Scoping review search practices in the social sciences: A scoping review protocol

Administrative information

Registration

This protocol is available in Open Science Framework (<https://osf.io/27chv>).

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Contributions

Role	JL	JW	NS	BW	NT	MW	APA
Conceptualization	x	x	x				x
Data curation		x					
Formal analysis	x	x		x			x
Funding acquisition	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Investigation	x	x	x	x	x	x	x
Methodology	x	x	x				x
Project administration	x						
Resources							
Software	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Supervision	x						x
Validation	x			x			x
Visualization		x					
Writing – original draft	x	x	x	x	x	x	x
Writing – review & editing	x	x	x	x	x	x	x

Amendments

This version of the protocol (Version 2.0) has updates to the search strategy. See Appendix B for revisions.

Support

This project has received no outside financial support.

Introduction

Rationale

Scoping reviews are a type of knowledge synthesis that aims to provide an overview of the available scope and volume of evidence on a given topic. For the purposes of this study, “knowledge synthesis” refers to any study type that follows an a priori project plan, called a protocol, to systematically collect the literature on a given topic, evaluate its suitability through a rigorous screening process, and synthesize in a manner appropriate to the included study types. Knowledge syntheses can also be referred to by the terms methods-driven reviews or evidence syntheses. Common types of knowledge syntheses include scoping reviews, systematic reviews, rapid reviews, or meta-analyses. Colquhoun et al. (2014) propose the following definition of scoping reviews: “a form of knowledge synthesis that addresses an exploratory research question aimed at mapping key concepts, types of evidence, and gaps in research related to a defined area or field by systematically searching, selecting, and synthesizing existing knowledge” (pp. 1292–1294). Scoping reviews allow researchers to synthesize findings from a variety of study types including both quantitative and qualitative approaches. This flexibility has likely contributed to its growing popularity; Tricco et al. (2016) showed a clear growth in the number of scoping reviews published between 1999 and 2014.

Scoping reviews have become an attractive review type in social science disciplines where a breadth of methodological approaches is used to investigate questions about social phenomena¹. In the social science context, scoping review methods have been used to explore the aspects of a flipped classroom model that contribute to an improved student learning experience (O’Flaherty & Phillips, 2015); summarize and discuss research findings on gender differences in the context of dementia care and through a feminist citizenship lens (Bartlett et al., 2018); and map and synthesize the literature on assessment in social work education and training in mental health, addictions, and suicide risk (Kourgiantakis et al., 2020).

Experts in searching and information retrieval, library and information science (LIS) professionals, are ideal collaborators on knowledge syntheses (McGowan & Sampson, 2005). Rethlefsen et al. (2015) found a correlation between LIS participation in reviews and the quality of the review’s reported search strategy. When LIS professionals were co-authors, the researchers observed a strong correlation with both the comprehensiveness of the database search strategy and with search methods that reduce bias such as grey literature searching, hand searching, and including non-English publications. Spencer and Eldredge (2018) describe a lengthy list of roles that LIS professionals can play to support knowledge

¹ It is well outside the scope of this review to examine the application of knowledge syntheses, such as scoping reviews to research in the social sciences. However, given that we seek to understand the practices and patterns across disciplines it is worth noting that there are many valid critiques of knowledge syntheses within the social sciences (for example, Hammersley, 2001) as well as calls for critical approaches to knowledge synthesis methods (for example, Dalmer, 2020).

syntheses in addition to designing the search strategies, such as source selection, planning, question formulation, and teaching.

There are far more knowledge syntheses being published than the LIS profession can participate in, however. Aamodt et al. (2019) found that only 1.23% of systematic reviews had an LIS professional as a co-author or mentioned in the acknowledgements. The profession is responding to this overwhelming need by starting to include support for knowledge syntheses in job descriptions and duties. 64% of Crum and Cooper's (2013) survey respondents reported that support for systematic reviews was either recently added to their job roles or would be added shortly. Services dedicated to knowledge synthesis support and co-authorship within libraries are also growing (Dalton, 2019; Luca & Ulyannikova, 2020; Kallaher et al., 2020). Demeules et al. (2016) reported that librarians' supervisors valued co-authorship in systematic reviews more than credit in the acknowledgements for promotion and tenure, potentially incentivizing more involved forms of participation.

