



Researchers at a recent meeting of the Berkeley Initiative for Transparency in the Social Sciences (BITSS) discuss improving the caliber, credibility and impact of their work. They include UC Berkeley economist Edward Miguel (left). (Photo by BITSS)

Science authors seek better social science research transparency

By [Kathleen Maclay](#), Media Relations | January 2, 2014

BERKELEY — In the Friday (Jan. 3) edition of the journal *Science*, an interdisciplinary group is calling on scholars, funders, journal editors and reviewers to adopt more stringent and transparent standards to give social science research more credibility, substance and impact.

The authors, led by a UC Berkeley economist, hope to change a set of practices that they contend has contributed to a distorted body of research that tends to exaggerate the effectiveness of programs that deal with important issues affecting millions of people. These include programs in, for example, health, agriculture, education and environmental policy.

They cite as an example of flawed research a 2010 paper by Harvard



Share this story



Latest News

Social scientists urge greater research transparency

Chancellor opposes academic boycott of Israel

Micro-catapult shows material's potential for making artificial muscle

Four young professors awarded presidential early-career awards

Employee discounts offered for UC online-ed classes

Popular Stories

Read

Mailed

Chancellor opposes academic boycott of Israel

Social scientists urge greater research transparency

Berkeley in the News



Neanderthal had flings with relatives, other human

University economists Carmen Reinhart and Kenneth Rogoff. It concluded that that when gross external debt hits 60 percent of the Gross Domestic Product, a country's annual growth declines 2 percent, and when debt exceeds 90 percent, growth is roughly cut in half. Budget hawks seized on its conclusions until economists reviewing the work discovered coding errors, selective exclusion of available data and unconventional weighting of summary statistics.

To prevent such errors from working their way into public policy, the 19 authors of the *Science* paper recommend key changes. These changes include:

- Documenting and disclosing primary information about data collection and analysis.
- Preparing and registering [pre-analysis plans](#) to distinguish hypothesis testing from exploratory research. These written plans provide a step-by-step account of how a researcher will analyze data before he or she has seen the data.
- Archiving and sharing research materials, plans and data through open channels, enabling independent researchers to test and extend reported results. The materials can be made public when research is completed.

“Even if we believe that we already have enough self-correction in place, our research will be more credible if we institute these three approaches. We need to raise our game,” said UC Berkeley economist [Edward Miguel](#), the lead author of the *Science* article, “Promoting Transparency in Social Science Research.”

‘Publish or perish’

The authors largely blame a “publish or perish” reward structure for academics, saying the odds of getting a study paper published improve if a scholar can promise novel, “theoretically tidy” or statistically significant results rather than more nuanced, mixed or perplexing findings. They also blame scholarly journals and funders for lax oversight of mistakes and confusing information.

“The program suggested by our article would not fundamentally change the nature of social science,” said [David Laitin](#), a political science professor at Stanford University and a co-author of the article. “Rather, it would have small implications in the way we collect and report our data. It would also invite us to put more attention to



relatives, other human
ancestors

USA Today | December 18

Killer Eyes: Stopping Infections

Inside Science | December 17

Delta will forbid cell phone calls on
its flights

KLFD | December 18

UC Berkeley's new real estate boss
Lalanne prepares to take on
People's Park

San Francisco Business Times |
December 18

[Read the full daily digest »](#)

the replication of well-known findings rather than investigations of new factors. But these small changes in our practices could have large effects in revising what we thought were well-established findings.”



In a new article in the journal Science, 19 social scientists argue that greater transparency is critical to more open and credible research. (iStock photo)

Miguel said the push toward greater social science research transparency also has been influenced by increasing use of better research designs, new “big data” software tools, growing interest by governments and advocacy groups for evidence-based policy making, and public insistence on greater transparency.

Changes underway

A few institutions are already taking similar steps to those proposed in the Science article. The American Political Science Association adopted [guidelines](#) in 2012 making it an ethical obligation for researchers to back up their claims by making their data accessible and being clear about how they produce their results. Related measures have been taken by several psychological journals, the U.S. Office of Management and

Budget, and the American Economic Association, with its design [registry](#) of randomized trials.

