Evidence Synthesis: An Overview Workshop

Session Outline

- Overview
- Review Types
- Covidence
- Review Research Process
- Question Development
- Searching
- Review/screening
- Data extraction
- Quality assessment
- Synthesis
- Questions and Discussion

Overview

What are Systematic Reviews

"A systematic review is a review of a clearly formulated question that uses **systematic and reproducible methods** to identify, select and critically appraise all relevant research, and to collect and analyze data from the studies that are included in the review."

Curtin Library URL: https://libguides.library.curtin.edu.au/systematic-reviews

"The purpose of a systematic review is to sum up the best available research on [a specific, pre-defined] question. Reviews can also show when there has not been enough research carried out, and where more research is needed."

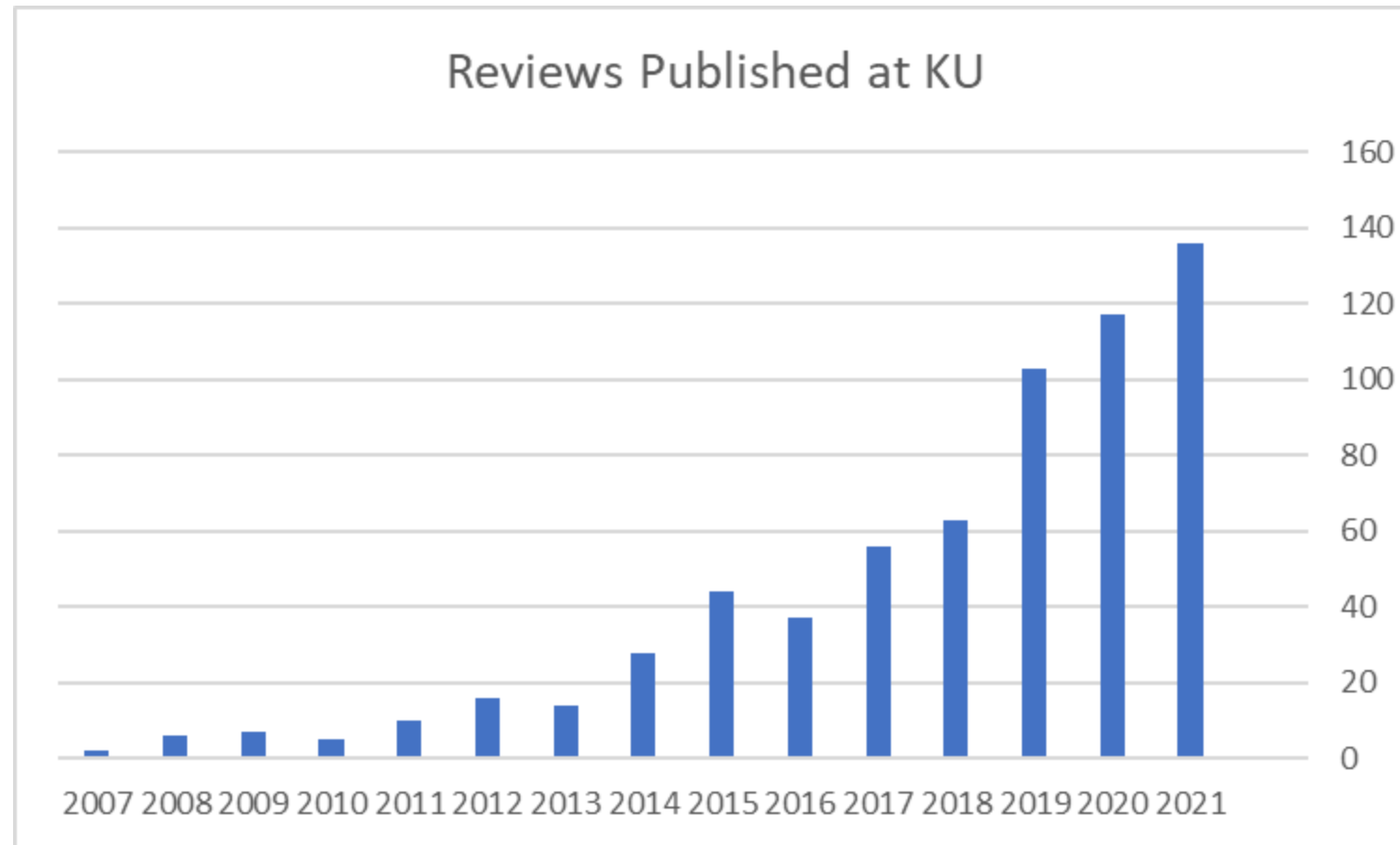Campbell Collaboration https://www.campbellcollaboration.org/

Why Systematic Reviews?

