

```
599 0 OUTPUT ACTIVATE IntraRaterReliabilityOutput.  
599 0 M> OUTPUT ACTIVATE IntraRaterReliabilityOutput.  
600 0 TITLE 'Intra-Rater Reliability ICC(3,1)'.  
600 0 M> TITLE 'Intra-Rater Reliability ICC(3,1)'.
```

Intra-Rater Reliability ICC(3,1)

```

601 0
601 0 M>
602 0 GET DATA
602 0 M> GET DATA
603 0 /TYPE=TXT
603 0 M> /TYPE=TXT
604 0 /FILE='D:\DATA ANALYSIS\K Reliability and Agreement Tests\Intra Rater Reliability\dataset.csv'
604 0 M> /FILE='D:\DATA ANALYSIS\K Reliability and Agreement Tests\Intra Rater Reliability\dataset.csv'
605 0 /ENCODING='UTF8'
605 0 M> /ENCODING='UTF8'
606 0 /DELCASE=LINE
606 0 M> /DELCASE=LINE
607 0 /DELIMITERS=', '
607 0 M> /DELIMITERS=', '
608 0 /QUALIFIER='"'
608 0 M> /QUALIFIER='"'
609 0 /ARRANGEMENT=DELIMITED
609 0 M> /ARRANGEMENT=DELIMITED
610 0 /FIRSTCASE=2
610 0 M> /FIRSTCASE=2
611 0 /VARIABLES=
611 0 M> /VARIABLES=
612 0 school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8
612 0 M> school A8 sex A8 age F8.0 address A8 famsize A8 Pstatus A8
613 0 Medu F8.0 Fedu F8.0 Mjob A16 Fjob A16 reason A16 guardian A16
613 0 M> Medu F8.0 Fedu F8.0 Mjob A16 Fjob A16 reason A16 guardian A16
614 0 traveltime F8.0 studytime F8.0 failures F8.0 schoolsup A8 famsup
A8
614 0 M> traveltime F8.0 studytime F8.0 failures F8.0 schoolsup A8 famsup
up A8
615 0 paid A8 activities A8 nursery A8 higher A8 internet A8 romantic A
8
615 0 M> paid A8 activities A8 nursery A8 higher A8 internet A8 romanti
c A8
616 0 famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F
8.0

```

Intra-Rater Reliability ICC(3,1)

```

616 0 M> famrel F8.0 freetime F8.0 goout F8.0 Dalc F8.0 Walc F8.0 health F8.0
617 0 absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
617 0 M> absences F8.0 G1 F8.0 G2 F8.0 G3 F8.0.
618 0 DATASET NAME IntraRaterReliabilityData.
618 0 M> DATASET NAME IntraRaterReliabilityData.
619 0 EXECUTE.
619 0 M> EXECUTE.
620 0
620 0 M>
621 0 COMPUTE subject_id=$CASENUM.
621 0 M> COMPUTE subject_id=$CASENUM.
622 0 COMPUTE Dalc_R=6-Dalc.
622 0 M> COMPUTE Dalc_R=6-Dalc.
623 0 COMPUTE Walc_R=6-Walc.
623 0 M> COMPUTE Walc_R=6-Walc.
624 0 RECODE schoolsup famsup paid activities higher internet ('no'=0) ('yes'=1)
624 0 M> RECODE schoolsup famsup paid activities higher internet ('no'=0) ('yes'=1)
625 0 INTO schoolsup_b famsup_b paid_b activities_b higher_b internet_b.
625 0 M> INTO schoolsup_b famsup_b paid_b activities_b higher_b internet_b.
626 0 RECODE G1 G2 G3 (LO THRU 9=1) (10 THRU 13=2) (14 THRU HI=3)
626 0 M> RECODE G1 G2 G3 (LO THRU 9=1) (10 THRU 13=2) (14 THRU HI=3)
627 0 INTO G1_cat3 G2_cat3 G3_cat3.
627 0 M> INTO G1_cat3 G2_cat3 G3_cat3.
628 0 RECODE G1 G3 (LO THRU 8=1) (9 THRU 10=2) (11 THRU 12=3) (13 THRU 14=4) (15 THRU HI=5)
628 0 M> RECODE G1 G3 (LO THRU 8=1) (9 THRU 10=2) (11 THRU 12=3) (13 THRU 14=4) (15 THRU HI=5)
629 0 INTO G1_cat5 G3_cat5.
629 0 M> INTO G1_cat5 G3_cat5.
630 0 VARIABLE LEVEL schoolsup_b famsup_b paid_b activities_b higher_b internet_b G1_cat3 G2_cat3 G3_cat3 G1_cat5 G3_cat5 (NOMINAL).
630 0 M> VARIABLE LEVEL schoolsup_b famsup_b paid_b activities_b higher_b internet_b G1_cat3 G2_cat3 G3_cat3 G1_cat5 G3_cat5 (NOMINAL).

