /VARIABLES=famrel freetime goout Dalc_R Walc_R health /SCALE('Aligned composite') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE CORR.
```

```
137 0 M> RELIABILITY /VARIABLES=famrel freetime goout Dalc_R Walc_R health /SCALE('Aligned composite') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE CORR.
```

Reliability

Composite Score Creation
Directionally aligned six-item wellbeing mean

Notes

Output Created		18-JUL-2026 13:20:38
Comments		
Input	Data	D:\DATA ANALYSIS\Survey and Likert Scale Analysis\Composite Score Creation\dataset.csv
	Active Dataset	CompositeScoreCreationData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
	Matrix Input	D:\DATA ANALYSIS\Survey and Likert Scale Analysis\Composite Score Creation\composite_score_creation_spss_syntax.sps
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=famrel freetime goout Dalc_R Walc_R health /SCALE (‘Aligned composite’) ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE CORR.
Resources	Processor Time	00:00:00.05
	Elapsed Time	00:00:00.07

Scale: Aligned composite

Composite Score Creation
Directionally aligned six-item wellbeing mean

Case Processing Summary

		N	%
Cases	Valid	649	100.0
	Excluded ^a	0	.0
	Total	649	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.112	.169	6

Item Statistics

	Mean	Std. Deviation	N
famrel	3.9307	.95572	649
freetime	3.1803	1.05109	649
goout	3.1849	1.17577	649
Dalc_R	4.4977	.92483	649
Walc_R	3.7196	1.28438	649
health	3.5362	1.44626	649

Inter-Item Correlation Matrix

	famrel	freetime	goout	Dalc_R	Walc_R	health
famrel	1.000	.129	.090	.076	.094	.110
freetime	.129	1.000	.346	-.110	-.120	.085
goout	.090	.346	1.000	-.245	-.389	-.016
Dalc_R	.076	-.110	-.245	1.000	.617	-.059
Walc_R	.094	-.120	-.389	.617	1.000	-.115
health	.110	.085	-.016	-.059	-.115	1.000

Composite Score Creation
Directionally aligned six-item wellbeing mean

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
22.0493	8.819	2.96960	6

```
138 0  FREQUENCIES VARIABLES=valid_components composite_score /FORMAT=DFREQ.
138 0 M> FREQUENCIES VARIABLES=valid_components composite_score /FORMAT=DFR
EQ.
```

Frequencies

Notes

Output Created		18-JUL-2026 13:20:38
Comments		
Input	Data	D:\DATA ANALYSIS\Survey and Likert Scale Analysis\Composite Score Creation\dataset.csv
	Active Dataset	CompositeScoreCreationData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=valid_components composite_score /FORMAT=DFREQ.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.06

Composite Score Creation
Directionally aligned six-item wellbeing mean

Statistics

		valid_components	Mean of six aligned items on the original 1 to 5 scale
N	Valid	649	649
	Missing	0	0

Frequency Table

valid_components

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6.00	649	100.0	100.0	100.0

Mean of six aligned items on the original 1 to 5 scale

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.83	100	15.4	15.4	15.4
	4.00	94	14.5	14.5	29.9

Composite Score Creation
Directionally aligned six-item wellbeing mean

Mean of six aligned items on the original 1 to 5 scale

	Frequency	Percent	Valid Percent	Cumulative Percent
3.33	76	11.7	11.7	41.6
3.67	69	10.6	10.6	52.2
3.50	68	10.5	10.5	62.7
3.17	47	7.2	7.2	70.0
4.17	44	6.8	6.8	76.7
4.33	38	5.9	5.9	82.6
4.50	27	4.2	4.2	86.7
3.00	23	3.5	3.5	90.3
2.83	22	3.4	3.4	93.7
2.67	15	2.3	2.3	96.0
4.67	11	1.7	1.7	97.7
2.50	6	.9	.9	98.6
2.33	5	.8	.8	99.4
2.00	2	.3	.3	99.7
4.83	2	.3	.3	100.0
Total	649	100.0	100.0	

```

139 0 * END METHOD-SPECIFIC SPSS WORKFLOW.
139 0 M> * END METHOD-SPECIFIC SPSS WORKFLOW.
140 0
140 0 M>
141 0 SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\Com
posite Score Creation\SPSS_Output\sav\composite-score-
creation_spss_ready_data.sav' /COMPRESSED.
141 0 M> SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analysis\
Composite Score Creation\SPSS_Output\sav\composite-sco
re-creation_spss_ready_data.sav' /COMPRESSED.

