

Fleiss' Kappa

Fleiss' Kappa

Import and test-specific preparation

Dataset Name

Notes

Output Created		16-JUL-2026 14:42:00
Comments		
Input	Data	D:\DATA ANALYSIS\ Chi Square and Categorical Data Tests\Fleiss Kappa\dataset.csv
	Filter	<none>
	Weight	<none>
	Split File	<none>
Syntax		DATASET NAME FleissKappaData.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

Warnings

The active dataset will replace the existing dataset named
FleissKappaData.

school into school_n

Old Value	New Value	Value	Label
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GP	1	GP
MS	2	MS

reason into reason_n

Old Value	New Value	Value	Label
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course	1	course
home	2	home
other	3	other
reputation	4	reputation

guardian into guardian_n

Fleiss' Kappa
Import and test-specific preparation

Old Value	New Value	Value	Label
father	1	father	
mother	2	mother	
other	3	other	

Fleiss kappa three-classification diagnostics

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

Frequencies

Notes		
Output Created		16-JUL-2026 14:42:01
Comments		
Input	Data	D:\DATA ANALYSIS\I Chi Square and Categorical Data Tests\Fleiss Kappa\dataset.csv
	Active Dataset	FleissKappaData
	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=grade1 grade2 grade3 /BARCHART FREQ /ORDER=ANALYSIS.
Resources	Processor Time	00:00:01.28
	Elapsed Time	00:00:01.22

[FleissKappaData]

Statistics				
		G1 ordinal grade band	G2 ordinal grade band	G3 ordinal grade band
N	Valid	649	649	649
	Missing	0	0	0

Frequency Table

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

G1 ordinal grade band

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low below 10	157	24.2	24.2	24.2
	Medium 10-13	340	52.4	52.4	76.6
	High 14-16	128	19.7	19.7	96.3
	Very high 17+	24	3.7	3.7	100.0
	Total	649	100.0	100.0	

