Amsterdam Meta Science Network Seminar, 12 March 2025

VU Amsterdam, Main Building, Forum 3, 15.00 – 16.30

You are cordially invited to the inaugural seminar of the Amsterdam Meta Science Network on Wednesday, 12 March 2025. The seminar features two talks (abstracts below) with Q&A. Save the date for the upcoming editions: Thursday April 10, May 8.

Jack Fitzgerald (VU Amsterdam): The Need for Equivalence Testing

Equivalence testing can provide statistically significant evidence that economic relationships are practically negligible. I demonstrate its necessity in a large-scale reanalysis of estimates defending 135 null claims made in 81 recent articles from top economics journals. 36-63% of estimates defending the average null claim fail lenient equivalence tests. In a prediction platform survey, researchers accurately predict that equivalence testing failure rates will significantly exceed levels which they deem acceptable. Obtaining equivalence testing failure rates that these researchers deem acceptable requires arguing that nearly 75% of published estimates in economics are practically equal to zero. These results imply that Type II error rates are unacceptably high throughout economics, and that many null findings in economics reflect low power rather than truly negligible relationships. I provide economists with guidelines and commands in Stata and R for conducting credible equivalence testing and practical significance testing in future research.

Paper: https://jack-fitzgerald.github.io/files/The_Need_for_Equivalence_Testing_in_Economics.pdf

Eric-Jan Wagenmakers (University of Amsterdam): Introducing the Journal of Robustness Reports

The vast majority of empirical research articles report a single primary analysis outcome that is the result of a single analysis plan, executed by a single analysis team (usually the team that also designed the experiment and collected the data). However, recent many-analyst projects have demonstrated that different analysis teams generally adopt a unique approach and that there exists considerable variability in the associated conclusions. There appears to be no single optimal statistical analysis plan, and different plausible

plans need not lead to the same conclusion. A high variability in outcomes signals that the conclusions are relatively fragile and dependent on the specifics of the analysis plan.

Crucially, without multiple teams analyzing the data, it is difficult to gauge the extent to which the conclusions are robust. My colleagues and I have recently proposed that empirical articles of particular scientific interest or societal importance are accompanied by two or three short reports that summarize the results of alternative analyses conducted by independent experts (Bartos et al, in press, Nature Human Behaviour). In order to showcase the practical feasibility and epistemic benefits of this approach we have founded the diamond open-access Journal of Robustness Reports, which is dedicated to publishing short reanalyses of empirical findings. This presentation describes the rationale and scope of the Journal of Robustness Reports including the type of the published articles. We hope that the Journal of Robustness Reports will help make reanalyses of published findings the norm across the empirical sciences.

Website: https://scipost.org/JRobustRep/about