Mixture and Group-Based Trajectory Models

Exercises #1: Mediation

You are going to use R to conduct some analyses. The dataset for these exercises is provided with the online material and it is called:

**hsbdemo.csv**

The dataset is described in more details in a separate document. See:

**Dataset for exercises\_ … \_OPerra.docx**

Before you run the analyses

The examples provided will use the “PROCESS” macro developed by Andrew F. Hayes. The macro can be downloaded at this address:

<https://haskayne.ucalgary.ca/CCRAM/resource-hub>

Note that the macro can also work with other software other than R (e.g., SPSS).

Being a macro, unlike other R packages you cannot install this and load it whenever you need to run the analyses. Instead, you will have to run the macro before every session when you plan to carry out mediation models.

More information about PROCESS and examples of its use are available in Hayes’ book on Mediation and Moderation:

<http://afhayes.com/introduction-to-mediation-moderation-and-conditional-process-analysis.html>

Exercises

Use the dataset provided to complete the following tasks:

1. Run a simple mediation model where Low SES influences Science scores through Reading scores.
2. Test the significance of the indirect effect of the previous model using the Sobel test and the Bootstrapping approach (use at least 10,000 draws). Compare the results of the two approaches.
3. Use the model in exercise 2, but control for the effects of gender (female) and school type.
4. Compare the results of the indirect effect in the exercise 3 model and the model in exercise number 2.
5. Test a serial mediation model where the effect of Low SES on Science scores is mediated by Low SES on Reading scores, Low SES on Math scores, as well as the path Low SES🡪Reading🡪Math🡪Science.