The University of Melbourne
Department of Psychology
Semester 1, 2018

PSYC40005 Advanced Design and Data Analysis

Laboratory Exercise 5:
Confirmatory factor analysis

The data file is **split.sav** that we first met in Lab class 4, with 24 variables and 115 cases. The items are listed on the next page.

Your aim today is to fit a three factor confirmatory analysis model to these data using AMOS. The lecture slides illustrate many of the buttons you will use. As well, there is a guide to the buttons on LMS.

Open the data file. Pull down the **Analyze** menu to go to **IBM SPSS Amos**. The AMOS window should open. If the window contains a diagram it means that Amos has remembered the last use [by someone else]. If so go to **File** and pull down to 'New'.

In drawing the model, take advantage of the fact that there are three factors with 8 items each. Draw one factor and eight items near the top of the page. Rotate it so the items are to the left or right of the factor. Select the factor plus items. Then copy what you have selected twice. Fit the diagram to the page (there is a button!)

Then get the variable names from SPSS and put them in the appropriate rectangles.

Make up names for the ellipses and circles.

It is handy to have the fit statistics on your diagram. Click on title then move over the diagram. A title box will open. Insert the following text into the box.
Chisquare = \cmin
df = \df
p = \p
CFI = \cfi
RMSEA = \rmsea
Scale the font down to 14 or 16.

Click on **Analysis Properties** to bring up the options. On the **Output** tab choose standardized estimates.

File > Save your AMOS file somewhere other than the default program directory (eg. save on Desktop or in Documents), then **Run** an uncorrelated model (override the warning). **Note**: if you do not first save your file, you will get an error and AMOS will not successfully run.

Then add correlations between the factors and run the correlated model. Is it a better fit? (Use at least RMSEA as a fit measure. Your model is the default model.)

SPLITTING INDEX.

(S) = splitting of self images subscale
(F) = splitting of family images subscale
(O) = splitting of others' images subscale
[-] = item is reverse scored.

1. I feel different about myself when I am with different people. (S)
2. My mother has faults, but I have never doubted her love for me. (F)[-]
3. Being able to keep friends is one of my strong points. (0)[-]
4. My parents always took care of my needs. (F)[-]
5. My feelings about myself shift dramatically. (S)
6. It is impossible to love my parents all the time. (F)
7. The different parts of my personality are difficult to put together. (S)
8. My feelings about my mother change from day to day. (F)
9. My parents did the best they could for me. (F)[-]
10. I have doubts about my closest friends. (0)
11. Sometimes I am not sure who I am. (S)
12. My feelings about myself are very powerful, but they can change from one moment to the next. (S)
13. My friendships are almost always satisfying. (0)[-]
14. My feelings about myself do not change easily. (S)[-]
15. I have had many long-lasting friendships. (0)[-]
16. I sometimes feel "pulled apart" by my feelings about myself. (S)[-]
17. My relationship with my family is solid. (F)[-]
18. My feelings toward those close to me remain constant. (0)[-]
19. I have always been aware that my close friends really cared for me. (0)[-]
20. My opinions of my friends rarely change. (0)[-]
21. I almost always feel good about those close to me. (0)[-]
22. I have extremely mixed feelings about my mother. (F)
23. My family was often hurtful to me. (F)
24. Who I am depends on how I am feeling. (S)

Gould, J.R., Prentice, N.M., and Ainslie, R.C. (1996) The splitting index: Construction of a scale measuring the defense mechanism of splitting. *Journal of Personality Assessment*, **66**, 414 - 430.