Kappa and Weighted Kappa

Unweigthed and weighted Kappa Coefficents: This procedure provides both the unweighted and weighted Kappa coefficients for assessing the consistency of judgements of two raters. It also provides other measures of independence of the ratings. If nominal categories are used in the ratings, the unweighted statistic is appropriate. If the categories repesent ordinal data, the weighted Kappa statistic may be appropriate. The file labeled KappaTest4.LAZ has been used to illustrate this procedure. Shown below is the dialog form and the analysis of the data:

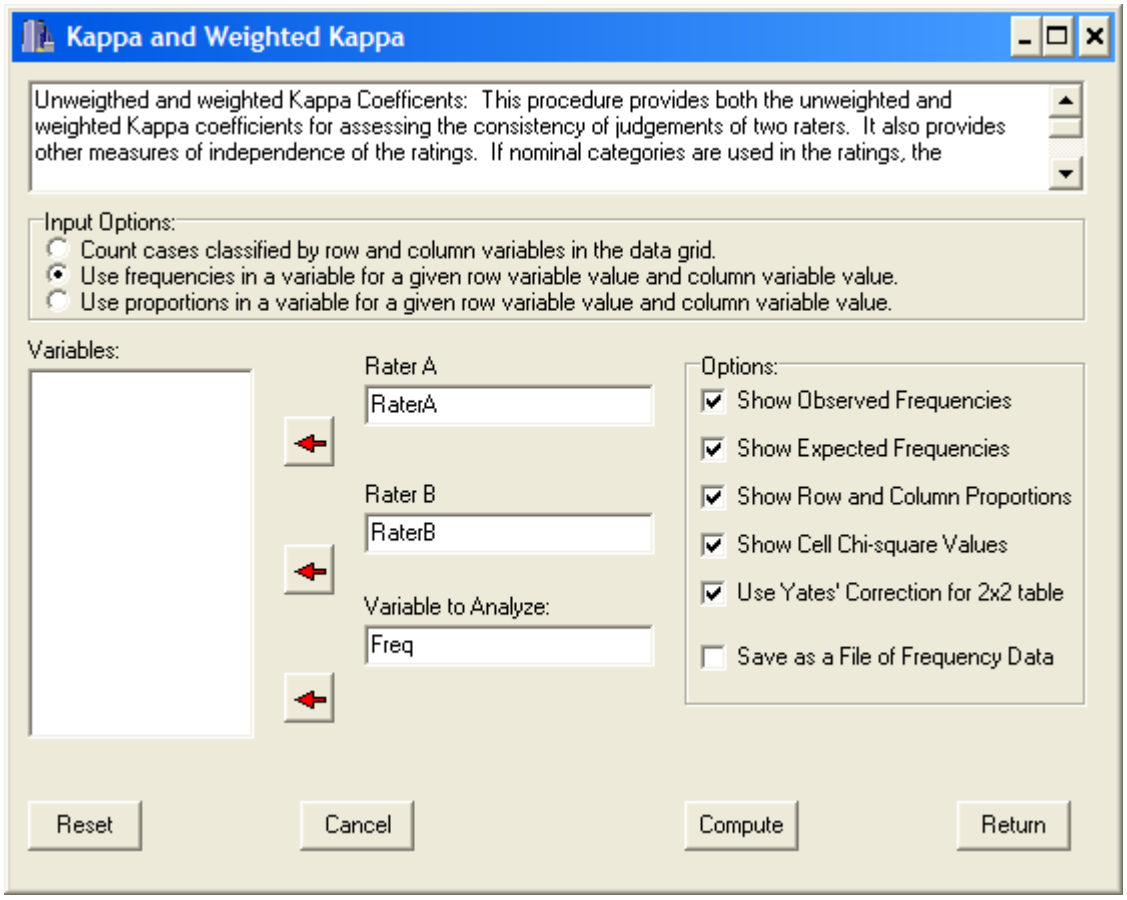

Figure 1. Kappa Coefficient of Rater Agreement Form

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Chi-square Analysis Results for RaterA and RaterB
No. of Cases = 100

OBSERVED FREQUENCIES

              Frequencies
               COL. 1    COL. 2    COL. 3     Total

     Row 1         44         5         1        50
     Row 2          7        20         3        30
     Row 3          9         5         6        20
     Total         60        30        10       100

EXPECTED FREQUENCIES
```

Expected Values

	COL. 1	COL. 2	COL. 3
Row 1	30.000	15.000	5.000
Row 2	18.000	9.000	3.000
Row 3	12.000	6.000	2.000

ROW PROPORTIONS

Proportions

	COL. 1	COL. 2	COL. 3	Total
Row 1	0.880	0.100	0.020	1.000
Row 2	0.233	0.667	0.100	1.000
Row 3	0.450	0.250	0.300	1.000
Total	0.600	0.300	0.100	1.000

COLUMN PROPORTIONS

Proportions

	COL. 1	COL. 2	COL. 3	Total
Row 1	0.733	0.167	0.100	0.500
Row 2	0.117	0.667	0.300	0.300
Row 3	0.150	0.167	0.600	0.200
Total	1.000	1.000	1.000	1.000

PROPORTIONS OF TOTAL N

Expected Values

	COL. 1	COL. 2	COL. 3	Total
Row 1	0.440	0.050	0.010	0.500
Row 2	0.070	0.200	0.030	0.300
Row 3	0.090	0.050	0.060	0.200
Total	0.600	0.300	0.100	1.000

CHI-SQUARED VALUE FOR CELLS

Chi-square Values

	COL. 1	COL. 2	COL. 3
Row 1	6.533	6.667	3.200
Row 2	6.722	13.444	0.000
Row 3	0.750	0.167	8.000

Chi-square = 45.483 with D.F. = 4. Prob. > value = 0.000

Liklihood Ratio = 44.398 with prob. > value = 0.0000

phi correlation = 0.6744

Pearson Correlation r = 0.4772

Mantel-Haenszel Test of Linear Association = 22.541 with probability > value = 0.0000

The coefficient of contingency = 0.559

Cramer's V = 0.477

Unweighted Kappa = 0.4915

KAPPA LINEAR WEIGHTS

	Observed Linear Weights		
	COL. 1	COL. 2	COL. 3
Row 1	1.000	0.500	0.000
Row 2	0.500	1.000	0.500
Row 3	0.000	0.500	1.000

KAPPA QUADRATIC WEIGHTS

	Observed Quadratic Weights		
	COL. 1	COL. 2	COL. 3
Row 1	1.000	0.750	0.000
Row 2	0.750	1.000	0.750
Row 3	0.000	0.750	1.000

Linear Weighted Kappa = 0.4737
Quadratic Weighted Kappa = 0.4545