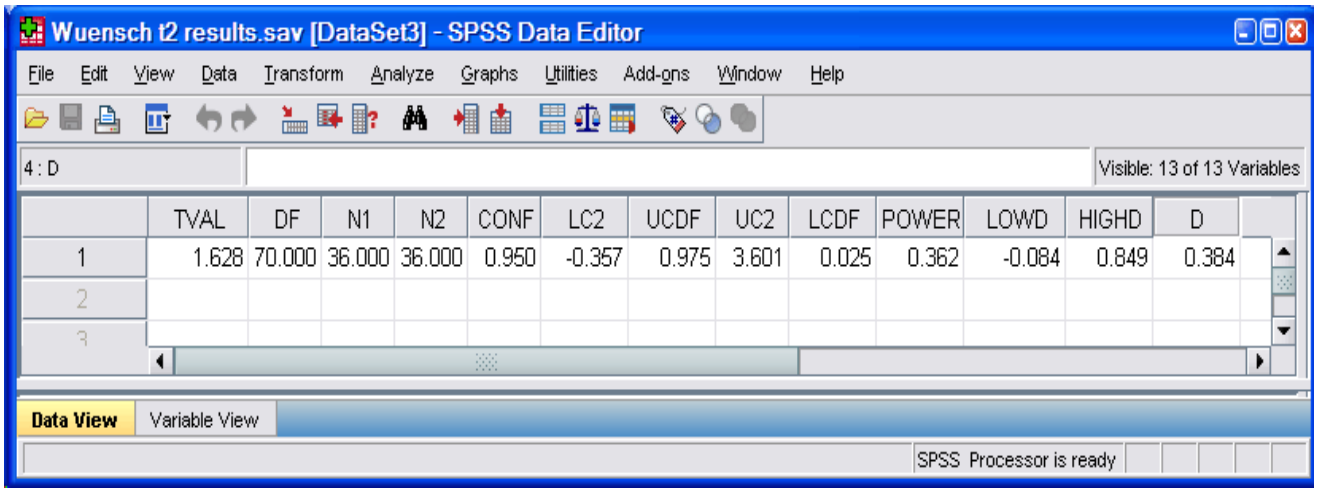
Technical Note 6.2

Using Wuensch's SPSS Syntax Files

To obtain confidence limits on Cohen's *d*, open a new file with a column labeled TVAL containing the *t* you have calculated; a column labeled DF containing the total *df*; columns labeled N1 and N2 containing the group sizes; and a column labeled CONF containing the desired level of confidence. Open the syntax file *T-D-2 samples.sps* (from the Wuensch website; see Section 6.7.3) and select the *Run* option, than *All*. The result will look like the following, based on the data for the independent-groups total cholesterol (*TC*) example.



The first five columns are the input and the remaining columns are the output from the program. LCDF and UCDF are the areas cut off when you request 95% confidence. LOWD and HIGHD are the bounds on D (Cohen's *d*). LC2 and UC2 are the bounds on the noncentrality parameter, δ. The relation between δ and d is $\delta = d/\sqrt{1/n_1 + 1/n_2}$. For example, dividing HIGHD (.849) from our output by $\sqrt{2/36}$, the result is UC2, or 3.60 .

If a single sample of scores, often difference scores, is the target of the analysis, open a new file with only three columns: TVAL, DF, and CONF. Then open and run *T-D-1 samples.sps*. The output columns are the same as in the preceding figure. If the scores are difference scores, the result will be d_z and its bounds. If you wish to compare the result to Cohen's guidelines, or to output from an independent-groups study, you will need to convert d_z to *d*; $d = (\sigma_{diff}/\sigma)d_z$ where σ_{diff} is the standard deviation of the population of difference scores, and σ is the standard deviation assumed to be common to both treatments. Estimate σ_{diff} by the standard deviation of

the difference scores in your sample (*before* - *after* in our example) and estimate σ by the square root of the average within-condition variance.