Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

CAHS Research Education Program Research Skills Seminar

Conducting Systematic Reviews

9 June 2023

Presented by

Professor Sonya Girdler

- Professor of Occupational Therapy
- Director | Curtin Autism Research Group
- Director Program 3 (Adulthood) | Autism Co-operative Research Centre
- Adjunct Professor | University of Western Australia, School of Allied Health
- Affiliated | Center of Neurodevelopmental Disorders at Karolinska Institutet (KIND), Sweden

Curtin University

Child and Adolescent Health Service, Department of Research

Department of Health, Government of Western Australia

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

Conducting Systematic Reviews

PRESENTATION SLIDES

CAHS Research Education Program Research Skills Seminar Series
✉ ResearchEducationProgram@health.wa.gov.au
cahs.health.wa.gov.au/ResearchEducationProgram

Government of Western Australia
Department of Health

Curtin University

Perth Children's Hospital

CAHS Research Education Program

2023 Research Skills Seminar Series

Conducting Systematic Reviews

The Systematic and not so Systematic Review

Presented by *9th June 2023*

Prof Sonya Girdler

Professor of Occupational Therapy and Director of the Curtin Autism Research Group
Director of Program 3 of the 'Living with Autism' Cooperative Research Centre
Curtin University

Perth Children's Hospital Foundation

1

Acknowledgement of country

I would like to acknowledge the traditional custodians of the land, the Noongar Whadjuk people, and pay my respects to their elders, past, present and future.

2

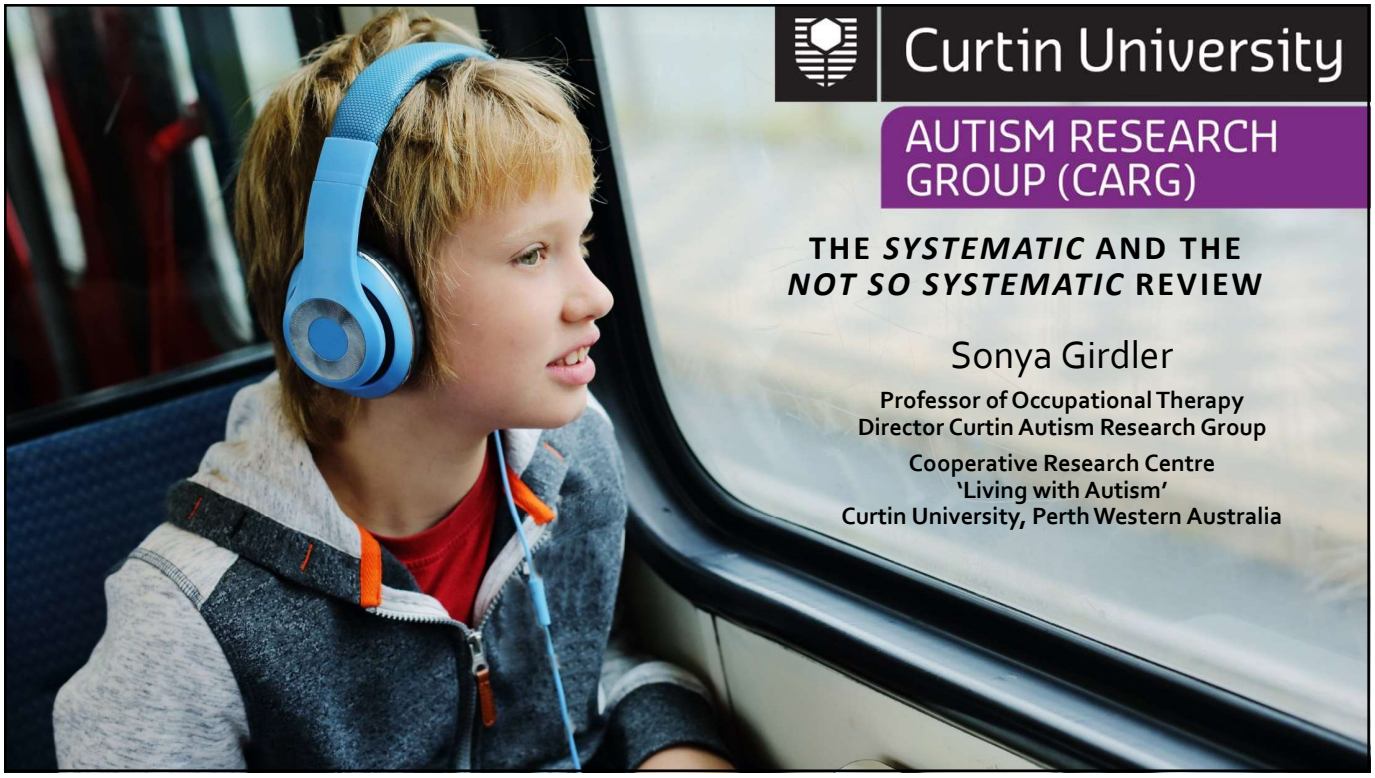
CAHS Research Education Program

Research Skills Seminar Series

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact.

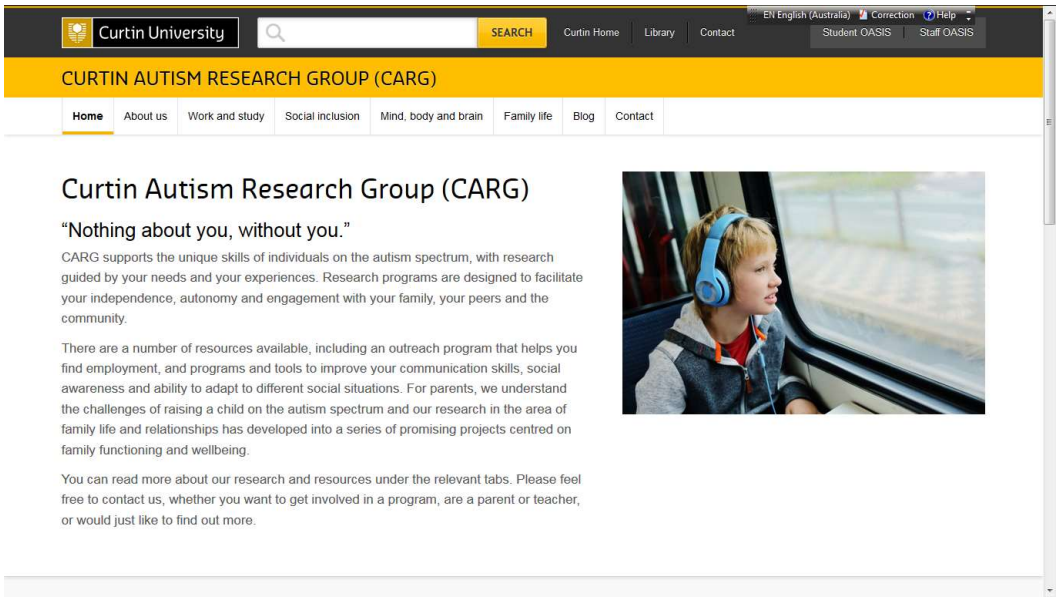
- **Over 20 topics across the research process**
  - 1h overview
  - Handouts are provided
- **Recorded and uploaded**
- **Feedback**
  - Back of handout
  - Emailed link
- **Please hold questions to the end**
  - Use provided microphone

3



4

https://carg.curtin.edu.au/



5

ACKNOWLEDGEMENTS

- Centre for Reviews and Dissemination http://www.york.ac.uk/inst/crd/pdf/Systematic_Reviews.pdf
- Prof Roslyn Boyd
  - Generously sharing her expertise and notes from her own course conducted in Qld
- Dr Eve Blair
- Many other sources, as referenced throughout
- My amazing doctoral students – who have done so many of these reviews