G2 ordinal grade band

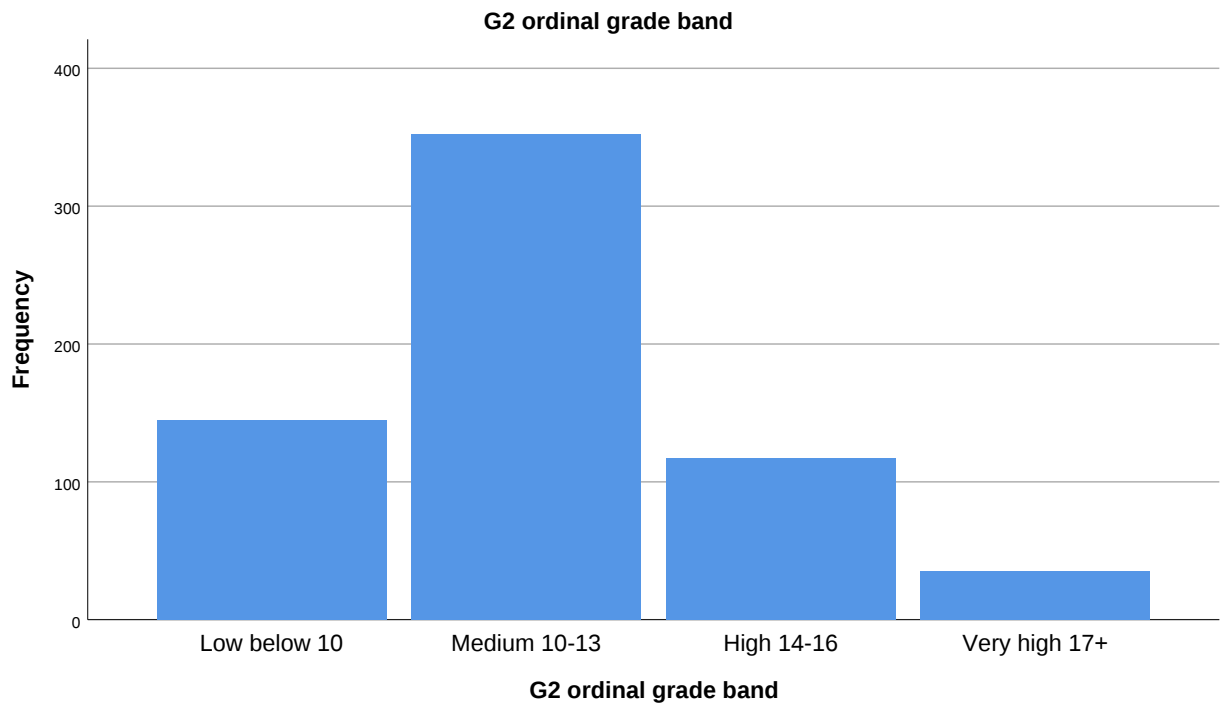
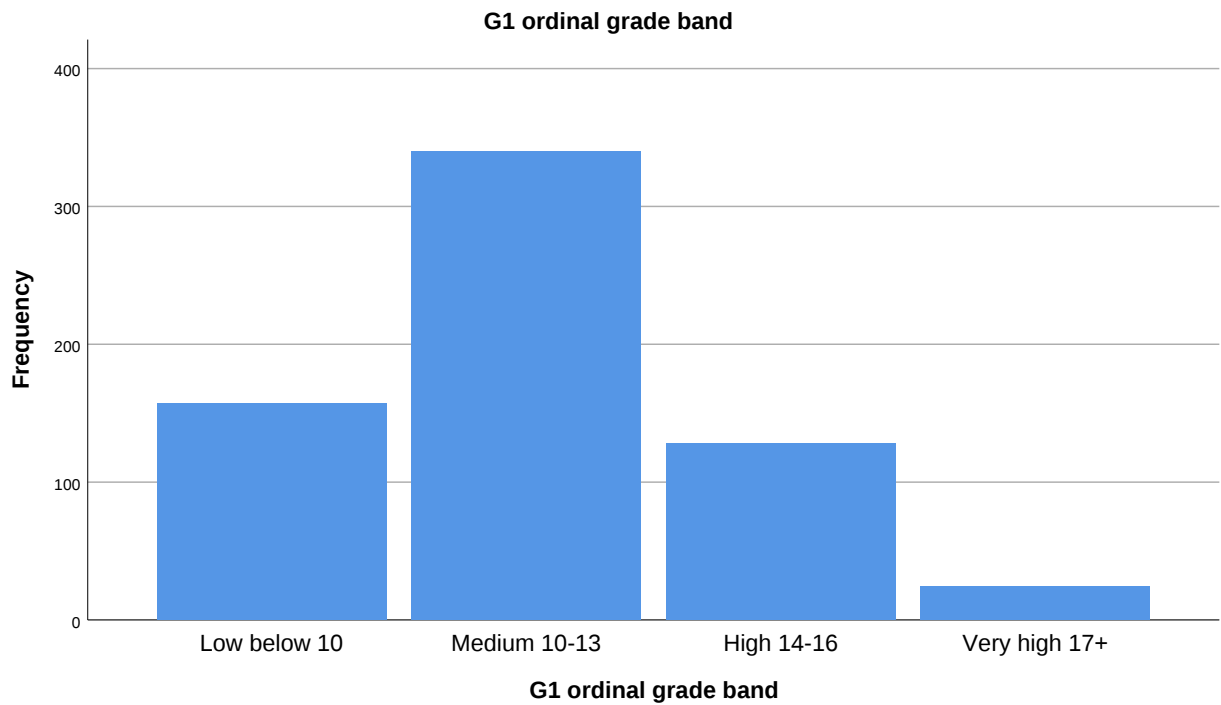
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low below 10	145	22.3	22.3	22.3
	Medium 10-13	352	54.2	54.2	76.6
	High 14-16	117	18.0	18.0	94.6
	Very high 17+	35	5.4	5.4	100.0
	Total	649	100.0	100.0	

