Psy 524 Lab 5

Canonical Correlation

**Matrix Equations in SPSS**

1. Download **‘samplecancorr.sav’** and **‘ccmac\_atafixed.sps’** from the class website and save both to **'c:\temp’** (you may need to create the ‘c:\temp’ folder on your computer first).
2. Download the **‘Lab05\_MatrixSyntax.sps’** syntax, open it in SPSS and run the syntax. Paste the output below, annotate and interpret the results (refer to T&F for help)

**Highlight here and paste your output.**

1. On your own now
   1. Write syntax that will solve for Bx (hint: you can copy and paste some of the pieces you need from the above syntax).

**Highlight here and paste your output.**

* 1. Make four new variables that are standardized forms of the original four. Go to **Analyze** 🡪 **Descriptive Statistics** 🡪 **Descriptives** move everything over and click on the button in the bottom left corner. Hit **OK**.
  2. Using **compute** calculate the canonical variate scores for each subject (note: the book has the two standardized matrices reversed so your answers will not match).
  3. Write syntax to estimate Ax and Ay.

**Highlight here and paste your output.**

* 1. Make a diagram (e.g., Google drawing) that represents the two canonical variate pairs, including loadings and canonical correlations (refer to T&F). Remember that your values will be a little different due to rounding error.

**Highlight here and paste your diagrams.**

**Canonical Correlation using SPSS syntax**

1. **Using CC macro**. Perform canonical correlation analysis on the same data and tell me if your answers match those given by the syntax above. Use the **‘runccmac.sps’** syntax to do this (note: you have to have the **‘ccmac\_atafixed.sps’** downloaded to your temp folder). (Alternatively, it appears that SPSS has added in a Canonical Correlation menu option **Analyze 🡪 Correlate 🡪 Canonical Correlation** that was not there before.

**Highlight here and paste your output.**

1. By hand - replicate the Wilk’s Lambda coefficients in the output from the matrix equations OR CC macro above.

**Highlight here and paste your work.**

1. **Using MANOVA**. Perform a canonical correlation of the **“CANON.sav”** data. There is no SPSS analysis of it so lets make one. Open up the data and follow all of the screening steps they take and perform them on your own data. To run canonical correlation use the following syntax:

MANOVA x1 x2... WITH y1 y2...

/DISCRIM ALL ALPHA(1)

/PRINT SIG(EIG DIM).

Replace x1 x2… and y1 y2… with the variables they use in the example.

**Highlight here and paste your output.**

1. Perform a canonical correlation with the CC macro function (or from the NEW dropdown menu) using the “social2.sav” data.
   1. Set 1 is ethnicity items (srchcomp, eicomp, subcomp) and Set 2 is outgroup items (oocomp and supcomp).
   2. Do all appropriate screening before the analysis (hint: if you’ve transformed a variable before then include the transformed version and not the original). Copy and paste the results below, annotate and interpret the output.

**Highlight here and paste your output.**

* 1. Write a results section describing what you’ve found (see the book and the class website for examples).