6

TODAY'S TALK WILL BE A SMÖRGÅSBORD

- Sample some treats
- And then come back for more …

7

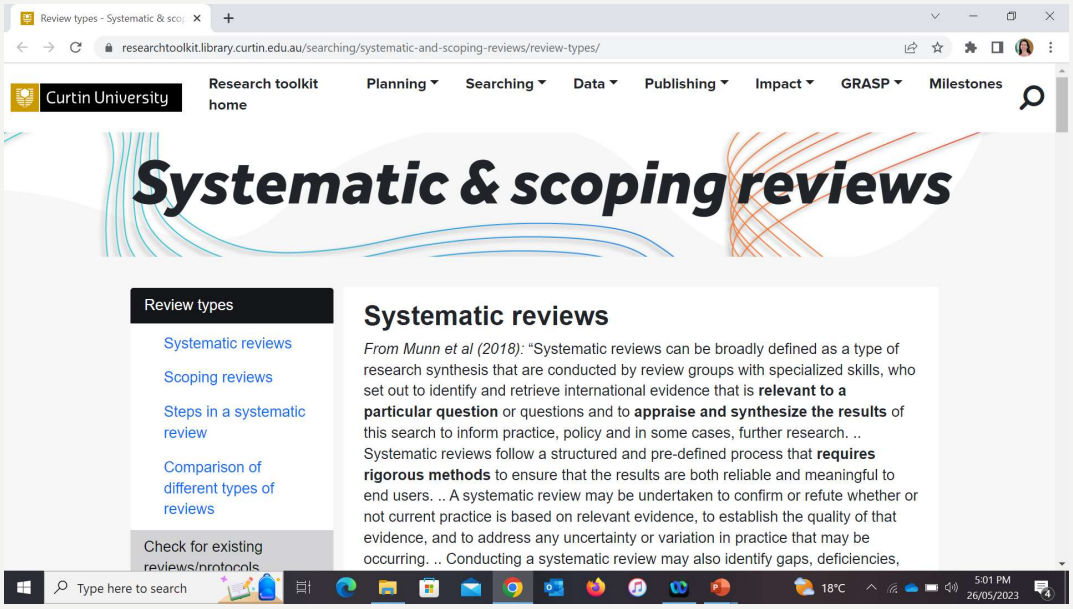
WHERE TO GO FOR HELP!

HTTP://LIBGUIDES.LIBRARY.CURTIN.EDU.AU/SYSTEMATIC-REVIEWS

LINK TO LIBRARY GUIDE

8

HTTPS://RESEARCHTOOLKIT.LIBRARY.CURTIN.EDU.AU/SEARCHING/SYSTEMATIC-AND-SCOPING-REVIEWS/REVIEW-TYPES/



9

STEPS IN CONSTRUCTING A SYSTEMATIC REVIEW

WHAT IS A REVIEW

1. DEFINE THE QUESTION
2. SEARCH
3. SELECT INFORMATION
4. EXTRACT STANDARDISED DATA
5. ASSESS QUALITY
6. SUMMARISE/SYNTHESISE
7. CONCLUSIONS?

10

WHAT IS A REVIEW?

- Reviews in the health sciences aim to identify, evaluate and summarize the findings of all relevant individual studies, thereby making the available evidence more accessible to decision makers.

11

WHAT IS A SYSTEMATIC REVIEW?

- Uses a documented system
- Transparency of methods and reproducibility of results.
- Systematic reviews seek to collate all evidence that fits pre-specified eligibility criteria in order to address a specific research question.
- Systematic reviews aim to minimize bias by using explicit, systematic methods.

12

SYSTEMATIC VS LITERATURE REVIEW

	Systematic Review	Literature Review
Question	Focused on a single question	Not necessarily focused on a single question but may describe an overview
Protocol	A peer review protocol or plan is included	No protocol is included
Background	Both provide summaries of the available literature on a topic	
Objectives	Clear objectives are identified	Objectives may or may not be identified
Inclusion & exclusion criteria	Criteria stated before review is conducted	Criteria not specified
Search strategy	Comprehensive search conducted in a systematic way	Strategy not explicitly stated
Process of selecting articles	Usually clear and explicit	Not described in a literature review
Process of evaluating articles	Comprehensive evaluation of study quality	Evaluation of study quality may or may not be included
Results and data synthesis	Clear summaries based on high quality evidence	Summary based on studies where the quality of articles may not be specified. May also be influenced by the reviewer's theories, needs and beliefs.
Discussion	Written by an expert or group of experts with a detailed and well-grounded knowledge of the issues.	

http://libguides.library.curtin.edu.au/Systematic-Reviews

13

A GOOD REVIEW INCLUDES:

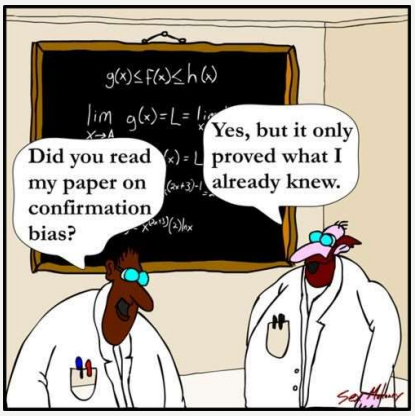
- A **completely and clearly defined** question.
- A **comprehensive** search for evidence using **predefined criteria.**
- **Unbiased** selection, quality assessment, data extraction and synthesis.
- Incorporating the results of **all** selected studies.
- Exploration of any **similarities or differences** between studies.
- Conclusions **not exceeding** those warranted by the evidence.

- Nb. Each requires critical thought considering the circumstances of *this* review

14

SOME POSSIBLE SOURCES OF BIAS

- Reviewer beliefs
- Publication bias
- Search depth and breadth
- Choice of inclusion/exclusion criteria
- Inappropriate criteria for assessing quality



https://www.pinterest.com.au/pin/606579262093273 14/

15

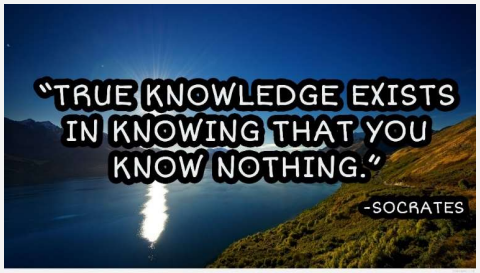
WHY DO A (GOOD) SYSTEMATIC REVIEW?

- If the evidence exists you want to find it
  - (sensitive – ALL the evidence)
- But also want the evidence to be valid
  - (minimise bias)

16

WHAT MAKES EVIDENCE VALID?

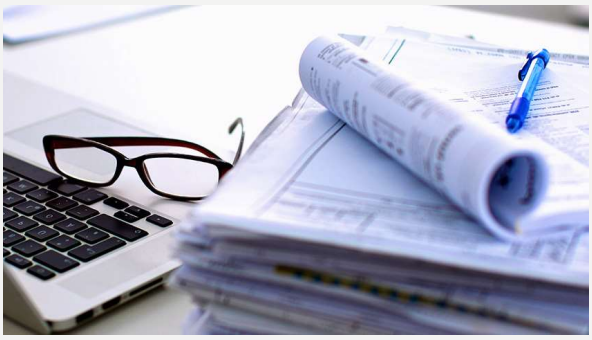
- Leads to knowledge
- Knowledge = justified, true belief
- Tests of justification:
  - Replication
  - Falsification of alternative beliefs
- Validity = concerns both the observation and its interpretation.



17

ASSESSMENT OF VALIDITY

- Only possible with adequate documentation!



