Title: Big Team Science Means Big Method Opportunities

Abstract: The big team science movement in social science has predominantly focused on large scale replications and the diversification of participant samples represented in research. The resulting datasets provide ample evidence for both the psychological phenomenon and the ability to test additional hypotheses. However, behind the scenes, an overlooked area of big team science is the potential for experimental methodology that is tailored to adapt to the evidence collected. The Semantic Priming Across Many Languages (SPAML) project is an ongoing large-scale priming study examining the semantic facilitation effect in matched stimuli. Semantic priming occurs when the cognitive processing of a new concept is aided by previous processing of a related concept. For example, *TREE* is read faster when first proceeded by *LEAVES*, rather than *SPOON*. Priming is a well-studied cognitive effect that illuminates the underlying structure of concept knowledge and the processes that integrate knowledge into current awareness. In this talk, I will discuss how the SPAML project has integrated newer computational linguistic methods, power estimations, and adaptive testing to design and implement the study. Preliminary results in context of these methods will be highlighted.

Bio: My primary research interests are broadly connected by a meta-science focus on statistics and computational linguistics. In my statistics research, I have published numerous articles on the development and assessment of valid questionnaires, and the application of multigroup analyses to understand the diversity of participant responses. These studies have been conducted in partnership with clinical and experimental psychologists and have incorporated both classical and modern test theory to improve survey design and implementation. I am also interested in the implications of statistical analysis to published research, comparing methods of statistical evaluation, and shifting standards in the field for what constitutes acceptable levels of evidence. My computational linguistics research has emphasized inquiry into the storage of language that relies on actuarial analyses of complex semantic networks. My key focus in this area has been understanding how we measure and implement our research designs, and the practical implications of developing standardized stimuli on the research field. I have developed large databases, conducted research understanding the publication and use of these stimuli, and am currently working on projects focused on power and replication in linguistic studies. Therefore, I would summarize my larger research goals as understanding the tools we use in research, exploring their validity and applications, and discussing the broader implication these facets have on replication and credibility of research. You can check out my work at aggieerin.com or statisticsofdoom.com.