**Power and Precision**

As this is a model fitting study evaluated at the individual level, the power is determined by the number of trials. Smith and Little (2018) explained that in this form of analysis, the individual is the replication unit, so including multiple participants is the equivalent of replication studies. Each individual may experience stress differently, so there will likely be heterogeneity between participants. As this study evaluates changes within participants, the variation between participants is orthogonal to our concerns (similar to how heterogeneity between study replications is acknowledge but not directly problematic), so we do not to include a larger number of participants to account for between subject variability. While more participants may be ideal, five participants is sufficient to assess the capabilities of RT modeling in this psychometric approach.

When building the three cognitive assessments that will be utilized in this study, we selected the number of trials based on the recommendations of the original creators. For the DNB task, Heathcote and associates (2015) reported a split-half reliability of .72 for 200 trials, and .84 for 400 trials, leading them to recommend using between 200 and 400 trials for the DNB task. Thus, our DNB task is built with 400 trials. When developing the OSARI task, He and colleagues (2022) utilized 240 experimental block trials (180 GO trials and 60 STOP trials), based on the recommendations of Verbruggen et al. (2019) that stop-signal based tasks have at least 200 trials, with 25% of the trials being STOP trials. Thus, in this study, we will also use 180 GO trials and 60 STOP trials. Similarly, as Fan et al. (2002) created the ANT to have 288 experimental block trials, we will follow their design and use 288 experimental trials in our ANT task.