18

WHY DO A (GOOD) SYSTEMATIC REVIEW?

To get the answer most likely to be true, according to the best available evidence, or to identify what further evidence is required to provide the answer.

19

WHY DO A (GOOD) SYSTEMATIC REVIEW?

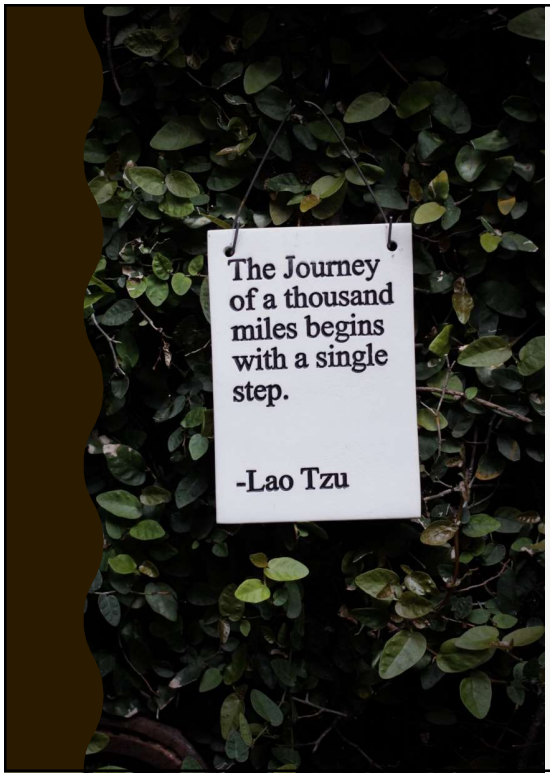
1. The question is worth answering
2. The question is not already satisfactorily answered.

20

HAS THE SUBJECT BEEN RECENTLY AND ADEQUATELY SYSTEMATICALLY REVIEWED?

1. DARE: Database of Abstracts of Reviews of effects: www.crd.york.ac.uk/crdweb https://database.inahta.org/
2. CDSR: Cochrane database of systematic reviews and for education, crime & justice, social welfare, health promotion, public health
3. Campbell library of systematic reviews
4. EPPI https://eppi.ioe.ac.uk/cms/
5. DoPHER https://eppi.ioe.ac.uk/webdatabases4/Intro.aspx?ID=9

21



STEPS IN CONSTRUCTING A SYSTEMATIC REVIEW

1. Define the question
2. Search
3. Select information
4. Extract standardised data
5. Assess quality
6. Summarise/synthesise
7. Conclusions?

22

1. DEFINING THE QUESTION

23

PICOS

PARTICIPANTS
INTERVENTION(S)
COMPARISON(S)
OUTCOME(S)
STUDY DESIGN

24

SOME TYPES OF QUESTIONS

- How effective is a health intervention?
  - Quantitative evidence/ qualitative evidence
- How economic is an intervention?
- How frequently does a condition occur?
- How often do adverse effects occur?
- How accurate/reliable/sensitive/specific is a clinical test (clinimetric) ?
- How effective is a public health intervention?

25

OPEN ACCESS Freely available online

PLOS ONE

Is Consumer Response to Plain/Standardised Tobacco Packaging Consistent with Framework Convention on Tobacco Control Guidelines? A Systematic Review of Quantitative Studies

Martine Stead[1]*, Crawford Moodie[1], Kathryn Angus[1], Linda Bauld[1], Ann McNeill[2], James Thomas[3], Gerard Hastings[1], Kate Hinds[3], Alison O'Mara-Eves[3], Irene Kwan[3], Richard I. Purves[1], Stuart L. Bryce[1]

1 Institute for Social Marketing & Cancer Research United Kingdom Centre for Tobacco Control Research and United Kingdom Centre for Tobacco and Alcohol Studies, University of Stirling, Stirling, United Kingdom, **2** Addictions Department, Institute of Psychiatry, King's College London, United Kingdom Centre for Tobacco and Alcohol Studies, London, United Kingdom, **3** Evidence for Policy and Practice Information and Co-ordinating-Centre, Social Science Research Unit, Institute of Education, London, United Kingdom

26

CHOOSING THE QUESTION

1. Something that interests you
2. That is worth answering
3. Has not been adequately recently reviewed
4. Can be expressed as a research question

27

CHOOSING THE QUESTION

1. Something that interests you
2. That is worth answering
3. Has not been adequately recently reviewed
4. **Can be expressed as a research question**

28

DOES CIMT BENEFIT MY PATIENT?

- Does providing one hour of Constrain Induced Movement Therapy weekly for a 6 month period **(I)** to children with spastic hemiplegia ages 4-6 years **(P)** result in a greater increase in range of routinely performed bimanual tasks **(O)** than that observed in similar children that do not receive Constrain Induced Movement Theory **(C)**?

29

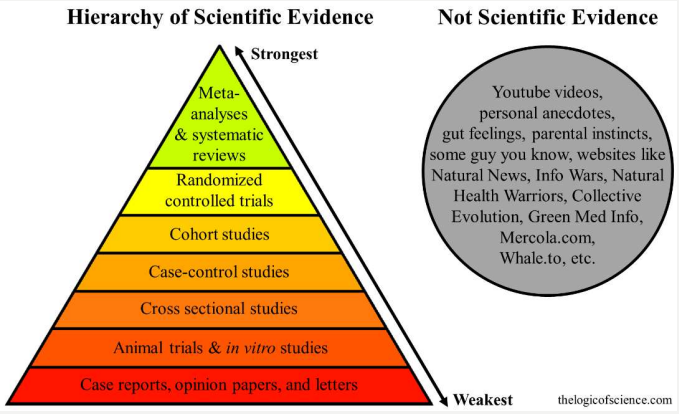
CAN ONLY ANSWER QS OF THE FORM:

- **is x > y?**
- Where X must be in same units as Y
  - Can convert different measures of the same factor into comparable units, by converting to effect size (units of sd).
  - The more narrow the question – the more likely the answer will be clinically useful.

30

HIERARCHY OF STUDY DESIGN I

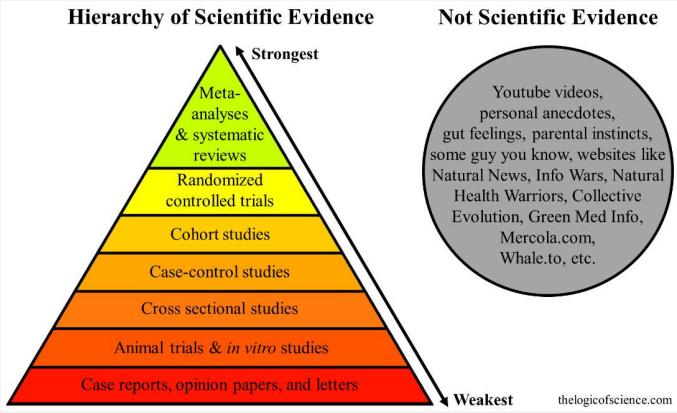
- Experimental
  - Randomised controlled trials
  - Randomised cross over trials
  - Cluster randomised controlled trials
- Quasi Experimental
  - Non randomised controlled trials
  - Before and after study
  - Interrupted time series



31

HIERARCHY OF STUDY DESIGN II

- Observational studies
  - Cohort studies
  - Case-control studies
  - Cross sectional studies



