Scientific Literature Reviews 101

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1 What is a *Scientific* Literature Review?

A scientific literature review is a *focused*, *systematic*, and *critical synthesis* of key research conducted on a given topic.

- *Focused*: Literature reviews present and assess findings that pertain to a clearly defined research question. You could do a literature review on informal caregiving, but that may take you a book or fourteen. Informal caregiving across the world, in Europe, or in Vienna, VA? What in particular about informal caregiving do you want to understand? Are you interested in how caregiving impacts caregivers, or in interventions addressing caregiver burden? If the former, are you talking about economic consequences due to reduced work hours, or about mental health implications? Starting with a clealy defined research question—not too broad, not too narrow—is key to a feasible, informative, and effective literature review. More on writing research questions.

- *Systematic*: Literature reviews are conducted in an organized and methodical way. Rather than haphazardly browsing journals, reading literature vaguely related to a question, and jotting down random thoughts, you will need to devise you search strategy and identify key search terms in advance, establish a review procedure, keep a record of your search, reading, and findings, and logically organize the written synthesis of your work. View the PRISMA checklist and flow diagram, and these helpful guidelines for writing systematic reviews.

- *Critical*: A literature review should evaluate and offer a critical perspective on the studies under consideration. It is important to sum up the key findings of studies that were conducted on the topic, but you should devote equal attention to addressing study limitations. Your write-up should educate the reader on the state of the literature and set the context for your inquiry, but also explain what's missing or limited in existing research on your particular problem. Here are some tools to help you assess study quality.

- *Synthesis*: The literature review should logically lead up to your research question. You should avoid summarizing papers one after another; instead, integrate your review findings in a logical, coherent way that ultimately explicates the contribution your research will make to "fill the gap" in the existing literature.

2 Literature search

2.1 Selecting databases

Databases are collections that index many scientific journals and books.

You can access the databases available at UVA here. What sources are best to use depends on your topic and discipline; picking the right databases and highest quality journals is a skill that develops with time. Here is a narrowed-down selection of databases most relevant for social science and health research:

- Academic Search Complete
- Annual Reviews
- Business Source Complete
- EBSCOHost Databases
- Environment Complete
- ERIC
- GreenFILE
- Health Source
- JSTOR
- Journals@OVID Full Text
- Medline
- OVID
- Political Science Complete
- ProQuest
- PsycNET
- PubMed
- PubMedCentral
- ScienceDirect
- SocINDEX with Full Text
- SpringerLink
- SSRN
- The Cochrane Library
- Wiley Online Library

Not every published paper is a good paper. Beyond factors discussed on page 1, you can use journal quality indicators like impact factors to get a (very) rough idea of study quality. Use the following two databases to look up journal quality indicators:

- Journal Citation Reports
- Science Citation Index

2.2 Devising search queries

Database search engines typically take the following operators along with search terms:

- Search order: (,)
- Exact search: "text"
- Boolean operators: AND, OR, NOT
- Truncation and wildcards: ?, #, *
- Proximity operators: N#, W#

3 Citations and bibliographies

Whatever style you use, use it consistently. Some common ones are APA, Chicago, and MLA (see page sidebar).

4 Tools

- Bibtex
- Zotero