- Combine the power of individual studies (Increase sample size)
- Reduce bias
- Aids in decisions about policy, clinical, and research agendas

Who Does Reviews

Evidence synthesis is a growing methodology at KU
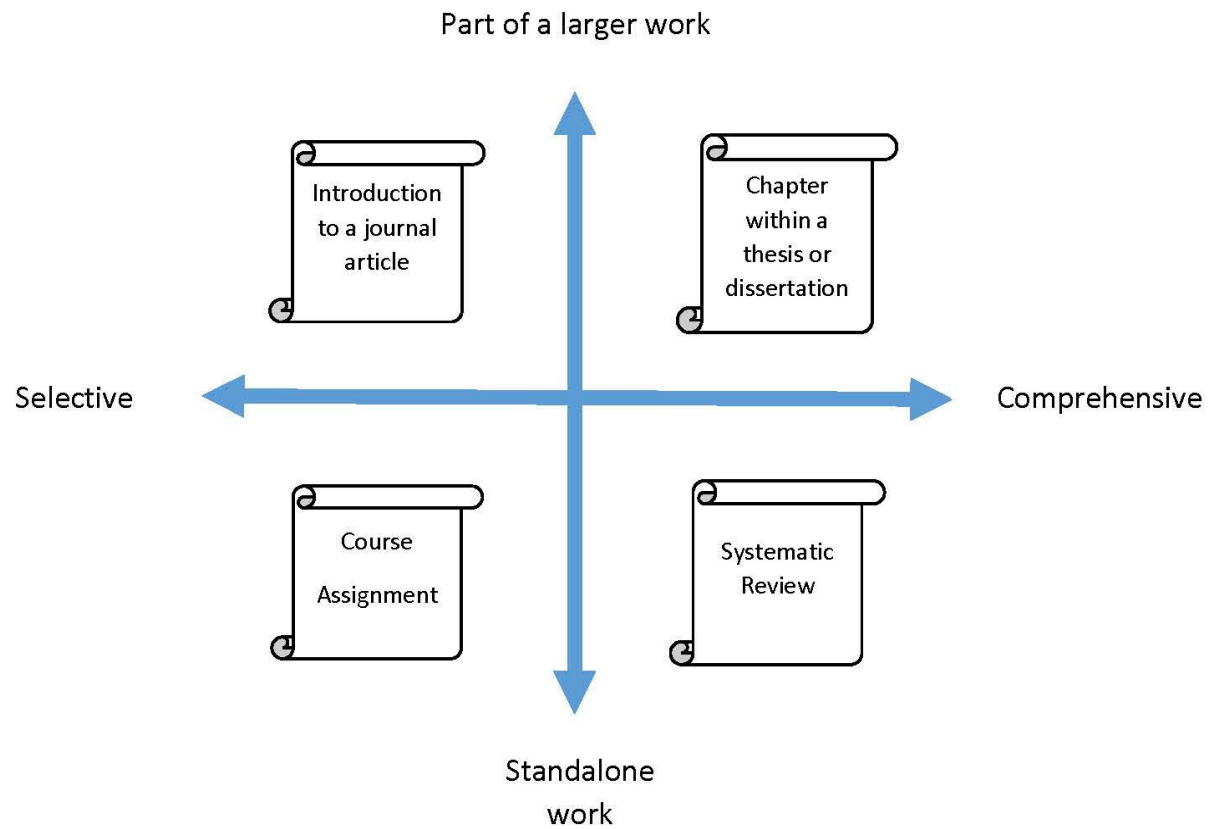

Reviews Published at KU

Web of Science: "systematic review", "scoping review", "meta-analysis," "umbrella review" in Affiliation: University of Kansas

Example KU Author Reviews

- Alzahrani, T., & Leko, M. (2018). **The Effects of Peer Tutoring on the Reading Comprehension Performance of Secondary Students With Disabilities: A Systematic Review.** Reading & Writing Quarterly, 34(1), 1-17.

