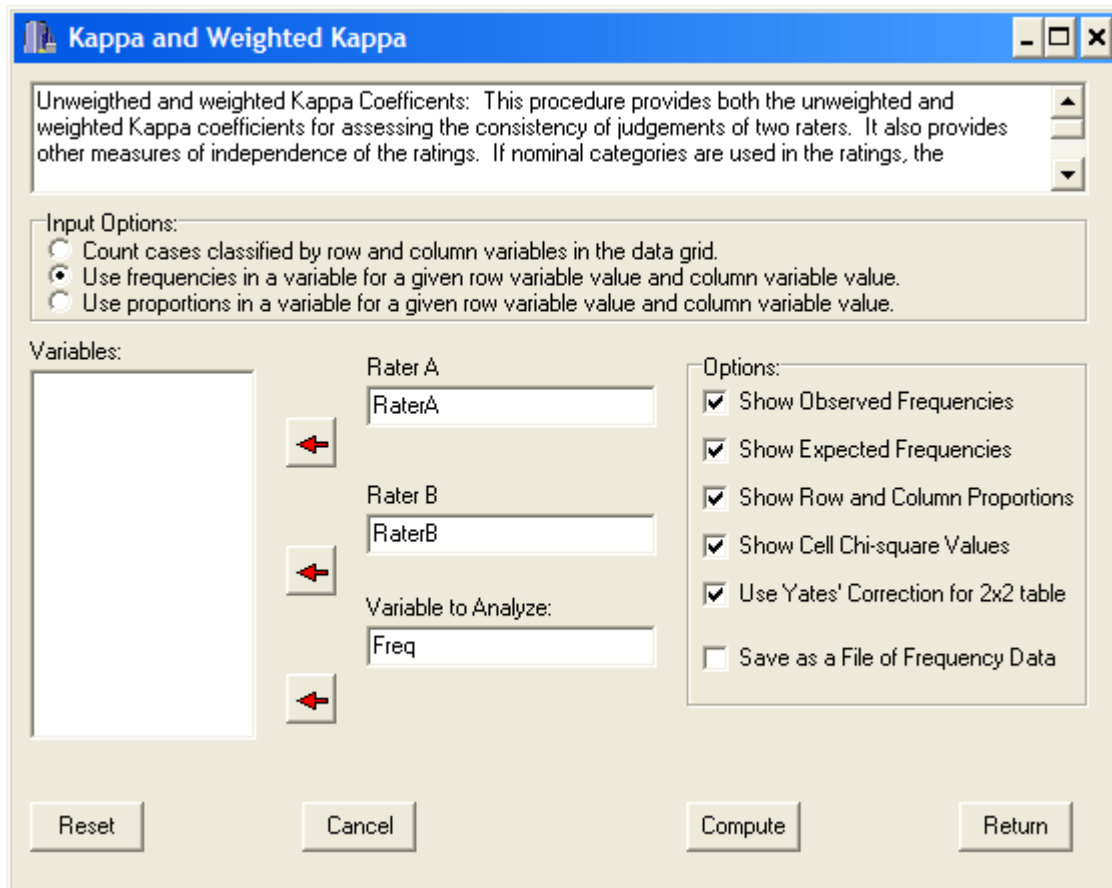


## Kappa and Weighted Kappa

Unweighted and weighted Kappa Coefficients: 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 represent 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:



The image shows the 'Kappa and Weighted Kappa' dialog box in SPSS. The title bar is blue with the text 'Kappa and Weighted Kappa'. Below the title bar is a text area with the following text: 'Unweighted and weighted Kappa Coefficients: 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'. Below this is a section titled 'Input Options:' with three radio buttons: 'Count cases classified by row and column variables in the data grid.', 'Use frequencies in a variable for a given row variable value and column variable value.', and 'Use proportions in a variable for a given row variable value and column variable value.'. The second option is selected. Below this is a section titled 'Variables:' with a list box on the left and three input fields on the right. The list box is empty. The first input field is labeled 'Rater A' and contains 'RaterA'. The second input field is labeled 'Rater B' and contains 'RaterB'. The third input field is labeled 'Variable to Analyze:' and contains 'Freq'. To the right of these input fields is a section titled 'Options:' with five checkboxes: 'Show Observed Frequencies', 'Show Expected Frequencies', 'Show Row and Column Proportions', 'Show Cell Chi-square Values', and 'Use Yates' Correction for 2x2 table'. All five checkboxes are checked. The last checkbox is 'Save as a File of Frequency Data' and is unchecked. At the bottom of the dialog box are four buttons: 'Reset', 'Cancel', 'Compute', and 'Return'.

**Figure 1. Kappa Coefficient of Rater Agreement Form**

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

### OBSERVED FREQUENCIES

	Frequencies			Total
	COL. 1	COL. 2	COL. 3	
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

Likelihood 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