```

Intra-Rater Reliability ICC(3,1)

```
631 0 FORMATS subject_id schoolsup_b famsup_b paid_b activities_b higher_b
internet_b G1_cat3 G2_cat3 G3_cat3 G1_cat5 G3_cat5 (F5
      .0).
631 0 M> FORMATS subject_id schoolsup_b famsup_b paid_b activities_b higher
_b internet_b G1_cat3 G2_cat3 G3_cat3 G1_cat5 G3_cat5
      (F5.0).
632 0 EXECUTE.
632 0 M> EXECUTE.
633 0
633 0 M>
634 0 * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
634 0 M> * BEGIN METHOD-SPECIFIC SPSS WORKFLOW.
635 0 TITLE 'Intra Rater Reliability ICC Three One'.
635 0 M> TITLE 'Intra Rater Reliability ICC Three One'.
```

Intra Rater Reliability ICC Three One

```
636 0 SUBTITLE 'Two-way mixed single-measure consistency across fixed G1 and G2 sessions'.
```

```
636 0 M> SUBTITLE 'Two-way mixed single-measure consistency across fixed G1 and G2 sessions'.
```

```
>Warning # 2004 on line 636. Command name: SUBTITLE
```

```
>The subtitle given exceeds 60 characters in length. The first 60 characters  
>will be used.
```

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and

```

637  0  RELIABILITY /VARIABLES=G1 G2 /SCALE('Fixed sessions') ALL /MODEL=ALPH
A
637  0 M> RELIABILITY /VARIABLES=G1 G2 /SCALE('Fixed sessions') ALL /MODEL=A
LPHA
638  0  /STATISTICS=DESCRIPTIVE SCALE CORR /SUMMARY=TOTAL
638  0 M> /STATISTICS=DESCRIPTIVE SCALE CORR /SUMMARY=TOTAL
639  0  /ICC=MODEL(MIXED) TYPE(CONSISTENCY) CIN=95 TESTVAL=0.
639  0 M> /ICC=MODEL(MIXED) TYPE(CONSISTENCY) CIN=95 TESTVAL=0.

```

Reliability

Notes

Output Created		16-JUL-2026 21:09:26
Comments		
Input	Data	D:\DATA ANALYSIS\K Reliability and Agreement Tests\Intra Rater Reliability\dataset.csv
	Active Dataset	IntraRaterReliabilityData
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	649
	Matrix Input	D:\DATA ANALYSIS\K Reliability and Agreement Tests\Intra Rater Reliability\intra_rater_reliability_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.

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and

Notes

Syntax		RELIABILITY /VARIABLES=G1 G2 /SCALE('Fixed sessions') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE CORR /SUMMARY=TOTAL /ICC=MODEL(MIXED) TYPE(CONSISTENCY) CIN=95 TESTVAL=0.
Resources	Processor Time	00:00:00.08
	Elapsed Time	00:00:00.15

[IntraRaterReliabilityData]

Scale: Fixed sessions

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
.927	.928	2

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and

Item Statistics

	Mean	Std. Deviation	N
G1	11.40	2.745	649
G2	11.57	2.914	649

Inter-Item Correlation Matrix

	G1	G2
G1	1.000	.865
G2	.865	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
G1	11.57	8.489	.865	.748	.
G2	11.40	7.536	.865	.748	.

