

The Monte Carlo (MC) simulations in the main manuscript use estimated variances from FSL as known variances, an assumption that a reviewer suggested might affect our results. To verify that the MC distribution was not noticeably impacted by this assumption we present a simulation based on the description in section 2.3, except generating synthetic data instead of using real data. Here we use a sample size of 10 subjects with one outlying variance, the outlying variance is chosen to be 1600 and non-outlying variance is 400. The between-subject variance is specified as described in section 2.3 and the effect size is set to 28.14. A total of 1000 datasets were analyzed and the MC simulation used 10,000 iterations using the true variance. As seen below the distributions are very similar to the distributions found in Figure 1 in the main manuscript, suggesting that our results are unaffected by any bias or uncertainty in the FSL variance estimates.