142 0
142 0 M>
143 0 ECHO '=====
====='.
143 0 M> ECHO '=====
====='.
=====

```

Composite Score Creation
Directionally aligned six-item wellbeing mean

```
144 0 ECHO 'COMPOSITE SCORE CREATION'.
144 0 M> ECHO 'COMPOSITE SCORE CREATION'.
COMPOSITE SCORE CREATION
145 0 ECHO 'Method type: scoring_workflow'.
145 0 M> ECHO 'Method type: scoring_workflow'.
Method type: scoring_workflow
146 0 ECHO 'Design: Six-item wellbeing composite after directionally aligni
ng two alcohol-frequency items.'.
146 0 M> ECHO 'Design: Six-item wellbeing composite after directionally ali
gning two alcohol-frequency items.'.
Design: Six-item wellbeing composite after directionally aligning two alcohol-
frequency items.
147 0 ECHO 'Inference scope: No hypothesis test is required; the task const
ructs and validates a row-level composite score.'.
147 0 M> ECHO 'Inference scope: No hypothesis test is required; the task co
nstructs and validates a row-level composite score.'.
Inference scope: No hypothesis test is required; the task constructs and valid
ates a row-level composite score.
148 0 ECHO 'Formula: Dalc_R=6-Dalc; Walc_R=6-Walc; composite_i=mean(valid a
ligned items_i)'.
148 0 M> ECHO 'Formula: Dalc_R=6-Dalc; Walc_R=6-Walc; composite_i=mean(vali
d aligned items_i)'.
Formula: Dalc_R=6-Dalc; Walc_R=6-Walc; composite_i=mean(valid aligned items_i)
.
149 0 ECHO 'Variables: famrel, freetime, goout, Dalc, Walc, health'.
149 0 M> ECHO 'Variables: famrel, freetime, goout, Dalc, Walc, health'.
Variables: famrel, freetime, goout, Dalc, Walc, health
150 0 ECHO 'Rows analyzed: 649'.
150 0 M> ECHO 'Rows analyzed: 649'.
Rows analyzed: 649
151 0 ECHO 'complete_scores = 649'.
151 0 M> ECHO 'complete_scores = 649'.
complete_scores = 649
152 0 ECHO 'composite_maximum = 4.833333333333333'.
152 0 M> ECHO 'composite_maximum = 4.833333333333333'.
composite_maximum = 4.833333333333333
153 0 ECHO 'composite_mean = 3.674884437596302'.
153 0 M> ECHO 'composite_mean = 3.674884437596302'.
composite_mean = 3.674884437596302
```

Composite Score Creation
Directionally aligned six-item wellbeing mean

```
154 0 ECHO 'composite_minimum = 2.0'.
154 0 M> ECHO 'composite_minimum = 2.0'.
composite_minimum = 2.0
155 0 ECHO 'composite_sd = 0.49493413588832214'.
155 0 M> ECHO 'composite_sd = 0.49493413588832214'.
composite_sd = 0.49493413588832214
156 0 ECHO 'cronbach_alpha = 0.1117626312468654'.
156 0 M> ECHO 'cronbach_alpha = 0.1117626312468654'.
cronbach_alpha = 0.1117626312468654
157 0 ECHO 'Cross-check status: pass'.
157 0 M> ECHO 'Cross-check status: pass'.
Cross-check status: pass
158 0 ECHO '=====
====='.
158 0 M> ECHO '=====
====='.
=====
159 0
159 0 M>
160 0 OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale Analy
sis\Composite Score Creation\SPSS_Output\spv\composite
-score-creation_spss_output.spv'.
160 0 M> OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\M Survey and Likert Scale An
alysis\Composite Score Creation\SPSS_Output\spv\compos
ite-score-creation_spss_output.spv'.
161 0 OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=PRI
NTSETTING
161 0 M> OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=
PRINTSETTING
```