

# Transparency in Statistics

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Abstract: Many researchers believe the empirical sciences are experiencing a crisis of confidence -- a crisis brought about by fraud, implausible claims, and failures to replicate. The root of the crisis, I will argue, is that data analysis is generally conducted without oversight, without accountability, essentially in secret, by a single person, and by the person who has every incentive imaginable to present the results in their most flattering light. Consequently, what is reported in the journal article is perhaps only the unrepresentative tip of the uncertainty iceberg. The work by mainstream statisticians, however valuable and important theoretically, is in practical terms only rearranging the deck chairs on the Titanic. In order to overcome the systemic challenges of uncertainty quantification, the way forward is radical transparency. Several promising methods for transparent analysis are outlined.