While the participation of LIS professionals in systematic reviews has been well studied (Aamodt et al., 2019; Meert et al., 2016; Koffel, 2015; Ross-White, 2016), scoping reviews have received less attention. Murphy & Boden (2015) found the scoping reviews were the second most common review type in which Canadian health sciences librarians had been involved. Morris et al. (2016) reiterated that LIS professionals have much to contribute to a scoping review's research question formulation and search strategy development. This study seeks to explore this gap in the literature.

Objectives

The aim of this scoping review is to explore the disciplinary spread of scoping reviews in the social sciences, the search practices used in these reviews, and the participation of LIS professionals. This will be accomplished by answering the following research questions:

1. Which social science disciplines are publishing scoping reviews?
 - a. How do the number of reviews published vary by discipline?
 - b. How many reviews were published between 2015 and 2020?
 - c. What other publication patterns, if any, can be observed?
2. What are the general search practices in these reviews?
 - a. Which (and how many) databases are searched?
 - b. To what extent are non-database study retrieval strategies used? (e.g., hand searching, grey literature searching, contacting experts, citation chaining)
3. How are librarians or information professionals involved in social science scoping reviews?
 - a. To what extent are they listed as an author on the review?
 - b. To what extent are they mentioned in the article text or credited in the acknowledgements?

Methods

The protocol for our scoping review was developed based on the PRISMA-P guideline by Shamseer et al. (2015). A full checklist is available in Appendix A.

We will adhere to the JBI scoping review methods developed by Peters et al. (2020), based on Arksey & O'Malley's framework (2005), with enhancements by Levac et al. (2010). The scoping review will be reported using the PRISMA-Scr guideline by Tricco et al. (2018).

Eligibility criteria

Studies selected for inclusion in this review will meet the following criteria:

Study types

We will include knowledge syntheses that self-identify in the title or abstract as any of the following:

- Scoping studies
- Scoping reviews
- Scoping syntheses
- Scoping analyses
- Scoping overviews
- Scoping exercises
- Scoping searches

Not all retrieved studies that self-identify as one of the above terms will adhere to existing criteria or definitions of scoping review studies, such as Arksey and O'Malley's (2005) early articulations of the method or Levac et al.'s (2010) advancements. Given the growth of scoping methods in the social sciences, our focus in this review is not on the evaluation of studies gathered, but rather, on the spread of scoping studies in the social sciences literature.

Similarly, we will not examine reviews that follow scoping review frameworks or methodologies, but identify themselves as something other than scoping reviews. "Mapping reviews" and "correlate reviews" are examples. Our project does not evaluate the extent to which studies adhere to scoping review frameworks and methodologies. Therefore, we will not seek to find or include studies that label themselves as something else. This is a limitation of our study. However, it is reasonable given that our research questions seek to examine the disciplinary spread, search practices, and LIS involvement in scoping reviews. Other researchers may wish to continue Tricco et al.'s (2016) investigation of studies that employed scoping review methods regardless of how the projects were labelled.

Protocols for scoping reviews will not be included.

Social Sciences

We recognized the difficulties inherent in trying to draw precise boundaries around what constitutes the literature of the social sciences. It is outside the scope of our expertise to develop a definition that would allow us to make case-by-case determinations about the vast array of journal titles could fall into more than one area of study. Instead, we decided to proceed with an existing and robust definition to frame our review, the Social Science Citation Index (SSCI). We recognize this decision will limit our search and potentially omit important social sciences journals as well as contributions from social scientists published in other fields. However, SSCI will provide strong coverage that will reflect general patterns across social sciences in addressing our research questions.

We will use the Social Science Citation Index (SSCI) to determine the discipline of the studies to be included. Relying on SSCI rather than our own method for determining the discipline of each source allows us to avoid introducing further bias in the classification and selection of journals. Web of Science employs unaffiliated editors who are experts in each subject category who determine a journal's

appropriateness for SSCI and its subject categorization using defined criteria (Clarivate, n.d.). There is an appeal process if researchers raise concerns about a journal's inclusion or classification within the index.