- Casey, E. A., Ihrig, A., Roman, M., Hoxmeier, J. C., Carlson, J., & Greer, K. **Life Course and Socioecological Influences on Gender-Equitable Attitudes Among Men: A Scoping Review**. Trauma Violence & Abuse.

- Ghosh, A., Santana, M. C., & Opelt, B. (2020). **Veterans Reintegration into Higher Education: A Scoping Review and Recommendations.** Journal of Student Affairs Research and Practice, 57(4), 386-402.

- McGeough, B. (2021). **A Systematic Review of Substance Use Treatments for Sexual Minority Women.** Journal of Gay & Lesbian Services, 33(22), 180-210.

- Watt, S., Record, I., & Roubideaux, Y. (2022). **Twenty Years of Research Into the Health Impacts of Native-Themed Mascots: A Scoping Review.** American Indian and Alaska Native Mental Health Research, 29(1), 92-129.

Review Types

Part of a larger work

Introduction to a journal article

Chapter within a thesis or dissertation

Selective ← → Comprehensive

Course Assignment

Systematic Review

Standalone work

Table 1 Main review types characterized by methods used

Label	Description	Methods used (SALSA)			
		Search	Appraisal	Synthesis	Analysis
Critical review	Aims to demonstrate writer has extensively researched literature and critically evaluated its quality. Goes beyond mere description to include degree of analysis and conceptual innovation. Typically results in hypothesis or model	Seeks to identify most significant items in the field	No formal quality assessment. Attempts to evaluate according to contribution	Typically narrative, perhaps conceptual or chronological	Significant component: seeks to identify conceptual contribution to embody existing or derive new theory
Literature review	Generic term: published materials that provide examination of recent or current literature. Can cover wide range of subjects at various levels of completeness and comprehensiveness. May include research findings	May or may not include comprehensive searching	May or may not include quality assessment	Typically narrative	Analysis may be chronological, conceptual, thematic, etc.
Mapping review/ systematic map	Map out and categorize existing literature from which to commission further reviews and/or primary research by identifying gaps in research literature	Completeness of searching determined by time/scope constraints	No formal quality assessment	May be graphical and tabular	Characterizes quantity and quality of literature, perhaps by study design and other key features. May identify need for primary or secondary research
Meta-analysis	Technique that statistically combines the results of quantitative studies to provide a more precise effect of the results	Aims for exhaustive, comprehensive searching. May use funnel plot to assess completeness	Quality assessment may determine inclusion/ exclusion and/or sensitivity analyses	Graphical and tabular with narrative commentary	Numerical analysis of measures of effect assuming absence of heterogeneity
Mixed studies review/mixed methods review	Refers to any combination of methods where one significant component is a literature review (usually systematic). Within a review context it refers to a combination of review approaches for example combining quantitative with qualitative research or outcome with process studies	Requires either very sensitive search to retrieve all studies or separately conceived quantitative and qualitative strategies	Requires either a generic appraisal instrument or separate appraisal processes with corresponding checklists	Typically both components will be presented as narrative and in tables. May also employ graphical means of integrating quantitative and qualitative studies	Analysis may characterise both literatures and look for correlations between characteristics or use gap analysis to identify aspects absent in one literature but missing in the other
Overview	Generic term: summary of the [medical] literature that attempts to survey the literature and describe its characteristics	May or may not include comprehensive searching (depends whether systematic overview or not)	May or may not include quality assessment (depends whether systematic overview or not)	Synthesis depends on whether systematic or not. Typically narrative but may include tabular features	Analysis may be chronological, conceptual, thematic, etc.
Qualitative systematic review/qualitative evidence synthesis	Method for integrating or comparing the findings from qualitative studies. It looks for 'themes' or 'constructs' that lie in or across individual qualitative studies	May employ selective or purposive sampling	Quality assessment typically used to mediate messages not for inclusion/exclusion	Qualitative, narrative synthesis	Thematic analysis, may include conceptual models

Grant, M. J. (06/2009). *A typology of reviews: An analysis of 14 review types and associated methodologies
A typology of reviews,* Blackwell Publishing. doi:10.1111/j.1471-1842.2009.00848.x

