0.1 What is a Rotation

- Ideally, you would like to review the correlations between the variables and the components and use this information to interpret the components; that is, to determine what construct seems to be measured by component 1, what construct seems to be measured by component 2, and so forth.
- Unfortunately, when more than one component has been retained in an analysis, the interpretation of an unrotated factor pattern is usually quite difficult. To make interpretation easier, you will normally perform an operation called a rotation.
- A rotation is a linear transformation that is performed on the factor solution for the purpose of making the solution easier to interpret.

0.2 Varimax Rotation

A varimax rotation is an orthogonal rotation, meaning that it results in uncorrelated components. Compared to some other types of rotations, a varimax rotation tends to maximize the variance of a column of the factor pattern matrix (as opposed to a row of the matrix). This rotation is probably the most commonly used orthogonal rotation in the social sciences.

0.3 Interpreting the Rotated Solution

- Interpreting a rotated solution means determining just what is measured by each of the retained components. Briefly, this involves identifying the variables that demonstrate high loadings for a given component, and determining what these variables have in common. Usually, a brief name is assigned to each retained component that describes its content.
- The first decision to be made at this stage is to decide how large a factor loading must be to be considered "large."
- Guidelines are provided in statistical literature for testing the statistical significance of factor loadings. Given that this is an introductory treatment of principal component analysis, however, simply consider a loading to be large if its absolute value exceeds 0.40.