

Evaluating Evidence Tool

Reasoning & Reflection



Name: _____ Group Name: _____ Date: _____

EVALUATING EVIDENCE

Let's say you are on a mission to find out more information about a particular thing that is important to you. For example, that information could be "Does drinking coffee reduce my risk of a heart attack?" "How does Instagram influence my social life?" "What treatments are effective for opioid addiction?" Or it could be your assigned criterion and option that you are researching for SCIL 101. You read a bunch of information on general websites from different non-profit organizations, news outlets and sources like Wikipedia to get a general understanding of the issue. Then, you took a deeper dive by tracking down the primary source of information mentioned in news articles, and you searched on Google Scholar to find some peer-reviewed journal articles and other technical information. Now what? How do you make sense of what you found?

This tool, as well as the Synthesize Evidence Tool, will support you as you learn this challenging skill. Even if you are not an expert in a particular topic, there is still useful information that you can pull out of peer-reviewed journal articles and other technical information. Knowing just a handful of strategies for "where to look" for the important bits of information and some basic ways to evaluate the evidence, will allow you to be a savvy consumer of scientific information and empower you to know when and how to apply scientific evidence to everyday problems in your professional and personal life.

1) (1 point) What is the question that you are investigating? (in other words, what is the criteria and option that you are investigating?) Write this as a question, for example, "If we encourage private and non-profit food bank donations, will we reduce the poverty rate in the U.S.?"

2) (1 point) What is the article or report that you are evaluating? Give a full citation here (in APA format):

3) (2 points) Has this article or report been peer-reviewed? How do you know? (Hint: go to the publication's main page. Look for information for authors that may describe the process authors must go through to publish an article in that journal. It often describes the peer-review process.)

4) (2 points) Where do the authors work? Do they appear to be credible scientists who are experts in the topic that they are writing about? (Hint: authors' institutional affiliations are typically listed either directly below the authors' names or as a footnote on the first page of the article.)

5) (2 points) How is the research funded? Are there any conflicts of interest? (Hint: in peer-reviewed journal articles you can usually find information about funding in the "Acknowledgments" section.)

6) (3 points) What are the main findings of the study? (Hint: the abstract usually summarizes the main findings, but they can also be found in the "Discussion" or "Conclusions" sections.)

7) (2 points) What kind of evidence is in the report (in other words, how did they collect the data)? What is the sample size? (Hint: look in the methods section)

8) (1 point) Is this study a correlation study, an experiment, a model, a meta-analysis, or an observational study?

9) (2 points) Because of the type of study (correlation, experiment, model, meta-analysis, or observation), what are some of the limitations of this type of data?

10) (4 points) What is known, and not known? What do scientists generally agree on, and what are areas of uncertainty? (Hint: authors usually review what is known and not known in the introduction. They usually discuss certainties remaining, or limitations of their own evidence somewhere in the conclusions.)