Table 1 *Continued*

Label	Description	Methods used (SALSA)			
		Search	Appraisal	Synthesis	Analysis
Rapid review	Assessment of what is already known about a policy or practice issue, by using systematic review methods to search and critically appraise existing research	Completeness of searching determined by time constraints	Time-limited formal quality assessment	Typically narrative and tabular	Quantities of literature and overall quality/direction of effect of literature
Scoping review	Preliminary assessment of potential size and scope of available research literature. Aims to identify nature and extent of research evidence (usually including ongoing research)	Completeness of searching determined by time/scope constraints. May include research in progress	No formal quality assessment	Typically tabular with some narrative commentary	Characterizes quantity and quality of literature, perhaps by study design and other key features. Attempts to specify a viable review
State-of-the-art review	Tend to address more current matters in contrast to other combined retrospective and current approaches. May offer new perspectives on issue or point out area for further research	Aims for comprehensive searching of current literature	No formal quality assessment	Typically narrative, may have tabular accompaniment	Current state of knowledge and priorities for future investigation and research
Systematic review	Seeks to systematically search for, appraise and synthesis research evidence, often adhering to guidelines on the conduct of a review	Aims for exhaustive, comprehensive searching	Quality assessment may determine inclusion/exclusion	Typically narrative with tabular accompaniment	What is known; recommendations for practice. What remains unknown; uncertainty around findings, recommendations for future research
Systematic search and review	Combines strengths of critical review with a comprehensive search process. Typically addresses broad questions to produce 'best evidence synthesis'	Aims for exhaustive, comprehensive searching	May or may not include quality assessment	Minimal narrative, tabular summary of studies	What is known; recommendations for practice. Limitations
Systematized review	Attempt to include elements of systematic review process while stopping short of systematic review. Typically conducted as postgraduate student assignment	May or may not include comprehensive searching	May or may not include quality assessment	Typically narrative with tabular accompaniment	What is known; uncertainty around findings; limitations of methodology
Umbrella review	Specifically refers to review compiling evidence from multiple reviews into one accessible and usable document. Focuses on broad condition or problem for which there are competing interventions and highlights reviews that address these interventions and their results	Identification of component reviews, but no search for primary studies	Quality assessment of studies within component reviews and/or of reviews themselves	Graphical and tabular with narrative commentary	What is known; recommendations for practice. What remains unknown; recommendations for future research

Grant, M. J. (06/2009). *A typology of reviews: An analysis of 14 review types and associated methodologies A typology of reviews,* Blackwell Publishing. doi:10.1111/j.1471-1842.2009.00848.x

Research Process

Ideal Systematic Review Team

- One team member knowledgeable about SR methods
- 2-5 subject experts
  - Faculty, graduate students, undergraduate students, researchers
- Librarian (information retrieval expertise)
- Statistical expertise (if doing quantitative synthesis)

Review Methods Expert

Subject Expert

Subject Expert

Subject Expert

Librarian

Statistician (for meta-analysis)
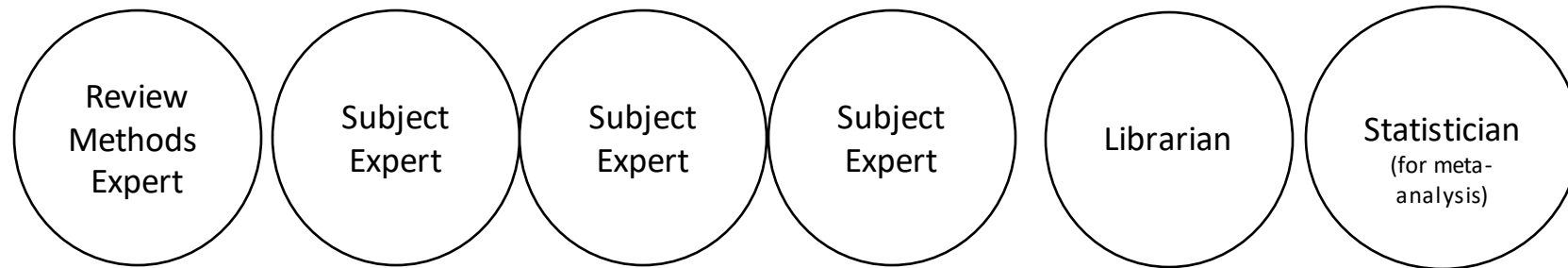
Systematic Review Process

- Develop question

- Document inclusion/exclusion criteria

- Write protocol

- Search for studies

- Review and select studies

- Assess study quality

- Extract data

- Synthesize results

Question Development

What is your research question?

- Take three minutes to write down and share your research question in person with a partner or in the chat (if you have a research question).