We will include studies that have been published in a journal that is classed *exclusively* in an SSCI category. These categories are as follows:

- Anthropology
- Area studies
- Business
- Business, finance
- Communication
- Criminology & penology
- Demography
- Development studies
- Economics
- Education & educational research
- Education, special
- Environmental studies
- Ergonomics
- Ethics
- Ethnic studies
- Family studies
- Geography
- Gerontology
- Health policy & services
- History of social sciences
- Hospitality, leisure, sport & tourism
- Industrial relations & labor
- Information science & library science
- International relations
- Law
- Linguistics
- Management
- Political science
- Psychology, applied
- Psychology, biological
- Psychology, clinical
- Psychology, developmental
- Psychology, educational
- Psychology, experimental
- Psychology, mathematical
- Psychology, multidisciplinary
- Psychology, psychoanalysis
- Psychology, social

- Public administration
- Regional & urban planning
- Social issues
- Social sciences, biomedical
- Social sciences, interdisciplinary
- Social sciences, mathematical methods
- Social work
- Sociology
- Transportation
- Urban studies
- Women's studies

Studies by social science researchers that are published in science, arts, or humanities journals will be excluded. Studies that are published in journals that are categorized in both SSCI and in Science Citation Index Expanded (SCIE) will be excluded. These are:

- Green & sustainable science & technology
- History & philosophy of science
- Nursing
- Psychiatry
- Public, environmental & occupational health
- Rehabilitation
- Substance abuse

Similarly, studies published in journals categorized in both SSCI and in Arts & Humanities Citation Index (AHCI) will be excluded:

- Cultural studies
- History
- History & philosophy of science

If a scoping review is published in a journal that bears multiple SSCI, SCIE, or AHCI categories, it can be included provided at least one of those categories is exclusive to SSCI. For example, if the journal is categorized in Area studies (SSCI) and Cultural Studies (SSCI and AHCI), the study can be included. If the journal is categorized in Cultural Studies (SSCI and AHCI) and History & Philosophy of Science (SSCI, SCIE, and AHCI), however, it must be excluded because neither category is exclusive to SSCI.

Publication types

We will only include completed scoping reviews. These can be published in any source that is indexed in SSCI. This will exclude pre-prints, grey literature, dissertations, and theses.

Dates

Studies published between January 1, 2015 and December 31, 2020 will be eligible. We selected 2015 as the beginning of our eligibility period because Tricco et al.'s (2016) study reviewed scoping reviews published between 1999 and 2014. Our review intends to resume examination where the work of Tricco et al. ended. 2020 is the most recent complete year, making it a logical end date.

Language

We will only include studies published in English.

Information sources

We will search only Social Science Citation Index (SSCI) through Web of Science's (WoS) Core Collection. The decision to select one database, while uncommon in scoping reviews, is warranted in this specific case. SSCI indexes over 3,000 social sciences journals from 1988 to present, from 58 identified disciplines. Our inclusion criteria dictate that included studies must be published in journals classed exclusively in an SSCI category. Searching additional databases is therefore unnecessary because all SSCI indexed content is available within the WoS Core Collection. Another reason for not choosing other databases is that they do not map the sources of their content to SSCI categories.

Search strategy

We will search the topic (TS) field for variations of "scoping reviews." The topic field is an aggregate of the title, abstract, author-supplied keywords, and Keywords Plus fields. This search was peer reviewed by an LIS professional not on the research team using the Peer Review of Electronic Search Strategies (PRESS) framework (McGowan et al., 2016). The final

(TS=((study OR studies OR review* OR synthe* OR analy* OR overview* OR exercise* OR search*)
NEAR/2 scoping))

We tested proximity numbers NEAR/4, NEAR/3, NEAR/2, and NEAR/1 by comparing the result set for each search using the Boolean NOT operator and analyzing each excluded study. NEAR/4 and NEAR/3 returned 142 results, which, upon examination were not scoping reviews. NEAR/1 returned a scoping review in its 126 results and was therefore deemed too precise. We concluded that NEAR/2 offered the best balance of precision and sensitivity.