G3 ordinal grade band

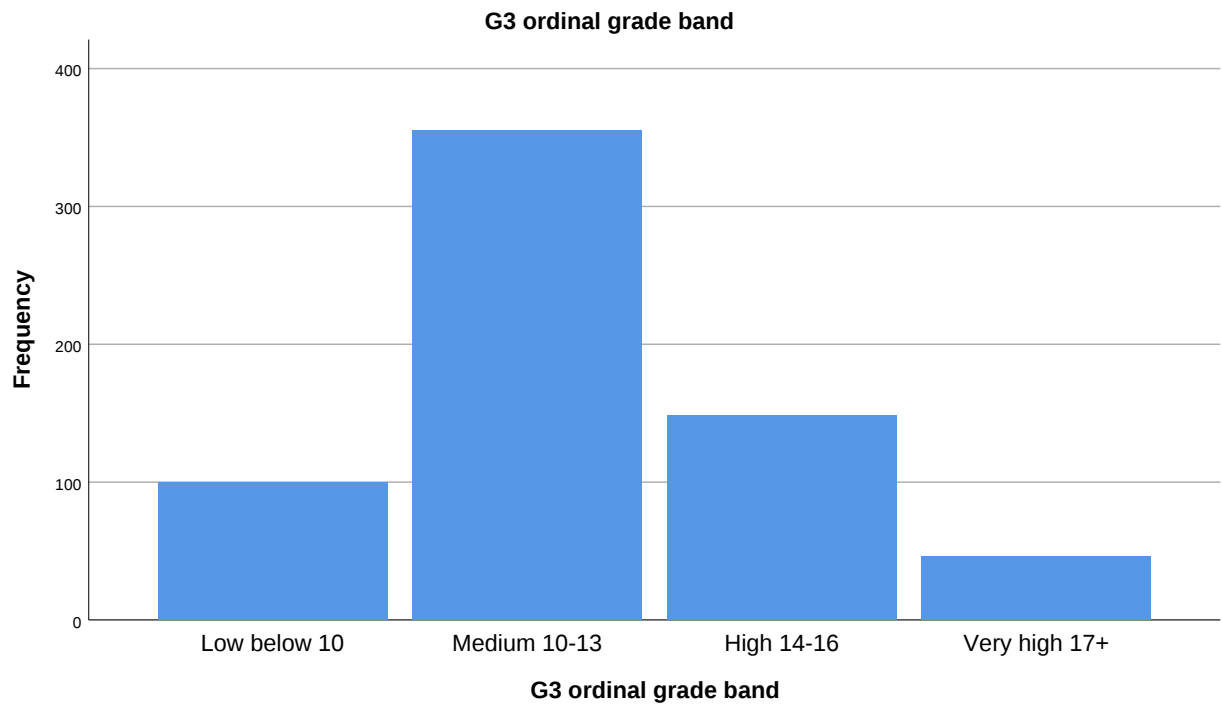
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low below 10	100	15.4	15.4	15.4
	Medium 10-13	355	54.7	54.7	70.1
	High 14-16	148	22.8	22.8	92.9
	Very high 17+	46	7.1	7.1	100.0
	Total	649	100.0	100.0	

Bar Chart

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student



Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student



Crosstabs

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

Notes

Output Created		16-JUL-2026 14:42:02
Comments		
Input	Data	D:\DATA ANALYSIS\Chi Square and Categorical Data Tests\Fleiss Kappa\dataset.csv
	Active Dataset	FleissKappaData
	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 table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=grade1 BY grade2 /STATISTICS=KAPPA /CELLS=COUNT ROW COLUMN.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
G1 ordinal grade band * G2 ordinal grade band	649	100.0%	0	0.0%	649	100.0%

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

G1 ordinal grade band * G2 ordinal grade band Crosstabulation

			G2 ordinal grade band	
			Low below 10	Medium 10-13
G1 ordinal grade band	Low below 10	Count	107	50
		% within G1 ordinal grade band	68.2%	31.8%
		% within G2 ordinal grade band	73.8%	14.2%
	Medium 10-13	Count	38	274
		% within G1 ordinal grade band	11.2%	80.6%
		% within G2 ordinal grade band	26.2%	77.8%
	High 14-16	Count	0	28
		% within G1 ordinal grade band	0.0%	21.9%
		% within G2 ordinal grade band	0.0%	8.0%
	Very high 17+	Count	0	0
		% within G1 ordinal grade band	0.0%	0.0%
		% within G2 ordinal grade band	0.0%	0.0%
Total		Count	145	352
		% within G1 ordinal grade band	22.3%	54.2%
		% within G2 ordinal grade band	100.0%	100.0%