Meanwhile, the [Center for Open Science](#) has established an online collaboration tool, called the [Open Science Framework](#), which enables research teams to easily register their hypotheses and pre-analysis plans, and to make public their data.

Several of the Science authors are members of the Berkeley Initiative for Transparency in the Social Sciences ([BITSS](#)), a network that launched a year ago at UC Berkeley to promote discussions and on transparency.

‘Discover and disseminate the truth’

BITSS members and Science co-authors [Leif Nelson](#) of UC Berkeley’s Haas School of Business, and [Joseph Simmons](#) and

Training the next generation

A summer 2014 workshop, sponsored by the Berkeley Initiative for Transparency in the Social Sciences (BITSS), will introduce graduate students, post-doctoral scholars and others to issues, practices and tools related to research

[Uri Simonsohn](#) of the Wharton School of the University of Pennsylvania wrote a related 2011 paper, "[False-positive psychology: Undisclosed flexibility in data collection and analysis allow presenting anything as significant.](#)"

"Our goal as scientists is not to publish as many articles as we can, but to discover and disseminate truth. Many of us—and this includes the three authors of this article—often lose sight of this goal, yielding to the pressure to do whatever is justifiable to compile a set of studies that we can publish," they wrote, adding that too often researchers convince themselves that the most publishable outcome must be the best.

The Science article authors maintain that rather than stifle creativity or create undue burdens for researchers, better transparency practices will improve the scientific integrity and impact of their work.

"An open science is a more credible science," said [Brian Nosek](#), a professor of psychology at the University of Virginia, a founder of the Open Science Framework and another of the *Science* article co-authors.

Categories: Business & economics, News, Press Release, Social science, Students

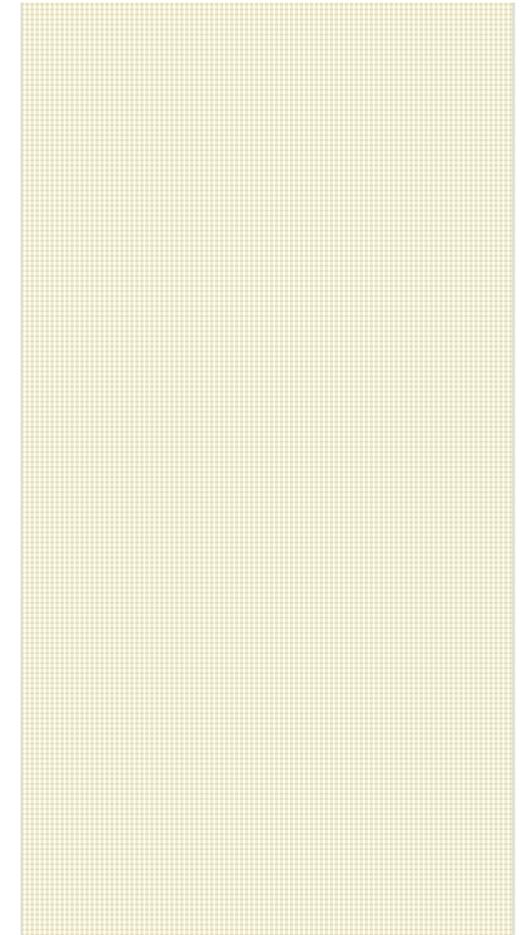
Tags: best practices, biostatistics, business, climate change, data access, development economics, evidence-based outcomes, evidence-based policy making, global warming, medical trial model, psychology, randomized controlled trials, research, social science, students, transparency

 Email      

transparency.

The workshop is designed to "train the next generation of social scientists in the best ways to conduct transparent empirical research," says UC Berkeley economics professor Edward Miguel, a BITSS founder.

The program can accommodate about 30 participants. For information, click [here](#).



[UC Berkeley](#) | [NewsCenter](#) | [Other campus news sites](#)

Subscribe: [Berkeleyan newsletter \(archive\)](#) | [Email](#) | [RSS](#) 

Copyright © 2014 UC Regents

Contact us | 510 / 642.3734

[Emergency info](#)