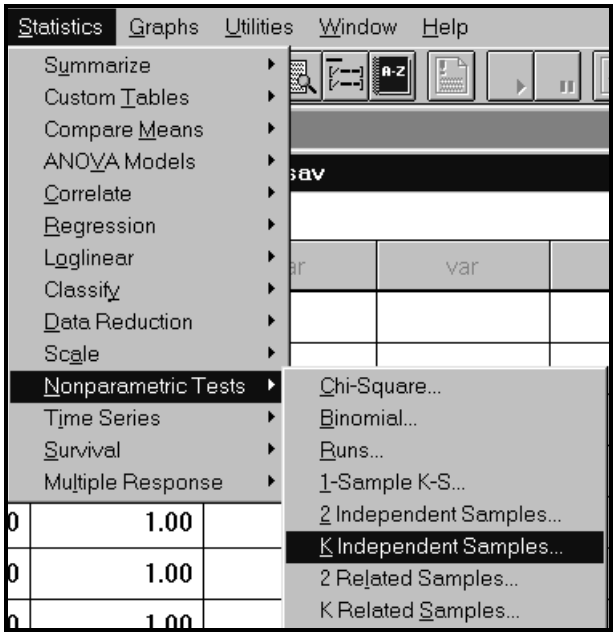
DIET AND LONGEVITY STUDY

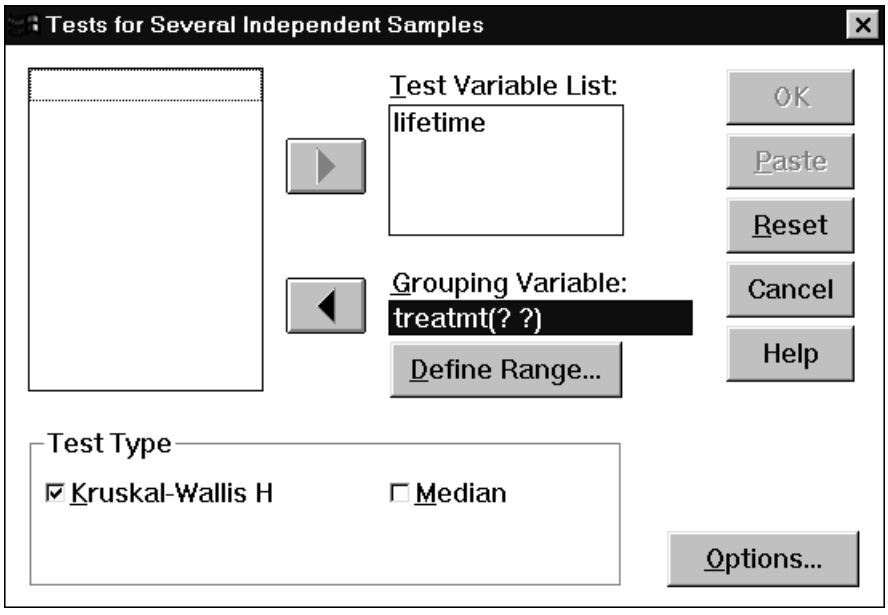
14. Using Nonparametric Methods

The F-test used in Section 7 has the underlying assumption of normality. In our case study the assumption of normality is slightly violated because outliers are present in the data. Hence the nonparametric Kruskal-Wallis test procedure provides a very good alternative.

The Kruskal-Wallis one-way ANOVA can be found in the *K Independent Samples…* item of the *Nonparametric Tests* menu.

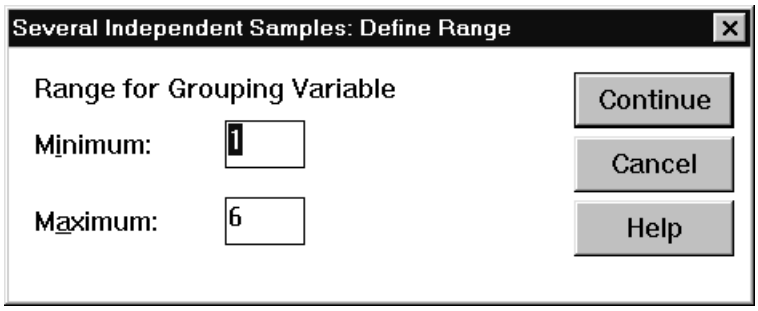


The following *Tests for Several Independent Samples* dialog box is displayed.



Click on the variable *lifetime* and then on the upper right arrow to transfer it to *Test Variable List* box. Then click on the *treatmt* variable and then on the lower right arrow to transfer it to the *Grouping Variable* box. Make sure that the Kruskal-Wallis H test box is checked.

Click on the *Define Range* box and type 1 into Minimum box and 3 into the maximum box. Click on *Continue*.



The Kruskal-Wallis output is displayed below. (see also Section 10).

Kruskal-Wallis 1-Way Anova

LIFETIME
by TREATMT

Mean Rank	**Cases**	
52.37	49	TREATMT = 1
101.03	57	TREATMT = 2
179.97	56	TREATMT = 3
215.98	71	TREATMT = 4
221.36	56	TREATMT = 5
249.02	60	TREATMT = 6

	349	Total

Chi-Square	D.F.	Significance
159.0128	5	.0000