PSY 315f

Assignment #1

Due Monday, September 16 9 AM

A correlational study was conducted to explore the structure of human cognitive abilities. A total of 250 participants completed 9 tests of ability: 3 tests of fluid intelligence (V1 – V3), 3 tests of verbal ability (V4 – V6), and 3 tests of visuospatial ability (V7 – V9). The data are on Canvas in the file PSY.315f.DA01Data.csv

Conduct a series of exploratory factor analyses to explore the structure in these data. Please try to do the following in this assignment:

1. Attempt both PCA and PFA;
2. Attempt orthogonal rotation (varimax) and oblique rotation (oblimin);
3. Try to explore and determine the number of factors;
4. Compare the results from different solutions (PCA/PFA, rotation, number of factors) and select one best solution as your final result;
5. Justify your selection.

Write an APA-style report based on your preferred solution. Please at least include 3 tables: (1) Descriptive statistics for all variables (mean, sd, skew, and kurtosis), (2) Full correlation matrix, (3) Factor pattern (suppress values less than .30). Also include a scree plot and a visualization of your final result. Please submit one word/pdf document with your write-up, syntaxes, and raw results to Canvas (knitted word/pdf document from RMarkdown is preferred).