Determining the Scope/Focus of the Review --"FINER" criteria

- <u>Feasible</u> -- Will it result in too much/little information? Do scoping work

- <u>Interesting</u> -- Is it interesting to you?

- <u>Novel</u> -- Does it address a gap in knowledge?

- <u>Ethical</u> -- Opportunity costs? RQs are not always value neutral

- <u>Relevant</u> -- Who are your stakeholders? How will the findings impact decisions?

Evaluate your research question using the FINER criteria (pair and share; or share in chat)

- Take three minutes to share your evaluation of research question in person with a partner or in the chat (if you have a research question).

- <u>Feasible</u> -- Will it result in too much/little information? Do scoping work

- <u>Interesting</u> -- Is it interesting to you?

- <u>Novel</u> -- Does it address a gap in knowledge?

- <u>Ethical</u> -- Opportunity costs? RQs are not always value neutral

- <u>Relevant</u> -- Who are your stakeholders? How will the findings impact decisions?

Question Development/Problem Formulation

1. Determine if the topic has been reviewed before (Novel?)
   - Search for other reviews
   - Search for protocols of reviews in progress (ask librarian for help)

2. Clarify your question/s (Feasible?)
   - Determine main concepts--including the conceptual and operational definitions
   - What question framework (parameters) fits your review? (e.g. PICO, CHIP, etc.)
   - Identify synonyms (both controlled vocabulary and natural language)

3. Set explicit inclusion/exclusion criteria (generally based on your parameters)
4. Write a protocol

Question Framework (handout)

Table 3.3. Frameworks for research questions

Framework	Stands for	Disciplines/type of question
BeHEMoTh (Booth and Carroll 2015)	Be: behavior of interest H: health context (service/policy/intervention) E: exclusions MoTh: models or theories	Questions about theories
CHIP (Shaw 2010)	Context How Issues Population	Psychology, qualitative
CIMO (Denyer and Tranfield 2009)	Context Intervention Mechanisms Outcomes	Management, business, administration
CLIP (Wildridge and Bell 2002)	Client group Location of provided service Improvement/Information/Innovation Professionals (who provides the service?)	Librarianship, management, policy
COPES (Gibbs 2003)	Client-oriented Practical Evidence search	Social work, health care, nursing
ECLIPSE (Wildridge and Bell 2002)	Expectation Client Location Impact Professionals Service	Management, services, policy, social care
PEO (Kahn et al. 2003)	Population Exposure Outcome	Qualitative
PECODR (Dawes et al. 2007)	Patient/population/problem Exposure Comparison Outcome Duration Results	Medicine
PESICO (Schlosser and O'Neil-Pirozzi 2007)	Person Environments Stakeholders Intervention Comparison Outcome	Augmentative and alternative communication

Framework	Stands for	Disciplines/type of question
PICO (Richardson et al. 1995)	Patient Intervention Comparison Outcome	Clinical medicine
PICO+ (Bennett and Bennett 2000)	+context, patient values, and preferences	Occupational therapy
PICOC (Petticrew & Roberts, 2006)	Context	Social sciences
PICOS (Moher et al. 2009)	Study type	Medicine
PICOT (Richardson et al. 1995)	Time	Education, health care
PICO specific to diagnostic tests (Kim et al. 2015)	Patients/participants/population Index tests Comparator/reference tests Outcome	Diagnostic questions
PIPOH (ADAPTE Collaboration 2009)	Population Intervention Professionals Outcomes Health care setting/context	Screening
ProPheT (Booth et al. 2016)	Problem Phenomenon of interest Time	Social sciences, qualitative, library science
SPICE (Booth 2004)	Setting Perspective Interest Comparison Evaluation	Library and information sciences
SPIDER (Cooke et al. 2012)	Sample Phenomenon of interest Design Evaluation Research type	Health, qualitative research
WWH	Who What How	

Question example (large group activity)

For the question:

Is mindfulness/meditation effective in reducing the symptoms of PTSD among veterans?

- What are the main concepts?
- What are some of the synonyms?
- What are some concepts that we need to clarify?
- How might we broaden the question above? Narrow?

Small group/individual activity (two minutes)

For your research question:

What are the main concepts?

What are some of the synonyms?