32

2. SEARCH

33

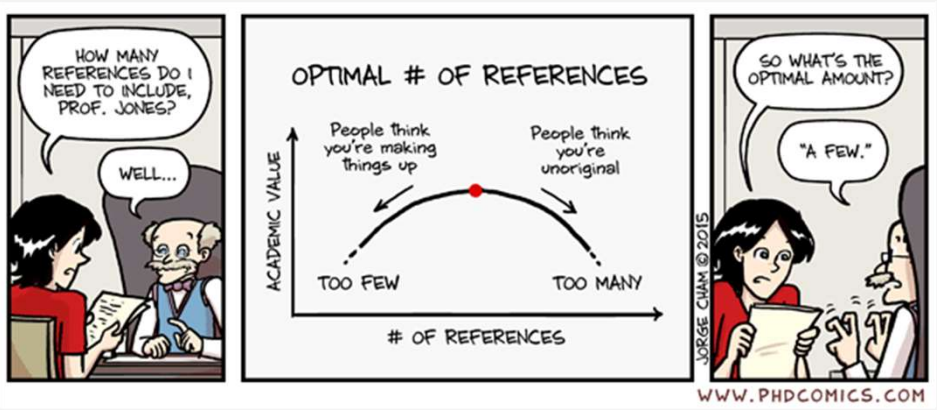
SOURCES OF EVIDENCE

- Search electronic databases, trial registers
  Section 6.2 Cochrane Handbook lists specialised electronic sources
  http://www.cochrane-handbook.org/
- Scan reference lists from relevant studies
- Hand search key journals (letters) and conference proceedings
- Contact study authors, experts, manufacturers, other organisations
- Search relevant websites
- Citation searching
- Create website to canvas for studies

34

WHAT EVIDENCE?

Studies vs reports of studies vs reviews



35

THE SEARCH STRATEGY – ELECTRONIC DATABASES

A set of instructions to the search engine of where to search for what

Instructions composed of string(s) of letters and symbols. *(they don't mind read)*

36

THE SEARCH STRATEGY ELECTRONIC DATABASES

Match must be exact unless 'wild' or 'truncation' characters' are used:

Truncation: child$ represents child, children, childhood, childless etc.

Wild: wom?n represents woman, women and womn etc.

Proximity indicators

Adj: words next to each other or hypenated

AdjX: within X words of each other

NB. each database interface has its own unique set of commands

37

THE SEARCH STRATEGY – ELECTRONIC DATABASES

Sensitive (cast the net wide)

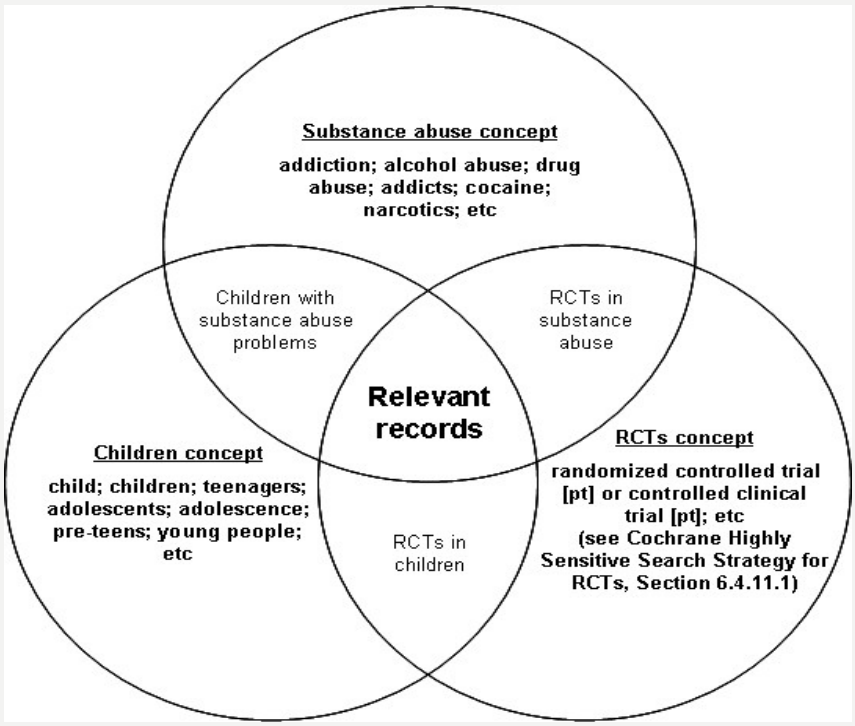
include **essential** inclusion criteria only

Synonyms and spelling variations

preferably not too many (eg. intellectual impairment)

Explode, Focus, Scope

38



39

FACTORS IMPACTING EMPLOYMENT FOR PEOPLE WITH AUTISM SPECTRUM DISORDER: A SCOPING REVIEW

Table 1. Search terms[a]

Diagnosis	Age	Intervention	Outcome
autis*, autism spectrum disorder, asperger*, pervasive development* disorder*, autistic disorder*	adult*, adolescent*, youth, young adult*	support*, service, program, training, vocation* rehabilitation provider, strategy, intervention, accommodation*, employer*, supervisor*, manager*, environment*	employ*, work*, job, vocation*, occupation*, participation, competitive employ*, supported employ*, sheltered employ*

[a]Terms were connected with 'OR' and between terms with 'AND'
*Search terms truncated and exploded

40

DOCUMENTING THE SEARCH PROCESS

For each electronic database search save:

- The search strategy as run
- The data base
- The database provider (eg. Ovid, Embase)
- The date the search was run
- Years searched and
- Any filters used
- Number of reports identified

41

DOCUMENTING WHAT YOU FIND

Record in ENDNOTE bibliographic software:

- Complete citation
- Abstract (entire paper)
- Unique identifier(s) UI/PMID &/or DOI
- Author contact details
- Clinical trial registration # if appropriate
- Language
- Refs to any comments, corrections, retractions etc.

42

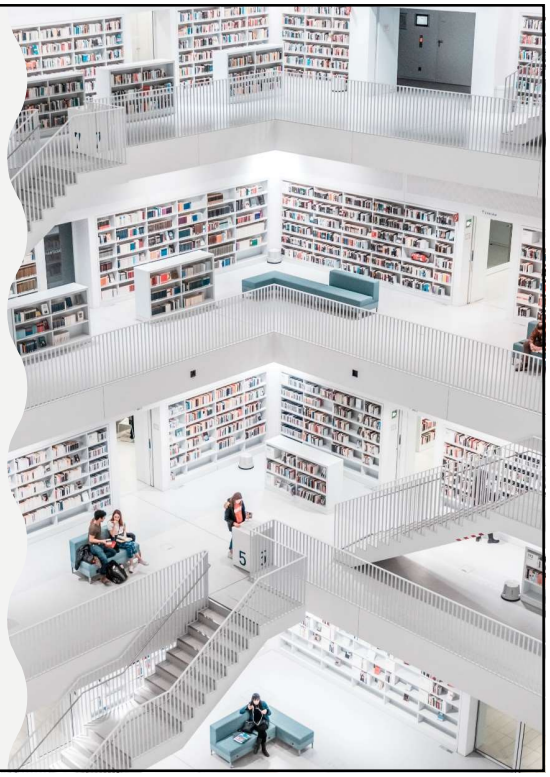
ADDITIONAL ENDNOTE FIELDS MAY RECORD:

- How/where the report was found.
- Whether the full report has been accessed – as paper (filed where), electronically (file name)
- Whether it refers to a study that is also the subject of other reports (may need a unique study identifier as well)
- Whether the study is clearly irrelevant to your review
- Whether A considers it meets inclusion criteria
- Whether B considers it meets inclusion criteria
- Consensus opinion as to whether it meets inclusion criteria
- For "almost relevant" studies: why it was excluded.

43

LIBRARIANS ARE YOUR FRIENDS!