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
22.97	29.863	5.465	2

Intraclass Correlation Coefficient

	Intraclass Correlation ^b	95% Confidence Interval		F Test with True Value 0		
		Lower Bound	Upper Bound	Value	df1	df2
Single Measures	.863 ^a	.842	.882	13.647	648	648
Average Measures	.927 ^c	.915	.937	13.647	648	648

Intraclass Correlation Coefficient

	F Test with ..
	Sig
Single Measures	.000
Average Measures	.000

Intra Rater Reliability ICC Three One

Two-way mixed single-measure consistency across fixed G1 and

Two-way mixed effects model where people effects are random and measures effects are fixed.

- a. The estimator is the same, whether the interaction effect is present or not.
- b. Type C intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.
- c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

```
640 0 COMPUTE intra_change=G2-G1.
640 0 M> COMPUTE intra_change=G2-G1.
641 0 T-TEST PAIRS=G1 WITH G2 (PAIRED) /CRITERIA=CI(.95).
641 0 M> T-TEST PAIRS=G1 WITH G2 (PAIRED) /CRITERIA=CI(.95).
```

T-Test

Notes

Output Created		16-JUL-2026 21:09:27
Comments		
Input	Data	D:\DATA ANALYSIS\K Reliability and Agreement Tests\Intra Rater Reliability\dataset.csv
	Active Dataset	IntraRaterReliabilityData
	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 for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST PAIRS=G1 WITH G2 (PAIRED) /CRITERIA=CI(.95).
Resources	Processor Time	00:00:00.06
	Elapsed Time	00:00:00.13

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	G1	11.40	649	2.745	.108
	G2	11.57	649	2.914	.114

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	G1 & G2	649	.865	.000

Paired Samples Test

		Paired Differences				
					95% Confidence Interval of the Difference	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper
Pair 1	G1 - G2	-.171	1.479	.058	-.285	-.057

Paired Samples Test

		t	df	Sig. (2-tailed)
Pair 1	G1 - G2	-2.945	648	.003

```
642 0 CORRELATIONS /VARIABLES=G1 G2 /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
642 0 M> CORRELATIONS /VARIABLES=G1 G2 /PRINT=TWOTAIL NOSIG /MISSING=PAIRWI
SE.
```

Correlations

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and

Notes

Output Created		16-JUL-2026 21:09:27
Comments		
Input	Data	D:\DATA ANALYSIS\K Reliability and Agreement Tests\Intra Rater Reliability\dataset.csv
	Active Dataset	IntraRaterReliabilityData
	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 for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=G1 G2 /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.09
	Elapsed Time	00:00:00.12

Correlations

		G1	G2
G1	Pearson Correlation	1	.865**
	Sig. (2-tailed)		.000
	N	649	649
G2	Pearson Correlation	.865**	1
	Sig. (2-tailed)	.000	
	N	649	649

** . Correlation is significant at the 0.01 level (2-tailed).

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and

643 0 FREQUENCIES VARIABLES=intra_change /STATISTICS=MEAN STDDEV MINIMUM MAXIMUM /HISTOGRAM.

643 0 M> FREQUENCIES VARIABLES=intra_change /STATISTICS=MEAN STDDEV MINIMUM MAXIMUM /HISTOGRAM.

Frequencies

Notes

Output Created		16-JUL-2026 21:09:27
Comments		
Input	Data	D:\DATA ANALYSIS\K Reliability and Agreement Tests\Intra Rater Reliability\dataset.csv
	Active Dataset	IntraRaterReliabilityData
	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=intra_change /STATISTICS=MEAN STDDEV MINIMUM MAXIMUM /HISTOGRAM.
Resources	Processor Time	00:00:00.78
	Elapsed Time	00:00:00.57

