

# Doing Research

Lane Kenworthy

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*This is intended for students beginning a PhD program, but it might be of use for people at other stages as well.*

## BECOMING A GOOD SCIENTIST

Doing and conveying good science is an art. It requires motivation, skills, and experience. There are three main things you can do to get better at it:

1. Enlarge and deepen your skill set. This includes both methodological techniques and substantive knowledge of the issue(s) and case(s) you study.
2. Practice. Research and writing are like virtually everything else in life in that the more you do, the better at it you'll get.
3. Be an attentive consumer. Find articles and books that are especially good, and use them as models. Pay attention not only to their substance but also to the style of research, writing, and presentation.

Be patient. A career as a social scientist is a marathon, not a sprint.

## THE RESEARCH PROCESS

In the textbook description, research proceeds in chronologically separate stages: question → hypothesis → data collection → analysis → conclusion. In real life, it seldom occurs in exactly this order. Research almost always is an iterative process. Sometimes your question will shift halfway through the analysis. Sometimes the analysis leads to a new hypothesis, which then calls for a change in the analysis. And so on.

## RESEARCH QUESTION

A paper should be driven by a research question, not a topic. Topics are too broad, too vague.

Address one research question per paper. If you have more than one question, write more than one paper.

Pick a question that interests you. This sounds obvious, but often researchers pick a question for reasons of convenience — data availability, opportunity to use a particular methodological technique they've mastered, etc. Sometimes this works, but it's much easier to sustain focus through the inevitably lengthy process of analyzing, writing, and revising if you're genuinely fascinated by the topic.

Good research questions often come from careful, critical reading of others' research. So learn to read critically. When you read an article or book, try not only to understand but also to assess.

Asking a question that has interest beyond a narrow group of scholars tends to help with publication, though it isn't vital.

If you're doing an empirical study, look at the data as soon as possible, perhaps even before you settle on your precise research question. Don't wait until you've done everything else, because the data may force you to start over.

Expect that your question may change, slightly or substantially, during the course of your research.

Anticipate and address the "So what?" response. Why is your research question interesting? Why is it important?

## ANALYSIS

Don't skip the basics. A common tendency among quantitative researchers is to go straight to the regression (or other multivariate technique) without carefully examining the underlying characteristics or patterns in the data. This can lead to mistakes.

Start simple. Complexity may appear more impressive, but it shouldn't be introduced for its own sake.

If you can use more than one analytical approach or method or type of data, you may bolster confidence in your inferences (and impress

readers). This too, though, should only be done where it's genuinely appropriate.

Be systematic and thorough. This is what distinguishes science from journalism. Good journalists investigate and write about lots of interesting issues, and the information they convey can shed light on important questions. But journalists seldom have the time and/or skills to be especially systematic and thorough. You do (or will), so make use of them.

#### INFERENCES, CONCLUSIONS

Empirical findings alone are seldom enough to draw compelling inferences. You need a good theory — a causal mechanism.

Be upfront with readers about the types and degree of uncertainty — variable measurement, sample-to-population, specification, other.

Anticipate and address objections to your analysis and inferences.

#### WRITING AND PRESENTATION

Your writing and organization should be tailored, at least to some degree, to your audience. There are likely to be three kinds for you to choose among: (1) general academic; (2) specialist academic (readers with considerable knowledge of your issue or subfield); (3) non-academic.

State your research question clearly and early. Avoid a long wind-up before getting to the pitch. It may even help to use your research question as the paper's title.

I recommend using the conventional section organization for a research paper — introduction, prior research/hypotheses, data and methods, analysis/findings, discussion, conclusion — as your default. But don't feel constrained to follow this.

If you have a "literature review" or "prior research" section, organize the discussion around substantive points, not around articles or books or authors.

Write as you go. Don't read and read and read before starting to write. Writing early not only will make the first draft seem less daunting; it also will make your reading more efficient and effective. Your reading will

have more direction and purpose, and you'll be better able to decide what *not* to read.

Complex, hard-to-understand prose is not a virtue. Some academics think challenging prose = intellectual sophistication. That's rarely true. If you've got something interesting and important to say, say it clearly so that as many readers as possible can understand it.

Verbosity, too, is not a virtue. Be as brief as you can while doing justice to the issue, analysis, findings, and implications. Don't take 40 pages to say what can be conveyed in 20. And don't take 20 pages to say what can be conveyed in 10.

Where possible, use graphs instead of tables. For most readers (and authors), patterns in the data are easier to spot and understand in graphical form.

Good writing comes with practice. So write as often as you can. Write not only papers, books, and grant proposals but also notes, memos, and book reviews (maybe even blog posts and op-eds). The more you do it, the better you'll get.

Going from zero pages to one page is the most difficult step in writing. But don't use that as an excuse. Just write something. Then the next day write a little more. Don't begin with the introduction; start with something easier, like the data and methods section.

Revise, revise, revise. When we read someone who writes well, we tend to imagine that their elegant prose just spills out onto the page. Actually, most good writing is a product of extensive revision.

#### WORTH READING

Booth, Wayne C., Gregory G. Colomb, and Joseph M. Williams. 2008. *The Craft of Research*. Third edition. University of Chicago Press.

Cleveland, William S. 1994. *The Elements of Graphing Data*. Hobart Press.

Munger, Michael C. 2010. "Ten Tips on How to Write Less Badly." *Chronicle of Higher Education*, [chronicle.com/article/10-Tips-on-How-to-Write-Less/124268](http://chronicle.com/article/10-Tips-on-How-to-Write-Less/124268).

Zinsser, William. 2006. *On Writing Well*. HarperCollins.