- Amazing amount of knowledge in relation to the different data bases
- The data bases are quirky!
- Make a time to see your health or university librarian



44

3. SELECTING STUDIES

45

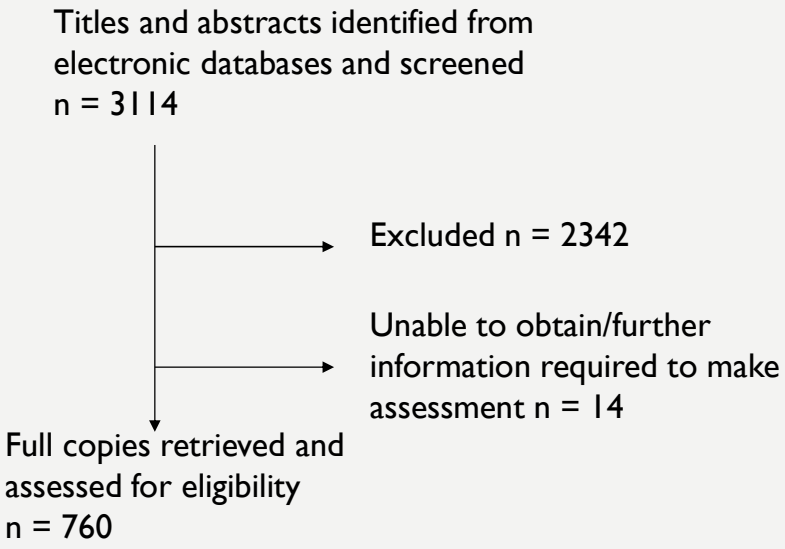
SELECTING STUDIES

A two step process:

- Clearly irrelevant from title/abstract (can the search strategy be more precise?)

46

Fig 1.1 from CRD Systematic reviews. P.26
Flow Chart of study selection process step 1



47

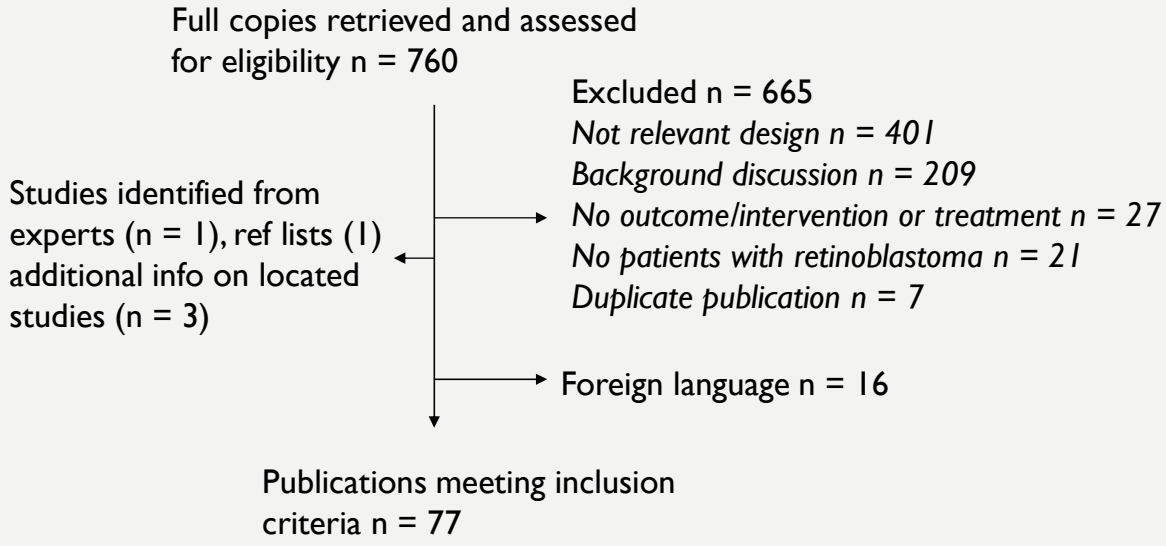
SELECTING STUDIES

A two step process:

- Clearly irrelevant from title/abstract
  (can the search strategy be more precise?)
- Full report compared with inclusion and exclusion criteria (Minimize bias:
  Reasons for exclusion documented)

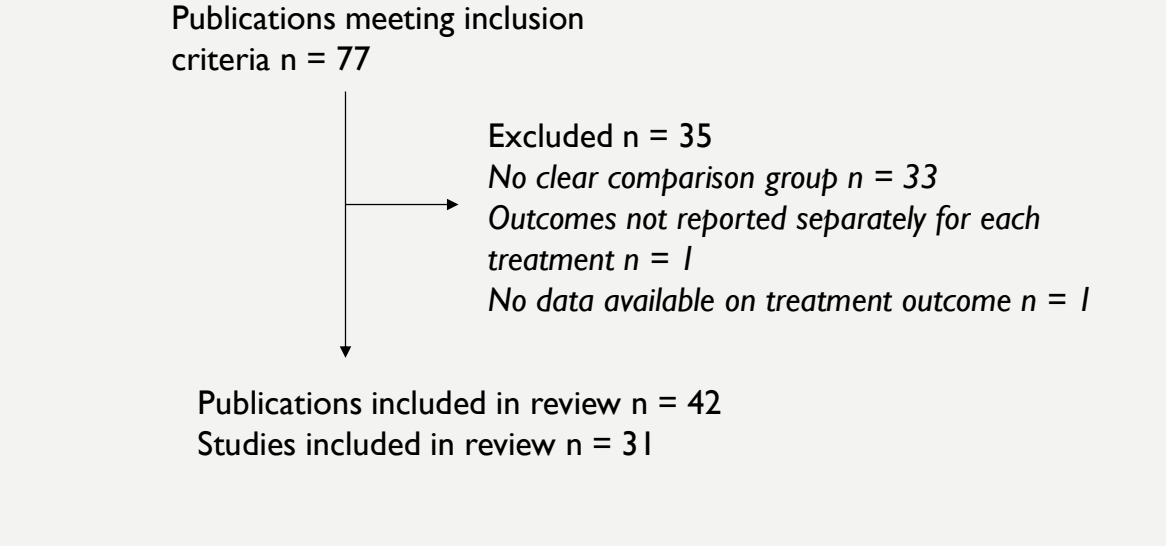
48

Fig 1.1 from CRD Systematic reviews. P.26
Flow Chart of study selection process, step 2A



49

Fig 1.1 from CRD Systematic reviews. P.26
Flow Chart of study selection process, step 2B



50

SELECTING STUDIES

A 2 step process:

•Clearly irrelevant from title/abstract

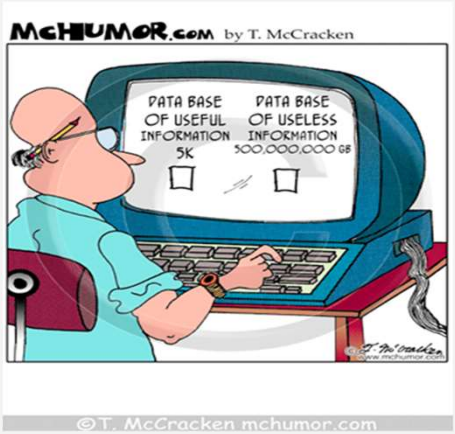
(can the search strategy be more precise?)

•Full report compared with inclusion and exclusion criteria

•Minimize bias:

–Reasons for exclusion documented

–More than one selector and look at your agreement



51

4. EXTRACT STANDARDISED DATA

52

DATA EXTRACTION

What data?

Common to all forms

- An identifying number for the study
- Study design
- Numbers of subjects (in each group)
- Location(s) of the study (country)

53

WHAT DATA?