Inclusion/Exclusion Criteria

- Use your question framework (example PICO) and definitions
- Example: population, intervention (or no intervention), study design, time frame
- Make sure to document why you are using these criteria

Protocol Registration (handout)
(https://guides.lib.ku.edu/c.php?g=1035965&p=7674279)

- PRISMA for systematic review protocols (PRISMA-P)

- PROSPERO

- OSF

BREAK (10 minutes)

Search

Systematic Searching

- Start with exploratory work/preliminary investigation

  - Search for relevant evidence synthesis articles

  - Identify sample articles – "seed articles"

  - Build your vocabulary for each concept

  - Identify concepts to include/exclude in during search process

- Keep in mind…

  - Comprehensive – recall vs precision

  - Evidence synthesis requires not only topnotch search results, but reproducibility.

  - Document everything - decisions, what worked, what didn't.

  - Minimize publication and language biases

https://pressbooks.umn.edu/evidencesynthesisinstitute/chapter/january-2023-towson-university/

Search Strategy

- Keywords and "Quoted Phrases"
  - Identify and document 2-3 concepts to for searching
  - Identify alterative keywords and phrases for each concept
  - Search Thesaurus/Index for each database for controlled vocabulary
- Select several databases
  - Multidisciplinary (Web of Science, Academic Search Complete, etc.)
  - Discipline specific (PsycInfo, ERIC, Social Welfare Abstract, etc.)
  - Searches results should be reproducible - Not Google Scholar
- Use Advance Search Builder and Search History to combine searches
  - Boolean operators (AND, OR, NOT), Truncation (*), Proximity (NEAR)
  - Save search results by registering/logging into the database
- Test searches
  - Develop search in key/primary database
  - Typically start with the database in which you are likely to find the most results
  - Document your process

https://pressbooks.umn.edu/evidencesynthesisinstitute/chapter/january-2023-towson-university/

Searching and Saving Results

- Document everything
  - Save search strings for each database – will be unique
  - Document why, how, and when you searched other sources
    - Citation searching/tracing – scan references and "cite by"
    - Handsearch key journals
    - Search relevant Internet resources
    - Google scholar???
- Export Results
  - Bulk Download Title and Abstracts
  - Use citation management tool (i.e. Zotero, Endnote)

https://pressbooks.umn.edu/evidencesynthesisinstitute/chapter/january-2023-towson-university/

Challenges of using Google Scholar for Evidence Synthesis

- Lack of transparency
  - Reproducibility: Google Scholar know you + it's a black box
  - Not clear how search is conducted

- No controlled vocabulary

- Few limits

- No sorting

- Advanced search isn't very advanced

- Can't export in bulk

- Fluctuations in coverage (see: https://arxiv.org/abs/2102.07571)

Google Scholar can Support Evidence Synthesis Projects

- Preliminary investigation
  - Context and Terminology
  - Identify "test studies' for other searchers
  - Grey literature sources
- Forward citation searching
- Locating known items and full text
- As a supplement to other searches

https://pressbooks.umn.edu/evidencesynthesisinstitute/chapter/january-2023-towson-university/

Demonstration/Activity Question

Is mindfulness effective in reducing the symptoms of PTSD in college-aged veterans?

Review and Screen

Review and Select Studies

Two Stages:

- **Title and Abstract Review**
  - Use inclusion/exclusion criteria to screen the title and abstracts of studies to determine relevance to review

- **Full-Text Review**
  - Record reasons for exclusion

Turner, M. (2022, 1/31/2022). Systematic Reviews in Health. Retrieved from https://canberra.libguides.com/systematic/introduction

Activity: Apply criteria to screen studies

- Whole group: Screen studies to determine if they should be included or not based on information in title and abstract

- Question: Is mindfulness effective in reducing the symptoms of PTSD in college-aged veterans?

Data Extraction

Data extraction

- Summarize studies in a common format to facilitate synthesis,
- Identify numerical data if a meta-analysis is to take place, and
- Obtain information to objectively assess the risk of bias in, and applicability of, studies.

- 5 steps:
    - Plan
    - Pilot form
    - Extract data
    - Compare and reach consensus
    - Export

Turner, M. (2022, 1/31/2022). Systematic Reviews in Health. Retrieved from https://canberra.libguides.com/systematic/introduction; Covidence Data Extraction Webinar

Activity: Data Extraction

- Try setting up & using the Data Extraction Template in Covidence Demo Review

Quality Assessment

Study quality (if included)

- Generally, the critical appraisal step will consider:

- *Question* - Does this study address a clearly focused question?