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

G1 ordinal grade band * G2 ordinal grade band Crosstabulation

			G2 ordinal grade band	
			High 14-16	Very high 17+
G1 ordinal grade band	Low below 10	Count	0	0
		% within G1 ordinal grade band	0.0%	0.0%
		% within G2 ordinal grade band	0.0%	0.0%
	Medium 10-13	Count	27	1
		% within G1 ordinal grade band	7.9%	0.3%
		% within G2 ordinal grade band	23.1%	2.9%
	High 14-16	Count	88	12
		% within G1 ordinal grade band	68.8%	9.4%
		% within G2 ordinal grade band	75.2%	34.3%
	Very high 17+	Count	2	22
		% within G1 ordinal grade band	8.3%	91.7%
		% within G2 ordinal grade band	1.7%	62.9%
Total		Count	117	35
		% within G1 ordinal grade band	18.0%	5.4%
		% within G2 ordinal grade band	100.0%	100.0%

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

G1 ordinal grade band * G2 ordinal grade band Crosstabulation

			Total
G1 ordinal grade band	Low below 10	Count	157
		% within G1 ordinal grade band	100.0%
		% within G2 ordinal grade band	24.2%
	Medium 10-13	Count	340
		% within G1 ordinal grade band	100.0%
		% within G2 ordinal grade band	52.4%
	High 14-16	Count	128
		% within G1 ordinal grade band	100.0%
		% within G2 ordinal grade band	19.7%
	Very high 17+	Count	24
		% within G1 ordinal grade band	100.0%
		% within G2 ordinal grade band	3.7%
Total		Count	649
		% within G1 ordinal grade band	100.0%
		% within G2 ordinal grade band	100.0%

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Measure of Agreement	Kappa	.610	.027	23.178	.000
N of Valid Cases		649			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

Crosstabs

Notes		
Output Created		16-JUL-2026 14:42:02
Comments		
Input	Data	D:\DATA ANALYSIS\Chi Square and Categorical Data Tests\Fleiss Kappa\dataset.csv
	Active Dataset	FleissKappaData
	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 table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=grade1 BY grade3 /STATISTICS=KAPPA /CELLS=COUNT ROW COLUMN.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	524245

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
G1 ordinal grade band * G3 ordinal grade band	649	100.0%	0	0.0%	649	100.0%

G1 ordinal grade band * G3 ordinal grade band Crosstabulation

			G3 ordinal grade band	
			Low below 10	Medium 10-13
G1 ordinal grade band	Low below 10	Count	88	69
		% within G1 ordinal grade band	56.1%	43.9%
		% within G3 ordinal grade band	88.0%	19.4%
	Medium 10-13	Count	12	267
		% within G1 ordinal grade band	3.5%	78.5%
		% within G3 ordinal grade band	12.0%	75.2%
	High 14-16	Count	0	19
		% within G1 ordinal grade band	0.0%	14.8%
		% within G3 ordinal grade band	0.0%	5.4%
	Very high 17+	Count	0	0
		% within G1 ordinal grade band	0.0%	0.0%
		% within G3 ordinal grade band	0.0%	0.0%
Total		Count	100	355
		% within G1 ordinal grade band	15.4%	54.7%
		% within G3 ordinal grade band	100.0%	100.0%

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

G1 ordinal grade band * G3 ordinal grade band Crosstabulation

			G3 ordinal grade band	
			High 14-16	Very high 17+
G1 ordinal grade band	Low below 10	Count	0	0
		% within G1 ordinal grade band	0.0%	0.0%
		% within G3 ordinal grade band	0.0%	0.0%
	Medium 10-13	Count	60	1
		% within G1 ordinal grade band	17.6%	0.3%
		% within G3 ordinal grade band	40.5%	2.2%
	High 14-16	Count	86	23
		% within G1 ordinal grade band	67.2%	18.0%
		% within G3 ordinal grade band	58.1%	50.0%
	Very high 17+	Count	2	22
		% within G1 ordinal grade band	8.3%	91.7%
		% within G3 ordinal grade band	1.4%	47.8%
Total		Count	148	46
		% within G1 ordinal grade band	22.8%	7.1%
		% within G3 ordinal grade band	100.0%	100.0%

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

G1 ordinal grade band * G3 ordinal grade band Crosstabulation

			Total
G1 ordinal grade band	Low below 10	Count	157
		% within G1 ordinal grade band	100.0%
		% within G3 ordinal grade band	24.2%
	Medium 10-13	Count	340
		% within G1 ordinal grade band	100.0%
		% within G3 ordinal grade band	52.4%
	High 14-16	Count	128
		% within G1 ordinal grade band	100.0%
		% within G3 ordinal grade band	19.7%
	Very high 17+	Count	24
		% within G1 ordinal grade band	100.0%
		% within G3 ordinal grade band	3.7%
Total		Count	649
		% within G1 ordinal grade band	100.0%
		% within G3 ordinal grade band	100.0%

