

PROFILES IN OPEN: DAVID YOKUM



DAVID YOKUM is an adjunct associate professor at Brown University, where he is establishing and directing a new center that will support applied public policy research with state and local governments. He is also a senior advisor to (and previously founding director of) The Lab @ DC in the Executive Office of the Mayor of the District of Columbia. Yokum was a founding member of the White House's Social and Behavioral Sciences Team and director of its scientific delivery unit housed at the General Services Administration. He conducted the first major randomized study on the use of police officer body cameras and its impact on use of force, funded in part by the Laura and John Arnold Foundation. More generally, his research aims to embed the scientific method into the heart of day-to-day governance, so as to produce timely, relevant, and high-quality evidence for decision-makers that, in turn, will improve communities. Dr. Yokum and his colleagues made their body camera research plan available in the pre-analysis phase, part of a commitment to research transparency across the life cycle of the project. Their pre-analysis plan publicly documented the study's data sources, how the variables would be constructed, and how their hypotheses would be tested. By setting out the project's details in advance of data collection and analysis, the plan facilitated stakeholder engagement and served as a public deterrent against data mining and specification searching.

What motivated you to adopt an open approach to your project design?

My background is in cognitive psychology, which has long been an incubator for open science issues. Beyond that, I am interested in how, after results are reported, people argue over evidence and conclusions. Using the pre-analysis plan was about research integrity, but also political integrity. You can imagine a world in which political actors pre-commit to a policy decision conditional on the results of an agreed upon research methodology. A pre-analysis plan helps get people on the record before data are in hand, and motivated reasoning can kick in. Being transparent up front helps a research team incorporate stakeholder input on value judgments, such as which questions are most important to ask or how much certainty is needed in measurements. With our project specifically, the pre-registration process helped engage the community as to what we planned to study, measure, and report. This increased the quality of the methodology and defused charges of biases that might have arisen when results were ultimately reported. It resulted in less post-hoc arguing over the methodology.

How did you make your research plans available?

We posted much of the project to the Open Science Framework (see <https://osf.io/p6vuh/>). This was largely unknown to our stakeholders at the time, so we also

did 15 community events before, during, and after the project to socialize the pre-analysis plan. This helped garner peer feedback on the science, and feedback on value judgments from various community members (which also had benefit of increasing support for the project overall). We wrote a white paper and created a user-friendly website to make the findings and data as accessible and understandable as possible (<https://bwc.thelab.dc.gov>). We also engaged with the press to help them understand what the study covered and found, and what it did not. The end result was that our work could be as accessible – to scientists and the general community – as possible. We have made the code for the project available, and the final data will be released once it is de-identified. We want to take great care here, so that we don't accidentally release confidential, personally identifying data to the public (a risk that, if not properly managed, could lead to an unduly conservative stance of never sharing data).

How did making your project design available impact further exploration of this topic?

Among the research team, making the pre-analysis public focused project management discipline. Publicizing the study design made the team more thoughtful about how the study was constructed. Often design is fluid until after data is gathered and preliminarily analyzed.

Given that making your project more open led to subsequent analysis and debate about your findings, does this experience make you more wary of open sharing?

I have been thrilled with how the process played out. Alternative interpretations and the uncovering of errors are feedback, even if they force us to adjust our thinking. No study answers everything. If you have an orientation that acknowledges shortcomings and what is out of scope, you can engage in a dialog that will ultimately benefit both your work and your career. In the end, uncovering replication issues is good for the field. There is no way to prevent social media trolling, or to hold policy makers to the

positions they may stake out. However, pre-registration and open data help inoculate against many pedantic criticisms, and can, in the future, lessen the leeway for politicians to change their minds based on unexpected research findings. It gets more on the record, more quickly, for both the researchers and the communities they serve.

What advice would you give to other researchers who are contemplating making their work more open?

Just do it. Much of the pushback is the result of either confusion or a negative social media experience.

The pros of make pre-analysis plans, code, and other materials open far outweigh the risks. Sharing some is better than sharing none, and we should not let the perfect be the enemy of the good. For example, we have not shared our data completely yet, as we are working to ensure the anonymity of our subjects. This should not hold up our sharing of our other materials.

What would you like to tell funders who are thinking about embedding open science principles into their grants?

Funders giving prescriptions may be coming from a good place, but it can still make life difficult for grantees. A discussion between funder and grantee about what is most appropriate for open sharing will have the best chance to generate an outcome that works for all parties, including the wider community. Carrots are better than sticks, because the latter don't change culture as quickly or effectively. Funders can and should provide support and insight in order to lower the barriers to sharing among researchers. Allowing researchers a very long window to extract value from the data slows down science and can and should be addressed by funders.

Do you have anything else to add on this topic?

Open sharing of methods and results can directly improve research integrity and serve the public's interest.

Additional Resources

Profiles in Open are a service of the Open Research Funders Group (ORFG). The ORFG is a partnership of funding organizations committed to the open sharing of research outputs. Visit our website (www.orfg.org) for more resources including:

- **"Open 101" Tip Sheets**, designed to help specific audiences understand the benefits of open science
- The **"HowOpenIsIt?" Guide to Research Funder Policies**, created to help philanthropic organizations develop open policies consistent with their values
- **The ORFG Curated Reading List**, containing a wealth of scholarly research and real-world case studies that demonstrate the myriad ways in which open access and open data benefit researchers and society alike