**Application 3 Assignment**

Please complete the following tasks using JASP. Then answer questions on the corresponding Lab Quiz on Canvas. You are not required to upload your JASP file; just submit the quiz. You will have three attempts. **Assume for NHSTs**.

1. Use the dataset “NYS\_MAS” from Canvas.
2. Conduct an EFA using principal axis factoring (PAF) to determine potential factors that might exist for the set of items in the data (MAS1T1 – MAS20T1).
   1. How many factors should be kept for initial solution?
   2. What rotational strategy should be used?
      1. Orthogonal v oblique
   3. Should any items be removed from the list?
   4. How many factors should be kept after removing “poor” items?
      1. You can remove poor items by just removing them from the list of variables for the analysis.
   5. Which items belong to which factor?
      1. Consider the standardized loadings (pattern matrix) and the structure loadings when necessary.
   6. What is the total proportion of variance explained by the factors for the final set of items?
   7. \*Hint: My final solution included 16 items and had one factor with only 2 items.
      1. For another round of data, I would aim to add more items that could fit with this factor.
3. Calculate reliability for the factors found in the EFA.
   1. Coefficient α (Cronbach’s α)
   2. How would reliability be considered according to Nunnally (1970)?
   3. Would the internal consistency (Coefficient α) improve with the removal of any items?