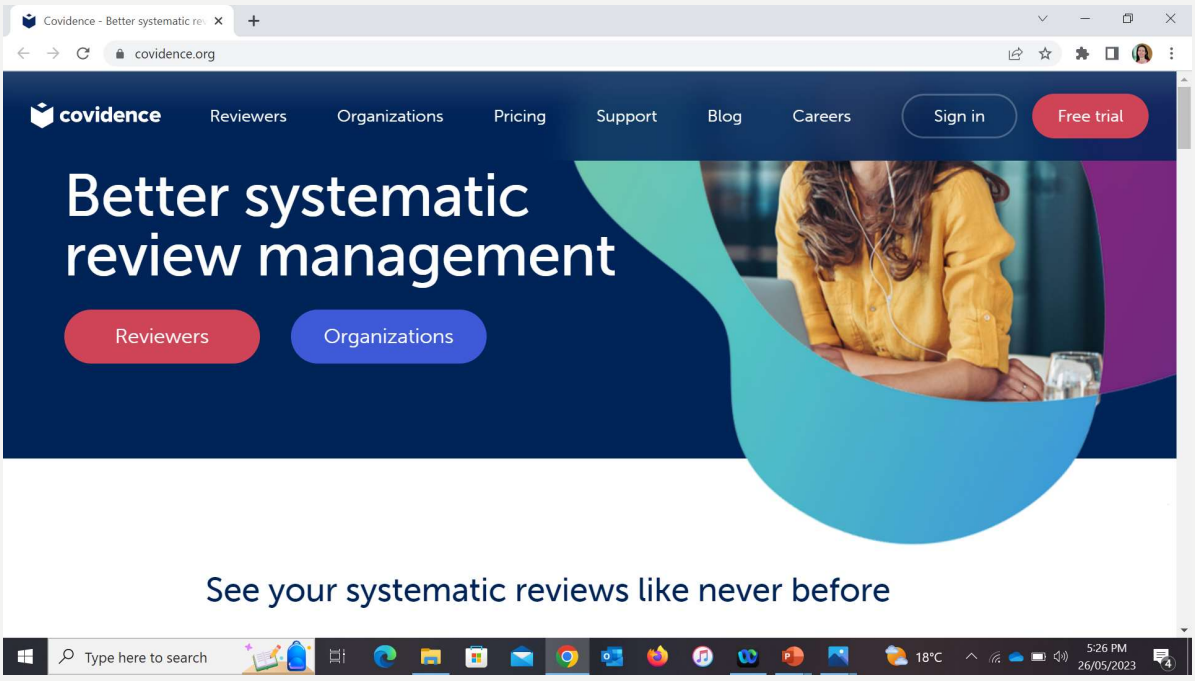
- Document variations in P, I or C elements
- Which outcomes are reported?
- Which measures of an/each outcome
- Results
- Faith in study's ability to answer your question correctly – quality assessment.

54

MANAGING DATA FROM SELECTED STUDIES

- After piloting data extraction form, collect data electronically, eg. on an Excel spreadsheet (this is what I have always used)
- Or better systematic review management – Cochrane technology platform – Video
- https://www.covidence.org/home - link to convidence

55



56

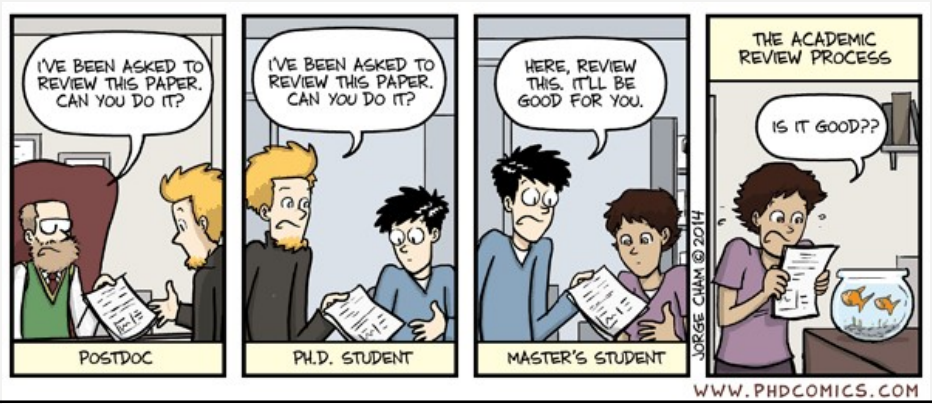
5. ASSESS QUALITY

57

WHAT IS QUALITY?

No standard definition:

1. How much faith can you have in their answer?
2. How confident can you be in the results?
3. How much can they be 'believed'?
4. How close to the 'truth' is it likely to come?



58

WHAT IS QUALITY?

Have to consider:

- Is research design appropriate to Q?
- Risk of bias (chance and systematic)
- Choice of outcome measure (reliable?)
- Statistical issues
- Quality of reporting
- Quality of the intervention
- Generalisability

http://blogs.plos.org/absolutely-maybe/2018/04/30/systematic-reviews-meta-analyses-a-5-step-checkup/

59

ASSESSING STUDY QUALITY AND REPORTING

- Kmet, L., Lee, R. & Cook, L. **Standard quality assessment criteria for evaluating primary research papers for a variety of field**. Available at http://www.crd.york.ac.uk/crdweb/ShowRecord.asp?LinkFrom=OAI&ID=32004000313
- **CONSORT statement**: parallel group RCTs (Shultz et al BMJ 2010. 340;698-702, www.consort-statement.org.)
- **STARD initiative: studies of diagnostic accuracy** (Bossuyt et al BMJ 2003. 326;41-44)
- **STROBE initiative: observational studies** (von Elm et al J Clin Epi 2008.61;344-349, explanation and elaboration, Epi 2007.18(6);805-35)
- **PRISMA statement: systematic reviews and meta-analyses** (Moher et al PLOS Med 2009.6(7);e1000097, explanation and elaboration, PLOS Med 2009.6(7);e1000100)
- **Joanna Briggs Institute** - many great resources and short courses http://joannabriggs.org/

60

6. SUMMARISE

61

SUMMARISE

The data extraction table

If well constructed should tell you:

1. What kind of analyses are possible in your review
2. Whether to seek further data from authors
3. Which factors must be considered as moderating variables
4. Whether you have conflicting evidence – how consistent are the findings

62

SYNTHESISE

Using the data to answer your research question.

Includes assessing consistency, generalisability and strength of the evidence supporting the answer.

63

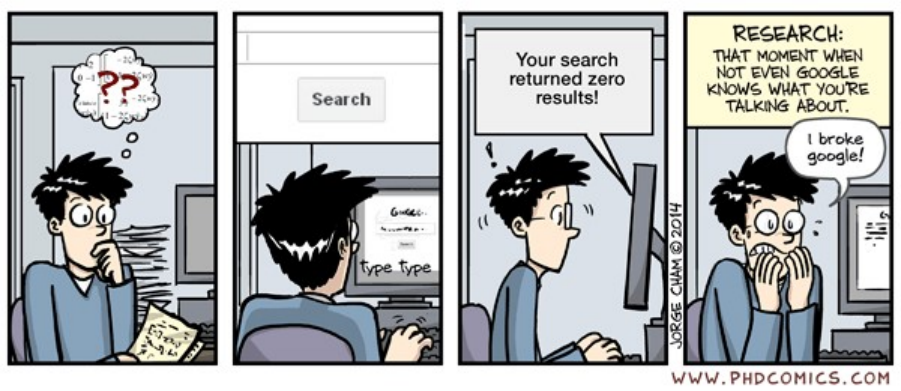
YOUR SYSTEMATIC REVIEW MAY IDENTIFY:

- **New information**
  (e.g. more precise effect estimate; differentiate effects in different patient groups)
- **A satisfactory answer to research question**
- **Unsatisfactory or out-of-date answers**
  (e.g. more data has been published since last review or incomplete or otherwise flawed reviews)
- **Data required to answer the question not available/published**
  (points you in a research direction)
- **It was not a sensible question**
  (& now you know why) sometimes a bit hard to take ☺

64

WHICHEVER

- These are all conclusions that would interest others asking the same question
- You need to be able to justify your conclusion
- You will need to document your review in order to justify your conclusion.



