RT preprocessing procedure: Flanker

Prior to analysis we subjected raw RT data to data cleaning procedures at the subject level and individual trial level. We first examined the distribution of subject accuracies, calculated separately for congruent and incongruent trials. 104 out of 111 (~94% of the total sample) subjects scored in the 70%+ accuracy range on incongruent trials with seven scoring below 60% accuracy on incongruent trials and these subjects were excluded entirely from formal analyses on this basis. We then screened for unbelievably fast RTs based on the group RT distribution and elected to censor all trials with RTs faster than 250 ms regardless of trial type as these are unlikely to reflect cognitive processing and fits with prior reports using the flanker task (Grange & Rydon-Grange, 2020). This led us to drop 223 RTs (1.3% of all trials) from the remaining 104 participants. To deal with long RT outliers we used a winsorising procedure, any RT that was three SDs of higher than the harmonic mean of the group RT distribution, calculated separately for congruent (611ms) and incongruent trials (638ms) were adjusted to reflect these values. Thus, long RTs were not dropped entirely as they likely reflect cognitive processing but are less likely to unduly bias model estimation. We winsorized 328 RTs (2% of all trials) using this procedure. After cleaning the data at the trial level we then calculated the mean and SD of the group-level RT distribution, splitting apart RTs based on block type and stimulus type (e.g. mostly congruent block + incongruent stimuli, mostly congruent block + congruent stimuli, etc.). We removed three subjects who had mean RTs that were three SDs higher than the group mean (again, blocked by block and stimulus type). This left us with a final sample of 101 participants with cleaned and reliable Flanker data that were passed to multilevel and DDM estimation.