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Measure of Agreement	Kappa	.544	.028	21.233	.000
N of Valid Cases		649			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

Crosstabs

Notes		
Output Created		16-JUL-2026 14:42:02
Comments		
Input	Data	D:\DATA ANALYSIS\Chi Square and Categorical Data Tests\Fleiss Kappa\dataset.csv
	Active Dataset	FleissKappaData
	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 table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=grade2 BY grade3 /STATISTICS=KAPPA /CELLS=COUNT ROW COLUMN.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01
	Dimensions Requested	2
	Cells Available	524245

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
G2 ordinal grade band * G3 ordinal grade band	649	100.0%	0	0.0%	649	100.0%

G2 ordinal grade band * G3 ordinal grade band Crosstabulation

			G3 ordinal grade band	
			Low below 10	Medium 10-13
G2 ordinal grade band	Low below 10	Count	89	56
		% within G2 ordinal grade band	61.4%	38.6%
		% within G3 ordinal grade band	89.0%	15.8%
	Medium 10-13	Count	11	296
		% within G2 ordinal grade band	3.1%	84.1%
		% within G3 ordinal grade band	11.0%	83.4%
	High 14-16	Count	0	3
		% within G2 ordinal grade band	0.0%	2.6%
		% within G3 ordinal grade band	0.0%	0.8%
	Very high 17+	Count	0	0
		% within G2 ordinal grade band	0.0%	0.0%
		% within G3 ordinal grade band	0.0%	0.0%
Total		Count	100	355
		% within G2 ordinal grade band	15.4%	54.7%
		% within G3 ordinal grade band	100.0%	100.0%

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

G2 ordinal grade band * G3 ordinal grade band Crosstabulation

			G3 ordinal grade band	
			High 14-16	Very high 17+
G2 ordinal grade band	Low below 10	Count	0	0
		% within G2 ordinal grade band	0.0%	0.0%
		% within G3 ordinal grade band	0.0%	0.0%
	Medium 10-13	Count	45	0
		% within G2 ordinal grade band	12.8%	0.0%
		% within G3 ordinal grade band	30.4%	0.0%
	High 14-16	Count	102	12
		% within G2 ordinal grade band	87.2%	10.3%
		% within G3 ordinal grade band	68.9%	26.1%
	Very high 17+	Count	1	34
		% within G2 ordinal grade band	2.9%	97.1%
		% within G3 ordinal grade band	0.7%	73.9%
Total		Count	148	46
		% within G2 ordinal grade band	22.8%	7.1%
		% within G3 ordinal grade band	100.0%	100.0%

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

G2 ordinal grade band * G3 ordinal grade band Crosstabulation

			Total
G2 ordinal grade band	Low below 10	Count	145
		% within G2 ordinal grade band	100.0%
		% within G3 ordinal grade band	22.3%
	Medium 10-13	Count	352
		% within G2 ordinal grade band	100.0%
		% within G3 ordinal grade band	54.2%
	High 14-16	Count	117
		% within G2 ordinal grade band	100.0%
		% within G3 ordinal grade band	18.0%
	Very high 17+	Count	35
		% within G2 ordinal grade band	100.0%
		% within G3 ordinal grade band	5.4%
Total		Count	649
		% within G2 ordinal grade band	100.0%
		% within G3 ordinal grade band	100.0%

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Measure of Agreement	Kappa	.684	.025	26.846	.000
N of Valid Cases		649			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Fleiss kappa three-classification diagnostics
G1, G2, and G3 grade-band classifications for every student

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FLEISS' KAPPA
=====
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Formula: kappa_F = (P_bar-P_e)/(1-P_e), P_i = [sum_j n_ij^2-n]/[n(n-1)]
Variables: G1 grade band, G2 grade band, G3 grade band
expected_agreement = 0.37545732322572833
fleiss_kappa = 0.6118371867294158
observed_agreement = 0.7575757575757576
raters = 3
subjects = 649
Cross-check status: pass
=====
=====
```