Methods

**Correlation matrix.** The initial step to determine factorability of the PSS items included creating a hierarchically clustered correlation matrix to visualize the factors (Figure 1). The distinct pattern provided a good starting point for establishing factorability in this procedure.

**Bartlett's test of sphericity.** Bartlett's test of sphericity determined that the correlation matrix differed significantly from the identity matrix (χ²(45) = 158.35, p < 0.0001), providing more support for nonrandom relationships within the variables. **Kaiser-Meyer-Olkin test.** The KMO test for sampling adequacy provided a third piece of evidence in support of factor analysis for this data (MKS = 0.79), indicating that the underlying data structure includes at least one factor to extract. Paralysis analysis, a parallel analysis and a subsequent scree plot suggested extraction of just one factor from the PSS data, but previous research suggests that these items load on to two factors ("positively-worded items", "negatively-worded items."). Due to the theoretical support for extraction of 2 factors, principal axes factor analysis proceeded as such.

**Principle axes factor analysis.** Factor analysis proceeded in extracting 2 factors from the PSS items using the principal axes method due to its greater fitness for small sample sizes compared to other methods, such as the maximum likelihood method for small samples, factor analysis applied the principal axes method, with Promax rotation variables.

Principal axes factor analysis revealed that two factors explain 71% of the variance in the PSS item responses. All items produced salient factor loadings for only one factor, producing an internal reliability of 0.878 (90% CI = 0.62 – 0.90), and a mean item complexity of 1.3. This suggests that the PSS items explain a significant proportion of variance in the sample, and they do not explain a significant proportion of variance in the unassociated factor. Theoretically, PSS items load onto factors constituting "positively-worded items" and "negatively-worded items." While this analysis found that the positively-worded items loaded onto Factor 1 together, this factor also included items 6 and 10, likely due to the common theme of wording concerning feeling overwhelmed. Items 9, 1, 2, and 3 loaded onto Factor 2, likely due to their common themes of predictability or control over stressful feelings and circumstances. Uncovering these two latent measurements within the PSS scale will inform future higher-order modeling decisions as the study progresses.

**Bartlett's test of sphericity** produced a significant result, (χ²(45) = 158.35, p < 0.0001) indicating that the correlation differed significantly from a random matrix. The KMO statistic suggested that the data’s structure included at least one latent variable to extract, (MKS = 0.79). Parallel analysis and a subsequent scree plot suggested retaining only one factor, but this analysis followed previous research using the PSS questionnaire, which suggests two factors underlie the data. However, the sensitivity of the maximum likelihood method to small samples, factor analysis applied the principal axes method, with Promax rotation variables.

Principal axes factor analysis revealed that two factors explain 71% of the variance in the PSS item responses. All items produced salient factor loadings for only one factor, producing an internal reliability of 0.878 (90% CI = 0.62 – 0.90), and a mean item complexity of 1.3. This suggests that the PSS items explain a significant proportion of variance in the sample, and they do not explain a significant proportion of variance in the unassociated factor. Theoretically, PSS items load onto factors constituting "positively-worded items" and "negatively-worded items." While this analysis found that the positively-worded items loaded onto Factor 1 together, this factor also included items 6 and 10, likely due to the common theme of wording concerning feeling overwhelmed. Items 9, 1, 2, and 3 loaded onto Factor 2, likely due to their common themes of predictability or control over stressful feelings and circumstances. Uncovering these two latent measurements within the PSS scale will inform future higher-order modeling decisions as the study progresses.