



Research Transparency and Reproducibility Workshop

East Africa Social Sciences Translation (EASST) Summit

Nairobi, Kenya

July 23rd, 2019

Growing recognition of a credibility crisis and replication failures in social science research over the past decade has been matched with growing interest in identifying and developing mechanisms and institutions to strengthen research integrity. The Berkeley Initiative for Transparency in Social Sciences (BITSS) was established in 2012 to enhance research quality and evidence used for policy-making by: i) *raising awareness* and ii) *identifying strategies and fostering adoption of transparency methods* among junior researchers.

To enhance the replicability of research outputs produced by African social scientists, the East African Social Science Translation (EASST) has partnered with the Berkeley Initiative for Transparency in the Social Sciences (BITSS) to deliver a half-day intensive workshop on best practices for research transparency. The overarching goals of this workshop are to:

- i) Raise awareness of East African PhD students, postdocs and early career researchers in economics, political sciences, statistics, sociology, public policy, and other social science disciplines of the impacts of academic research misconduct (p-hacking, publication bias, failures to replicate);
- ii) Train African researchers on solutions to overcome common threats to research integrity using Pre-Analysis Plans, Pre-Registration, tools for a reproducible data analysis workflow and dynamic documents with Stata (Markdoc, Weaver, Dyndoc, StatTag) to facilitate the replicability of their research manuscripts.

The following topics will be covered: i) *Conceptual and emerging issues in the practice and ethics of research*; ii) *Overview of issues that make a research unreliable*; iii) *Theory and implementation of Pre-Analysis Plans*; iv) *Pre-registration, transparent data management and* v) *Dynamic documents with STATA and R.*

TENTATIVE SCHEDULE

I. Overview of common research degrees of freedom, scientific misconduct, and solutions (20 minutes)

- Conceptual issues in the practice and ethics of research: What makes research reliable, transparent or reproducible?
- Degrees of freedom and research misconduct: False-positives, p-hacking, p-curve, publication bias.
- Overview of solutions to increase research reproducibility: Pre-registration, Pre-Analysis Plans, transparent data management, dynamic documents.

II. Pre-registration, data sharing and Pre-Analysis Plan (25 minutes)

- Pre-registration and data sharing: (OSF, Github, Dataverse)
- Pre-analysis plans for experimental studies
- Pre-analysis plans for observational studies

Coffee Break

III. Transparent data management and reproducible workflow (1 hour)

- How to build a reproducible workflow with STATA? Overview of concrete principles such as file structure, consistent variable labeling, code commenting, readme files and master do files.
- Transparent Data management for observational studies: TIER (Teaching Integrity in Empirical Research) 3.0 protocol.
- Transparent Data Management for experimental studies/Impact evaluation: The case of the World Bank DIME Impact evaluation Toolkit (Project “Reducing Scarcity through Irrigation Monitoring in Central Mozambique”)

Coffee Break

IV. Dynamic documents with Stata and R (45 minutes)

- Stata Markdoc, putpdf, putdocx, dyndoc
- R Markdown

V. Next Steps in changing scientific research practices (5 minutes)

- Current and upcoming BITSS initiatives: Textbook, Registered Reports, Pre-prints, Forecasting
- African network of BITSS catalysts: upcoming trainings, research collaboration.