Systematic Literature Review

weekly_readings #week-2/reading-1 #my-notes-755

- If this situation were not complex enough, research exploring the same question often produces varying or even conflicting findings that could potentially be due to a range of factors.
- Literature reviews, particularly systematic reviews, are the proposed solution to this complexity
- Literature reviews potentially provide a means of making sense of vast quantities of scientific information and are often highly cited and influential
- This article focuses on systematic reviews (sometimes referred to as research syntheses or research reviews), a particular type of literature review that is characterized—as the name suggests— by a methodical, replicable, and transparent approach.

Why conduct a Literature review?

Two main reasons:

1. synthesize a body of evidence on a topic in order to achieve robust and broad conclusions and implications (Baumeister 2013)
2. A literature review is usually expected in some form or another at most levels of academic study to demonstrate a student's knowledge of a research topic

Common misunderstandings about Literature Reviews

Literature Reviews Versus Reviewing Literature

Reviewing Literature: selectively discussing the literature on a particular topic to make the argument that a new study will make a new and/or important contribution to knowledge.
Literature Reviews: provide a comprehensive synthesis of the available evidence to allow the researcher to draw broad and robust conclusions

Vote Counting

What is Vote Counting?

Assigning one of three outcomes (positive, negative, or no relationship) to each study in a review based on that study's statistical significance.

Why even consider Vote Counting:

The basic idea is that a research hypothesis is deemed to be supported if a large proportion of studies on a topic find a statistically significant effect *(Bushman 1994, Hedges & Olkin 1980)*

Problem with Vote Counting:

- It does not take into account sample size, which affects statistical power and the precision with which a sample is representative of the population of interest
- It does not provide an estimate of the size of an effect

What is SYSTEMATIC REVIEW ?

> "A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review" *(Cochrane Collab. 2003)*

- A special type of literature review
- Characteristics: methodical, comprehensive, transparent, and replicable.
- Aim to minimize subjectivity and bias

Key Stages in conducting a Systematic Review

(1) Scoping

- Formulate one or more research questions
- Consider the breadth of review
- Clarify whether a review has already been done in this area
- Become familiar with the literature
- Updating an existing literature review

(2) Planing

- Formulate unambiguous search terms
- Consider different terminology

- Formulate preliminary inclusion and exclusion criteria
- Justify inclusion and exclusion criteria
- Revisit and reflect on inclusion and exclusion criteria
- Borderline cases
- Create clear record-keeping systems and keep consistent and meticulous records
- Adhere to recommended reporting standards

(3) Identification (Searching)

- Search at least two different electronic databases
- Inter-rater reliability
- Carefully inspect the search results
- Conduct additional searches to ensure that all potentially relevant published and unpublished work has been located
- Publication Bias
- Locating unpublished work
- Search for gray literature

(4) Screening

- Export references to a citation manager to collate the search results
- Read the title and/or abstract of identified work

(5) Eligibility

- Sift the full-text version of potentially eligible articles
- Extract all potentially relevant information.

(6) Study Quality

- Selecting a tool to assess study quality
- Problems with study quality tools

Presenting a Systematic Review

(1) Introduction

(2) Method

- Discuss boderline cases

- Present a flow diagram

(3) Results

- Do not simply summarize but offer a new, improved understanding of the phenomena
- Zoom out
- Presenting qualitative findings
- Counterexamples

(4) Discussion

- Summarize the literature's progress
- Appendices