Literature Review

What is a literature review?

- Examination of the body of work that has been written about your topic
  - In this context, it is a VERB (but it can also be a NOUN)
- Why do I need to do it?
  - To understand the state of knowledge on your topic
  - You must do this because others have researched something along the same lines as what you are interested in
  - So you will be able to learn what methodologies, theories, or models others have applied to your research question
- It will help you ask your question better
- To refine (narrow, expand, focus, modify) your own research question
- To contribute to your area with something new, which is science!
- It is the way you always introduce your topic, which you will be writing
  - Helps you create your argument as to why this is important
- It helps you interpret what you results are (later)
  - It gives you the context to evaluate your results

What are the two main sources of scientific literature?

Primary source literature

- Journal articles reporting study results – a researcher did a literature review, had data, analyzed it, and wrote up results in context.
- This is what you will be doing later, in poster form.

Secondary source literature

- Textbooks, handbooks, review papers, theoretical articles, magazines and newspapers (you CANNOT use these as a source for your paper)
- What are some problems with secondary source literature?
  - Can describe or interpret results incorrectly
  - Can leave out important details

How can you tell if it a primary source?

- It has a title, abstract, introduction, method (with participants), results, discussion, and reference list.
  - What would "participants" look like for field biology research? Chemistry?

A few tips for your literature search

- Try to use articles that are published within the last 5-10 years
- Read the abstract, if sounds similar to your topic, read the participants, methods, and discussion at a glance then decide if you should keep or not

- As you read the literature, there should be an exchange between your research question and what you are learning.
- The articles you are reading about should inform you about the association you are interested in testing.
  - Allows us to see what we KNOW and what we DO NOT KNOW
- Give special attention to the "future research" sections of the articles that you read.
- Try to find a few articles that are looking specifically what you are looking at in terms of the association between your two specific topics.
  - This will tell you what we already know and the "future research" in the discussions and conclusions sections will tell you questions that need more research.
  - If you can look at an association that has recently been identified as "area for future research" we have hit the jackpot in terms of topics.
- How to read a journal article [PDF]