- *Methodological quality* - Did the study use valid methods to address this question? To what extent do the study design and conduct eliminate the potential for systematic error (bias)?

- *Precision* – What is the likelihood of random errors? (Often depicted as the confidence interval around the result)

- *External validity* - Are these valid, important results applicable to my patient or population?

Turner, M. (2022, 1/31/2022). Systematic Reviews in Health. Retrieved from https://canberra.libguides.com/systematic/introduction

TABLE 4 Risk of bias ratings for person-based studies

Study	Randomization[a]	Nonequivalence[b]	Appropriate analysis[c]	Data missingness[e]	Temporal ordering[f]	Rating
Baćak and Apel (2020)	No	No information	Probably yes	Probably no	No	High risk
Baćak and Apel (2021)	No	No information	Probably yes	Probably no	No	High risk
Baćak and Nowotny (2020)	No	Probably no	Probably yes	Probably no	No	High risk
Dennison and Finkeldey (2021)	No	Probably no	Yes	Probably no	Probably yes	Some concerns
Friedman et al. (2004)	No	Probably yes	No	Probably no	No	High risk
Geller (2017)	No	Probably no	Yes	Probably no	Probably yes	Some concerns
Geller et al. (2014)	No	No information	Yes	Probably no	No	High risk
Harris and Jones (2020)	No	No information	Probably yes	Probably no	No	High risk
Hirschtick et al. (2020)	No	No information	Probably yes	Probably no	No	High risk
Jackson et al. (2021)	No	Probably no	Probably yes	Probably no	Probably yes	Some concerns
Jackson, Testa, Vaughn, and Semenza (2020)	No	Probably no	Probably yes	Probably no	No	High risk
Lee et al. (2017)	No	No information	Probably yes	Probably no	Yes	Some concerns
Lewis and Wu (2021)	No	No information	Probably yes	Probably no	No	High risk
McFarland et al. (2019)	No	Probably no	Yes	Probably no	Probably yes	Some concerns
Murray et al. (2021)	No	Probably no	Probably yes	Probably no	No	High risk
Rosenbaum et al. (2005)	No	Probably no	Probably yes	Probably no	Yes	Some concerns
Singer (2013)	No	Probably yes	No	No	No	High risk
Slocum et al. (2016)	No	No information	Probably yes	Probably no	Yes	Some concerns
Sundaresh et al. (2020)	No	No information	Probably yes	Probably no	No	High risk
Swaner and Brisman (2014)	No	No information	Probably yes	No	No	High risk
Testa et al. (2021)	No	No information	Probably yes	Probably no	Probably no	High risk
Turney (2021)	No	No information	Probably yes	Probably no	Probably yes	Some concerns
Tyler et al. (2014)	No	No information	No	No	No	High risk
Wheelock et al. (2019)	No	Probably no	Probably yes	Probably no	No	High risk
Wiley and Esbensen (2016)	No	Probably no	Yes	Probably no	Yes	Low risk
Wiley et al. (2013)	No	Probably no	Yes	Probably no	Yes	Low risk

Activity: Study Quality

- Try setting up & using the Study Quality Template in the Covidence Demo Review

Synthesize Results

Synthesis of Results

- Narrative Synthesis
  - Bringing together principal findings in a narrative (i.e. text) form
  - Can include "summary of findings table"

- Meta-analysis
  - Synthesize or merge the findings of single, independent studies, using statistical methods to calculate an overall or 'absolute' effect.

Turner, M. (2022, 1/31/2022). Systematic Reviews in Health. Retrieved from https://canberra.libguides.com/systematic/introduction

Shorten A, Shorten B. What is meta-analysis? *Evidence-Based Nursing* 2013;**16:**3-4.

