

Midterm Takehome Project: Fall 2011  
Psychology 594  
Multivariate Analysis

The midterm project for the Fall of 2010 involved the Hare Psychopathy Checklist Revised. (This was handed out earlier.) This year we have data on the Hare Psychopathy Checklist: Screening Version; this is a shortened 12-item inventory (mostly a subset of the original 20-item Checklist). The item descriptions for the checklist version follows, along with the Front Page of the PCL:SV Quick Score Form.

According to Hare's analysis, there are two "factors" underlying the PCL:SV — Factor 1 (Interpersonal/Affective) for items 1 to 6; Factor 2 (Social Deviance) for items 7 to 12. I've also attached an article from *Violence and Mental Disorder: Developments in Risk Assessment* (Edited by John Monahan and Henry Steadman): *Psychopathy as a Risk Marker for Violence: Development and Validation of a Screening Version of the Revised Psychopathy Checklist* by Stephen Hart, Robert Hare, and Adelle Forth.

There are two correlation matrices at

`cda.psych.uiuc.edu/multivariate_fall_2011:`

`pcl_correlations.syz`

`pcl_correlation.dat`

These are based on 1136 institutionalized individuals from the MacArthur Study of Mental Disorder and Violence. The correlations include two variables (#13 and #14) summing the first six and last six items respectively; and a total score variable (#15).

The Task for this Year:

Find something intelligent to say about the factor structure of the 12-item PCL:SV. I expect use of the Factor Module in Systat (and its various options), plus the Factoran program in Matlab. Also, use whatever rotation procedures you need in developing the intelligent observations you wish to make. Also, generally adhere to the spirit of the directions at the bottom of page 3 and the top of page 4 on the midterm project for the Fall of 2010.

A few questions you might ask along the way:

Do you see anything “nice” in the first several principal components without rotation?

Should you be doing analyses that exclude variables 13, 14, and/or 15?

Can you see the factor structure you identified directly in the correlation matrix? How?