Search results will be refined to include only articles from journals classed exclusively in the SSCI categories previously listed. The language limit will be set to English and the timespan will be set to between 2015 and 2020 inclusive. We will use PRISMA-S developed by Rethlefsen et al. (2021) to report all search strategies.

The complete search strategy is available in Appendix B, Full SSCI search strategy.

Study records

Data management

All search result citations will be uploaded to Covidence for screening. The team will keep an archive of the citation files in RIS format for information security. Lead by APA, the team will develop first and second level screening forms to operationalize the inclusion and exclusion criteria. We will pilot test these using a sample set of articles.

Study selection process

First, we will perform a calibration exercise on a random sample of studies to ensure that there is agreement about the inclusion and exclusion criteria. Once the team reaches 90% inter-reliability, two independent reviewers will screen titles and abstracts of all articles once duplicates are removed. Disagreements for the first level of screening will be resolved by discussion amongst pairs of reviewers or by a third reviewer. Following the completion of title and abstract screening, the team will perform

another calibration exercise for full-text screening, with the goal of reaching 90% inter-rater reliability. The full-text of the remaining studies will be screened by independent reviewer pairs for compliance with eligibility criteria. Conflicts for full-text screening will be resolved via discussion by two independent reviewers or by a third reviewer. Covidence, will be used for the first and second levels of screening.

Data collection process

Independent reviewer pairs will assess each eligible study using a structured data extraction form. The data abstraction form will be developed a priori by one reviewer (APA), tested by all team members independently, and then revised based on provided input. Independent reviewer pairs will chart the data, and then compare their decisions to identify and discuss discrepancies which will be resolved through consensus.

Data items

The extracted data will include report characteristics such as first author, year of publication, publication type, location, and discipline which will be determined by matching the study's journal to its disciplinary categorization(s) in SSCI using Excel. We will manually extract the number and names of bibliographic databases used, supplementary search strategies (e.g., citation searching, hand searching, contacting experts, and grey literature searching) used, and the number of search results retrieved from each strategy, if available. We will also extract the involvement of a LIS professional, either as a co-author or a mention in the text of acknowledgement section of the study.

Outcomes and prioritization

No outcomes will be sought.

Risk of bias in individual studies

Risk of bias will not be assessed.

Data synthesis

Descriptive analyses will map the number of scoping reviews published in each SSCI category, the publication source, the extent of LIS participation, the databases and supplementary search methods used, and the number of search results retrieved. We will also determine the most common databases and supplementary search methods for each SSCI category.

If enough data is extracted, we will perform a meta-analysis to determine if LIS participation increased the number of databases searched, supplementary search methods, and overall articles retrieved.

Meta-bias(es)

Meta-biases will not be assessed.

Confidence in cumulative evidence

The strength of the body of evidence will not be examined.

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Appendix A: PRISMA-P Checklist

This checklist has been adapted for use with protocol submissions to *Systematic Reviews* from Table 3 in Moher et al. (2015).

Section/topic	#	Checklist item	Information reported on page #
ADMINISTRATIVE INFORMATION			
Title			
Identification	1a	Identify the report as a protocol of a systematic review	1
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	N/A
Registration	2	If registered, provide the name of the registry (e.g., PROSPERO) and registration number in the Abstract	1
Authors			
Contact	3a	Provide name, institutional affiliation, and e-mail address of all protocol authors; provide physical mailing address of corresponding author	1
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	1
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	N/A
Support			
Sources	5a	Indicate sources of financial or other support for the review	2
Sponsor	5b	Provide name for the review funder and/or sponsor	N/A
Role of sponsor/funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	N/A
INTRODUCTION			
Rationale	6	Describe the rationale for the review in the context of what is already known	2
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	3
METHODS			
Eligibility criteria	8	Specify the study characteristics (e.g., PICO, study design, setting, time frame) and report characteristics (e.g., years considered, language, publication status) to be used as criteria for eligibility for the review	4-7
Information sources	9	Describe all intended information sources (e.g., electronic databases, contact with study authors, trial registers, or other grey literature sources) with planned dates of coverage	7
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	14
Study records			
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	7
Selection process	11b	State the process that will be used for selecting studies (e.g., two independent reviewers) through each phase of the review (i.e., screening, eligibility, and inclusion in meta-analysis)	7-8
Data collection process	11c	Describe planned method of extracting data from reports (e.g., piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	8