65

STRUCTURE OF A SYSTEMATIC REVIEW REPORT

- **Title** (contents list, glossary)
- **Abstract/Summary** (draft first, finish last)
- **Background/Introduction**
- **Methods** (protocol inc quality & synthesis)
- **Results** (descriptive (data extraction form), findings (analytical results))
- **Discussion** (Interpretation of findings)
- **Conclusions** (so what? for practice/further research etc)

- **Acknowledgements, Conflicts of interest, References, Appendices** (search commands for each electronic database, table of 'near miss' excluded studies with reason for exclusion)

66

SYNTHESIS

Qualitative

and/or

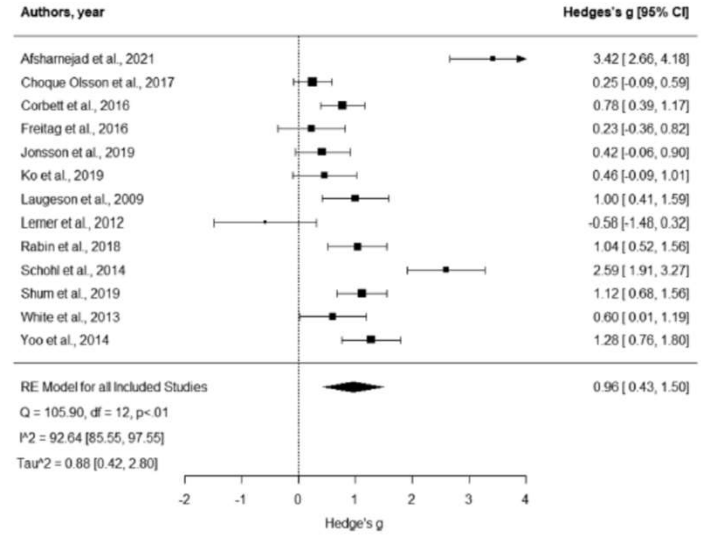
Quantitative?

67

EXAMPLE OF A FOREST PLOT

Journal of Autism and Developmental Disorders

Fig. 2 Forest plot comparison of all outcomes. Analysis was based on the aggregated score calculated from the total score of all outcomes used within each study. Positive scores indicate more significant improvement for the intervention group compared to the control group from baseline to post-test




ORIGINAL PAPER

The Methodological Quality and Intervention Fidelity of Randomised Controlled Trials Evaluating Social Skills Group Programs in Autistic Adolescents: A Systematic Review and Meta-analysis

68

Afsharnejad *et al. Trials* (2019) 20:687
https://doi.org/10.1186/s13063-019-3721-9

Trials

STUDY PROTOCOL Open Access

KONTAKT© for Australian adolescents on the autism spectrum: protocol of a randomized control trial

Bahareh Afsharnejad[1,2], Marita Falkmer[1,2,3], Melissa H. Black[1,2], Tasha Alach[4], Fabian Lenhard[5], Anna Fridell[5], Christina Coco[5], Kelly Milne[4], Nigel T. M. Chen[2], Sven Bölte[1,2,5] and Sonya Girdler[1,2*]

69

QUALITY

- In meta-analysis of very similar RCTs sample size & initial equivalence of comparison groups within individual RCTs not important
- When a study must 'stand alone', statistical power and initial equivalence of groups being compared are very important determinants of quality.

70

WHEN IS META ANALYSIS POSSIBLE?

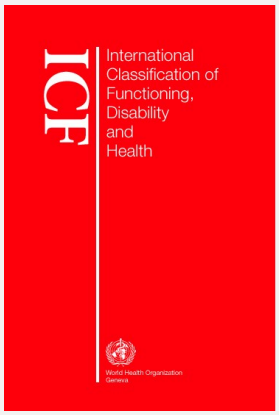
- Must have measures of the same outcome
- Outcomes must be expressible in a comparable manner.
- Need studies with similar PICOS elements
- When does a variation in elements become significant?

  When it is associated with a sig difference in effect size.
- When you have at least 2 "sufficiently similar" studies that report at least one outcome in common.

71

FRAMEWORK FOR NARRATIVE SYNTHESIS
CRD P.49

- **Develop a theory**
  - Can be linked to a theory such as the International Classification for Functioning, Disability and Health
- **Develop preliminary synthesis**
  - tabulation, groupings, construct common measure
- **Explore relationships within and between studies**
  - Moderator variables, sub-group analysis, graph relationships between study characteristics & results, qualitative case descriptions, conceptual mapping
- **Assess robustness of synthesis**
  - think about it



72

FRAMEWORK FOR NARRATIVE SYNTHESIS
BLAIR INTERPRETATION

- **Develop an hypothesis**
  (from data summary tabulation, groupings, construct common measure, vote counting, previous experience, underlying biology etc.)
- **Does your hypothesis fit all observed results?**
  (test it every way the available data allows you to) **If not**
- **Can it be amended to better fit the results?**
  (sub-group analysis) **If not begin again**
- **What further evidence would test your hypothesis?**
  (guides further research)

73

7. CONCLUSIONS

74

CONCLUSIONS

- What did you find?
- What does this mean?
- How do these findings impact on future research?
  - What questions are important to answer?
  - What needs to be done
  - Guides the next step
- Clinical Implications
  - What do the findings mean for evidence-based practice
  - Some of the work I have done

75

AN INVITED NARRATIVE REVIEW

Cellular and Molecular Life Sciences (2019) 76:1275–1297
https://doi.org/10.1007/s00018-018-2988-4

Cellular and Molecular Life Sciences

REVIEW

The contribution of environmental exposure to the etiology of autism spectrum disorder

Sven Bölte[1,2] · Sonya Girdler[2] · Peter B. Marschik[1,3,4]

Received: 6 September 2018 / Revised: 14 November 2018 / Accepted: 4 December 2018 / Published online: 20 December 2018

76

Original article

autism

Factors impacting employment for people with autism spectrum disorder: A scoping review

Autism
1–33
© The Author(s) 2018
Reprints and permissions:
sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/1362361318787789
journals.sagepub.com/home/aut
SAGE

Melissa Scott[1,2], Ben Milbourn[1], Marita Falkmer[1,2,3], Melissa Black[1,2], Sven Bölte[4,5], Alycia Halladay[6,7], Matthew Lerner[8], Julie Lounds Taylor[9,10,11] and Sonya Girdler[1,2]