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and

Statistics

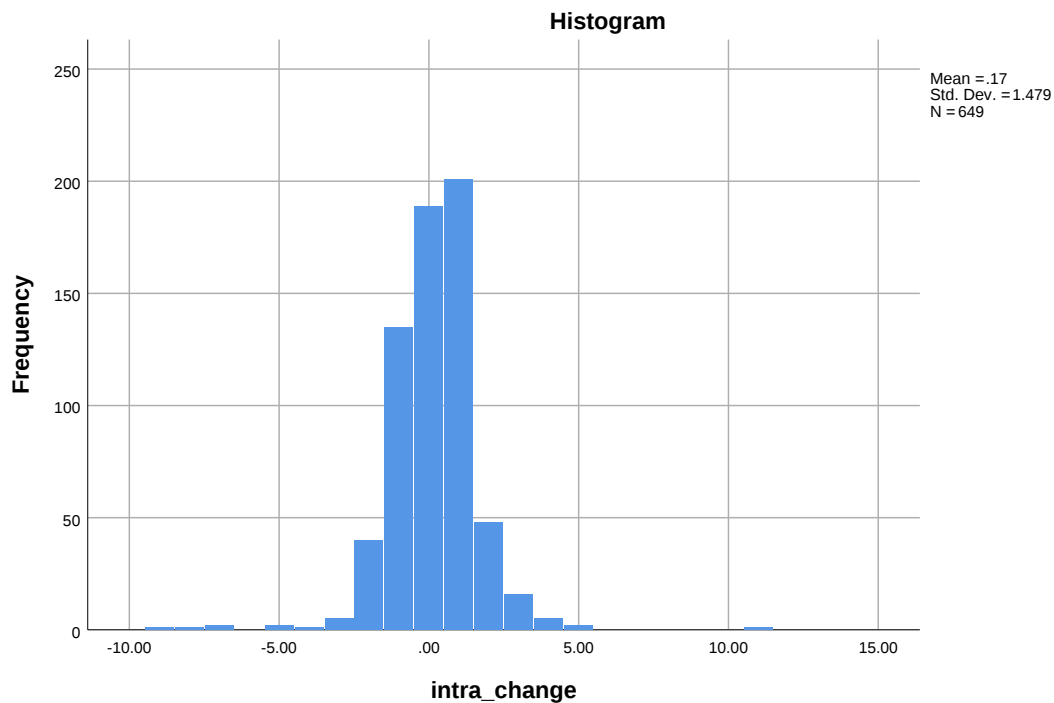
intra_change

N	Valid	649
	Missing	0
Mean		.1710
Std. Deviation		1.47929
Minimum		-9.00
Maximum		11.00

intra_change

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-9.00	1	.2	.2	.2
	-8.00	1	.2	.2	.3
	-7.00	2	.3	.3	.6
	-5.00	2	.3	.3	.9
	-4.00	1	.2	.2	1.1
	-3.00	5	.8	.8	1.8
	-2.00	40	6.2	6.2	8.0
	-1.00	135	20.8	20.8	28.8
	.00	189	29.1	29.1	57.9
	1.00	201	31.0	31.0	88.9
	2.00	48	7.4	7.4	96.3
	3.00	16	2.5	2.5	98.8
	4.00	5	.8	.8	99.5
	5.00	2	.3	.3	99.8
	11.00	1	.2	.2	100.0
	Total	649	100.0	100.0	

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and



```

644 0 * END METHOD-SPECIFIC SPSS WORKFLOW.
644 0 M> * END METHOD-SPECIFIC SPSS WORKFLOW.
645 0
645 0 M>
646 0 SAVE OUTFILE='D:\DATA ANALYSIS\K Reliability and Agreement Tests\Intra
a Rater Reliability\SPSS_Output\sav\intra-rater-reliab
        ility_spss_ready_data.sav' /COMPRESSED.
646 0 M> SAVE OUTFILE='D:\DATA ANALYSIS\K Reliability and Agreement Tests\I
ntra Rater Reliability\SPSS_Output\sav\intra-rater-rel
        iability_spss_ready_data.sav' /COMPRESSED.

647 0
647 0 M>
648 0 ECHO '=====
====='.
648 0 M> ECHO '=====
====='.
=====

649 0 ECHO 'INTRA-RATER RELIABILITY ICC(3,1)'.
649 0 M> ECHO 'INTRA-RATER RELIABILITY ICC(3,1)'.
INTRA-RATER RELIABILITY ICC(3,1)

