

September 14, 2016

Dr. Dorothy Bishop
Academic Editor, PeerJ

Dear Dr. Bishop,

Thank you very much for the thorough review of my recent submission of my manuscript. In response to your main concern, I extracted and heavily edited the scripts necessary for the analyses in the manuscript and have re-saved these as three different files (FredricksonReanalysis.R - the scripts specific to the analysis of Fredrickson data, GSA1.R - the Monte Carlo simulation, and GSAMethods.R - the GSA methods not already available in R) which are uploaded to GitHub. Additionally, I have added the full script (all three files) as part of Supplement 1. Because I extracted and edited these scripts, I actually re-ran all analyses. Consequently, some of the numbers differ slightly due random number generation. I made one change to the Monte Carlo simulation that resulted in more stable error rates, so the final plot of these errors has the same pattern but looks "cleaner" than the original plot (the one change was I moved the creation of a simulated correlation matrix inside of a for loop so that a new correlation matrix was generated each run, with the consequence that the results are not so dependent on the particular structure of the sampled correlation matrix). The re-analyses involving the GLS took several weeks to complete (on multiple computers!), which is the reason for the delay in my final revisions.

I also followed your comments/advice for all of the additional comments you gave. In addition, I have edited the abstract to make it even more general and I have made a few small edits to clarify meaning and to pre-empt criticism of the original authors. I also added to the monte carlo simulation an analysis using an unstructured error matrix when the size of the gene set is 10 genes (I could not do this with 30 or 52 genes because of failures of the gls function to converge, which also burdened the Fredrickson analyses) to insure that problems with GLS were not because of a compound symmetry matrix.

I have uploaded the revised manuscript and a PDF file highlighting the changes from the previous version. I am excited to submit these revisions and believe it ready for publication.

Sincerely,



Jeffrey A. Walker