Summary Table

TABLE 2 Individual study characteristics

Study name	Location	Unit of analysis	Outcome(s)	Design/Analysis[a]	Sample[b]
Alderden et al. (2011)[c]	Chicago (IL)	Places	Crime	Quasi-experiment (Multiple regression)	281 police beats
Baćak and Apel (2020)	26 European countries	People	Mental and physical health	Quasi-experiment (Multiple regression)	51,340 adults (European Social Survey)
Baćak and Apel (2021)	26 European countries	People	Attitudes toward police	Quasi-experiment (Multiple regression)	51,340 adults (European Social Survey)
Baćak and Nowotny (2020)	United States (Nationally representative survey)	People	Mental health	Quasi-experiment (Multiple regression)	7747 adults (Add Health Survey)
Boydstun (1975)	San Diego (CA)	Places	Crime	Quasi-experiment (Matched/similar control areas)	3 police beats
Cohen and Ludwig (2003)	Pittsburgh (PA)	Places	Crime	Quasi-experiment (Difference-in-difference-in-differences analysis)	6 police zones
Dennison and Finkeldey (2021)	US (Nationally representative survey)	People	Mental health and self-reported delinquency	Quasi-experiment (Propensity matching)	11,785 adults (Add Health Survey)
Friedman et al. (2004)	Chicago (IL)	People	Attitudes toward police	Quasi-experiment (Unadjusted bivariate analysis)	891 youth high school students
Geller (2017)	20 large US cities	People	Mental health	Quasi-experiment (Multiple regression with propensity score weighting)	3036 youth (Fragile Families and Child Wellbeing Survey)
Geller et al. (2014)	New York City (NY)	People	Mental health	Quasi-experiment (Multiple regression with propensity score weighting)	1261 adult men
Harris and Jones (2020)	20 large US cities	People	Attitudes toward police	Quasi-experiment (Multiple regression)	3444 youth (Fragile Families and Child Wellbeing Survey)
Hirschtick et al. (2020)	Chicago (IL)	People	Mental health	Quasi-experiment (Multiple regression)	1543 adults
Hofer et al. (2020)[c]	20 large US cities	People	Other	Quasi-experiment (Analysis of covariance)	2406 youth (Fragile Families and Child Wellbeing Survey)
Jackson, Testa, and Vaughn (2020)[f]	20 large US cities	People	Other	Quasi-experiment (Multiple regression)	3444 youth (Fragile Families and Child Wellbeing Survey)
Jackson, Testa, Vaughn, and Semenza (2020)	20 large US cities	People	Physical health	Quasi-experiment (Multiple regression)	3444 youth (Fragile Families and Child Wellbeing Survey)
Jackson et al. (2021)	United Kingdom	People	Mental health	Quasi-experiment (Multiple regression)	10,345 youth

Petersen, K., Weisburd, D., Fay, S., Eggins, E., & Mazerolle, L. (2023). Police stops to reduce crime: A systematic review and meta-analysis. *Campbell Systematic Reviews*, *19*(1), e1302.

Ex: Meta-analysis table

TABLE 6 Robust variance estimation models

Outcome	Effect size	95% CI	p Value	I^2	τ^2	k
Mental health	OR = 1.37**	1.14, 1.65	0.01	78.85%	0.03	19
Attitudes toward police	g = −0.40*	−0.71, −0.10	0.02	98.14%	0.18	14
Self-report crime	g = 0.26⁺	−0.02, 0.54	0.06	80.67%	0.04	8

Abbreviations: CI, confidence interval; I^2, percentage of variability due to between-study heterogeneity; k, number of effect sizes; OR, odds ratio; τ^2 = random effects variance component.

*$p < 0.05$.

**$p < 0.01$.

⁺$p < 0.10$.

Petersen, K., Weisburd, D., Fay, S., Eggins, E., & Mazerolle, L. (2023). Police stops to reduce crime: A systematic review and meta-analysis. *Campbell Systematic Reviews*, *19*(1), e1302.

Interpreting the Findings

- Findings of the review

- Discussion (interpretation of the results)

- Conclusions

- Recommendations/implications for practice/policy / further research

"Suggested Structure of a Systematic Review" Systematic Reviews: CRD's guidance for undertaking reviews in health care. https://www.york.ac.uk/media/crd/Systematic_Reviews.pdf

Resources:

- **KU Libraries Systematic Review Service**

- **KU Libraries Guide to Systematic Reviews**

- **PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses**

- **KU's organizational Covidence account**

- **Systematic Reviews and Meta-Analysis:A Campbell Collaboration online course** (free to pilot) Systematic Reviews and Meta-Analysis: A Campbell Collaboration Online Course provides an overview of the steps involved in conducting a systematic (scientific) review of results of multiple quantitative studies. These steps include: problem formulation, searching for relevant literature, screening potentially eligible studies, coding and critically appraising studies, synthesizing results across studies using meta-analysis, reporting and disseminating results, and updating or re-analysis of data.

Questions?