Data items	12	List and define all variables for which data will be sought (e.g., PICO items, funding sources), any pre-planned data assumptions and simplifications	8
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	8
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	N/A
Data			
Synthesis	15a	Describe criteria under which study data will be quantitatively synthesized	8
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data, and methods of combining data from studies, including any planned exploration of consistency (e.g., I^2 , Kendall's tau)	8
	15c	Describe any proposed additional analyses (e.g., sensitivity or subgroup analyses, meta-regression)	8
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	8
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (e.g., publication bias across studies, selective reporting within studies)	N/A
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (e.g., GRADE)	N/A

Appendix B: Full SSCI search strategy (revised, May 19, 2021)

((TS=((study OR studies OR review* OR synthe* OR analy* OR overview* OR exercise* OR search*) NEAR/2 *scoping))) AND LANGUAGE: (English)

Refined by: WEB OF SCIENCE CATEGORIES: (ANTHROPOLOGY OR AREA STUDIES OR BUSINESS OR BUSINESS FINANCE OR COMMUNICATION OR CRIMINOLOGY PENOLOGY OR DEMOGRAPHY OR DEVELOPMENT STUDIES OR ECONOMICS OR EDUCATION EDUCATIONAL RESEARCH OR EDUCATION SPECIAL OR ENVIRONMENTAL STUDIES OR ERGONOMICS OR ETHICS OR ETHNIC STUDIES OR FAMILY STUDIES OR GEOGRAPHY OR GERONTOLOGY OR HEALTH POLICY SERVICES OR HISTORY OF SOCIAL SCIENCES OR HOSPITALITY LEISURE SPORT TOURISM OR INDUSTRIAL RELATIONS LABOR OR INFORMATION SCIENCE LIBRARY SCIENCE OR INTERNATIONAL RELATIONS OR LAW OR LINGUISTICS OR MANAGEMENT OR POLITICAL SCIENCE OR PSYCHOLOGY APPLIED OR PSYCHOLOGY BIOLOGICAL OR PSYCHOLOGY CLINICAL OR PSYCHOLOGY DEVELOPMENTAL OR PSYCHOLOGY EDUCATIONAL OR PSYCHOLOGY EXPERIMENTAL OR PSYCHOLOGY MATHEMATICAL OR PSYCHOLOGY MULTIDISCIPLINARY OR PSYCHOLOGY PSYCHOANALYSIS OR PSYCHOLOGY SOCIAL OR PUBLIC ADMINISTRATION OR REGIONAL URBAN PLANNING OR SOCIAL ISSUES OR SOCIAL SCIENCES BIOMEDICAL OR SOCIAL SCIENCES INTERDISCIPLINARY OR SOCIAL SCIENCES MATHEMATICAL METHODS OR SOCIAL WORK OR SOCIOLOGY OR TRANSPORTATION OR URBAN STUDIES OR WOMEN S STUDIES)

Rationale for search strategy revision

When conducting the first screening of a test set of 100 results, some were found to not be scoping reviews, but were retrieved because their abstracts contained phrases such as:

- "Scope of the study"
- "Scope for these studies"
- "Scope of sustainability studies"
- "Study expands the scope"
- "Reviewing the scope"
- "Analyzes the scope"
- "Analyzing the scope"

While these results fit with our use of the proximity operator N/2, we used the word 'scoping' not 'scope' or 'scop*' in the search.

Upon further investigation as to why results such as these were retrieved, we found that Web Of Science employs automatic lemmatization:

The product automatically applies lemmatization rules in Topic and Title search queries. Lemmatization only applies to English-language search terms. However, left-hand truncation automatically turns off lemmatization in some types of queries.¹

¹ Retrieved from WOS website on May 19, 2021:

https://images-webofknowledge-com.myaccess.library.utoronto.ca/WOKRS535R111/help/WOS/hp_invalid_left_hand_truncation.html

Running the search with lemmatization turned off significantly decreased the number of results as follows:

	Full set	Refined to our categories
Lemmatization ON scoping	6477	2718
Lemmatization OFF *scoping	5106	1838