```

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and

```
650 0 ECHO 'Design: Two-way mixed-effects consistency for one measurement a
cross fixed sessions G1 and G2.'.
650 0 M> ECHO 'Design: Two-way mixed-effects consistency for one measuremen
t across fixed sessions G1 and G2.'.
Design: Two-way mixed-effects consistency for one measurement across fixed ses
sions G1 and G2.
651 0 ECHO 'Null hypothesis: The single-measure consistency ICC across the
two fixed sessions is zero.'.
651 0 M> ECHO 'Null hypothesis: The single-measure consistency ICC across t
he two fixed sessions is zero.'.
Null hypothesis: The single-measure consistency ICC across the two fixed sessi
ons is zero.
652 0 ECHO 'Formula: ICC(3,1)=(MSR-MSE)/[MSR+(k-1)MSE].'.
652 0 M> ECHO 'Formula: ICC(3,1)=(MSR-MSE)/[MSR+(k-1)MSE].'.
Formula: ICC(3,1)=(MSR-MSE)/[MSR+(k-1)MSE].
653 0 ECHO 'Variables: G1, G2'.
653 0 M> ECHO 'Variables: G1, G2'.
Variables: G1, G2
654 0 ECHO 'Rows analyzed: 649'.
654 0 M> ECHO 'Rows analyzed: 649'.
Rows analyzed: 649
655 0 ECHO 'f_statistic = 13.646807752322092'.
655 0 M> ECHO 'f_statistic = 13.646807752322092'.
f_statistic = 13.646807752322092
656 0 ECHO 'icc_3_1 = 0.8634514746270959'.
656 0 M> ECHO 'icc_3_1 = 0.8634514746270959'.
icc_3_1 = 0.8634514746270959
657 0 ECHO 'p_value = 4.726530999119749e-195'.
657 0 M> ECHO 'p_value = 4.726530999119749e-195'.
p_value = 4.726530999119749e-195
658 0 ECHO 'sessions = 2'.
658 0 M> ECHO 'sessions = 2'.
sessions = 2
659 0 ECHO 'targets = 649'.
659 0 M> ECHO 'targets = 649'.
targets = 649
660 0 ECHO 'f_statistic = 13.646807752322092'.
660 0 M> ECHO 'f_statistic = 13.646807752322092'.
f_statistic = 13.646807752322092
```

Intra Rater Reliability ICC Three One
Two-way mixed single-measure consistency across fixed G1 and

```

661 0 ECHO 'icc_3_1 = 0.8634514746270959'.
661 0 M> ECHO 'icc_3_1 = 0.8634514746270959'.
icc_3_1 = 0.8634514746270959
662 0 ECHO 'p_value = 4.726530999119749e-195'.
662 0 M> ECHO 'p_value = 4.726530999119749e-195'.
p_value = 4.726530999119749e-195
663 0 ECHO 'sessions = 2'.
663 0 M> ECHO 'sessions = 2'.
sessions = 2
664 0 ECHO 'targets = 649'.
664 0 M> ECHO 'targets = 649'.
targets = 649
665 0 ECHO 'Cross-check status: pass'.
665 0 M> ECHO 'Cross-check status: pass'.
Cross-check status: pass
666 0 ECHO '=====
====='.
666 0 M> ECHO '=====
====='.
=====
667 0
667 0 M>
668 0 OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\K Reliability and Agreement Tes
ts\Intra Rater Reliability\SPSS_Output\spv\intra-rater
-reliability_spss_output.spv'.
668 0 M> OUTPUT SAVE OUTFILE='D:\DATA ANALYSIS\K Reliability and Agreement
Tests\Intra Rater Reliability\SPSS_Output\spv\intra-ra
ter-reliability_spss_output.spv'.
669 0 OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=PRI
NTSETTING
669 0 M> OUTPUT EXPORT /CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=
PRINTSETTING

```