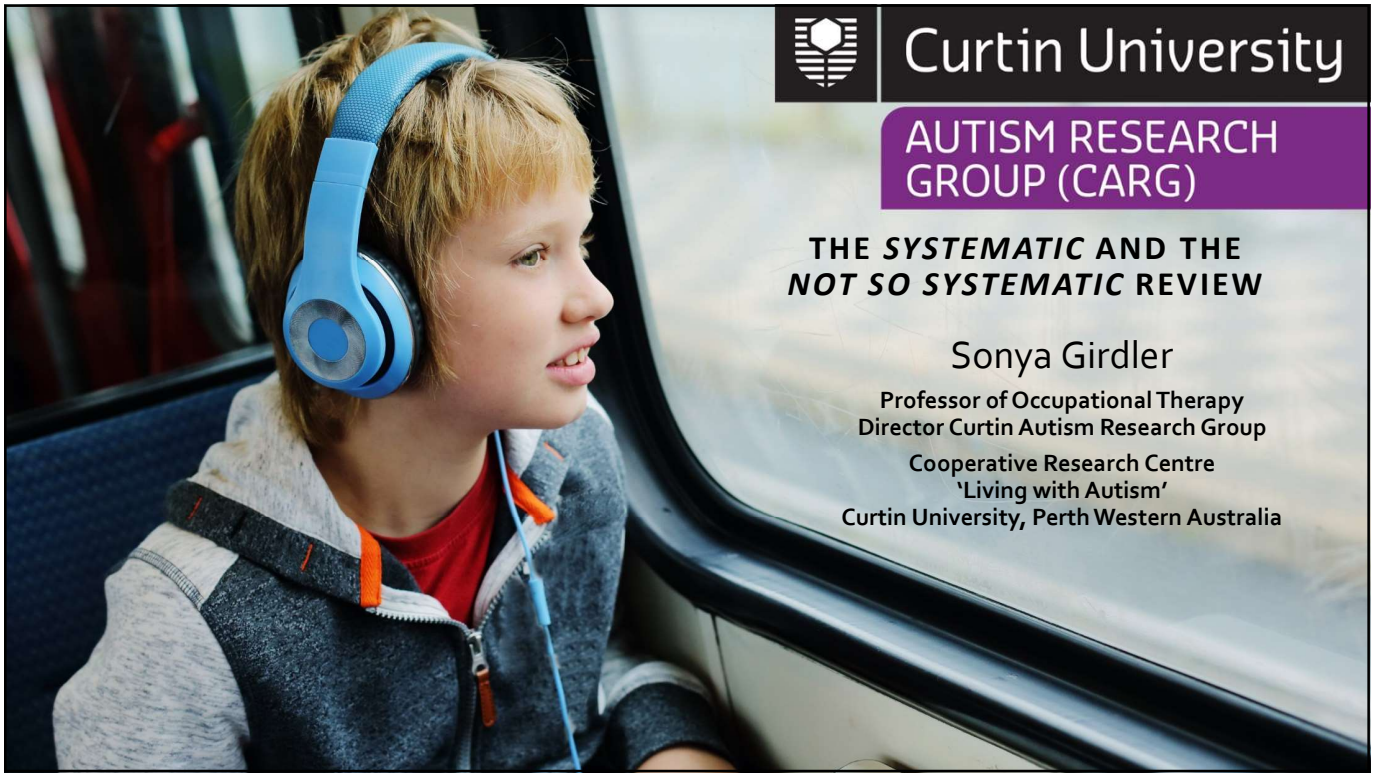
- Guided an international survey and informed an international policy brief funded by the International Society for Autism Research

77

GOOD LUCK!

DO SYSTEMATIC REVIEW!

78



79

Questions?

Comments?

80

Upcoming Research Skills Workshops + Seminars

16 June Consumer and Community Involvement in Research
Belinda Frank, Telethon Kids Institute

23 June Project Management Melanie Wright, East Metro Health Service

27 June Advanced REDCap and Creating Surveys Walkthrough Workshop
Dr Jane Mugure Githae, CAHS Research Education Program

Register → **researcheducationprogram.eventbrite.com.au**

We love feedback

A survey is included in the back of your handout, or complete online
https://tinyurl.com/surveySystematicReviews

✉ ResearchEducationProgram@health.wa.gov.au cahs.health.wa.gov.au/ResearchEducationProgram

81

✉ ResearchEducationProgram@health.wa.gov.au
cahs.health.wa.gov.au/ResearchEducationProgram

82

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

Conducting Systematic Reviews

RESOURCE NOTES

CAHS Research Education Program Research Skills Seminar Series
✉ ResearchEducationProgram@health.wa.gov.au
cahs.health.wa.gov.au/ResearchEducationProgram

Table of Contents

1. Additional Reading

Standard quality assessment criteria for evaluation of primary research papers from a variety of fields

https://www.ihe.ca/advanced-search/standard-quality-assessment-criteria-for-evaluatingprimary-research-papers-from-a-variety-of-fields

Daudt HM, van Mossel C, Scott SJ. Enhancing the scoping study methodology: a large, interprofessional team's experience with Arksey and O'Malley's framework. BMC Med Res Methodol. 2013;13:48.

https://bmcmedresmethodol.biomedcentral.com/articles/10.1186/1471-2288-13-48

Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. Implement Sci. 2010;5:1–9.

https://link.springer.com/article/10.1186/1748-5908-5-69

CONSORT statement: parallel group RCTs (Shultz *et al* BMJ 2010. 340;698-702)

http://www.consort-statement.org/Media/Default/Downloads/CONSORT%202010%20Statement/CONSORT%202010%20Statement%20-%20Journal%20of%20Clinical%20Epidemiology.pdf

STARD initiative: studies of diagnostic accuracy (Bossuyt *et al* BMJ 2003. 326;41-44)

STROBE initiative: observational studies (von Elm *et al* J Clin Epi 2008.61;344-349, explanation and elaboration, Epi 2007.18(6);805-35)

PRISMA statement: systematic reviews and meta-analyses (Moher *et al* PLOS Med 2009.6(7); e1000097, explanation and elaboration, PLOS Med 2009.6(7); e1000100)

2. Guides and other training

2.1. Curtin University Library Guide

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

2.2. University of York

Centre for Reviews and Dissemination

Systematic Reviews: CRD's Guidance for Undertaking Reviews in Health Care

https://www.york.ac.uk/media/crd/Systematic_Reviews.pdf

Database of Abstracts of Reviews of Effects (DARE)

https://www.crd.york.ac.uk/CRDWeb/

PROSPERO – International Register of Systematic Reviews

https://www.crd.york.ac.uk/prospero/

2.3. University of Western Australia

https://guides.library.uwa.edu.au/systematicreviews

2.4. Monash University Library Guide

https://guides.lib.monash.edu/systematic-review

2.5. Flinders University Systematic Review Library Guide

http://flinders.libguides.com/systematicreview

2.6. Department of Health Library, SMHS/EMHS

https://selibrary.health.wa.gov.au

2.7. NHMRC

How to review evidence: Systematic identification and review of the scientific literature
https://www.nhmrc.gov.au/about-us/publications/how-review-evidence

2.8. Cochrane

Cochrane Database of Systematic Reviews (CDSR)
http://www.cochranelibrary.com/cochrane-database-of-systematic-reviews/

Cochrane Handbook of Systematic Reviews
https://training.cochrane.org/handbook

Cochrane Free Online Module – Introduction: Conducting Systematic Reviews
http://training.cochrane.org/interactivelearning/module-1-introduction-conductingsystematic-reviews

Full Cochrane Systematic Review Course (not free)
http://training.cochrane.org/interactivelearning

Cochrane Technology Platform: Systematic Review Management
https://www.covidence.org/home

https://training.cochrane.org/essentials

https://training.cochrane.org/interactivelearning

2.9. Joanna Briggs Institute

http://joannabriggs.org/

2.10. Reviewers Manual:

https://nursing.lsuhsc.edu/JBI/docs/ReviewersManuals/Umbrella%20Reviews.pdf

2.11. EPPI Centre

https://eppi.ioe.ac.uk/cms/

2.12. DoPHER:

https://eppi.ioe.ac.uk/webdatabases4/Intro.aspx?ID=9

2.13. Other Training

https://www.coursera.org/learn/systematic-review

2.14. Research Screener

The Department of Research at CAHS is offering a limited number of places for research staff to use Research Screener.

What is Research Screener?

Research Screener is a web-based application that semi-automates the process of conducting literature and systematic reviews. It does this by ranking research articles based on their relevance using machine learning and natural language processing to improve the research screening process.

When undertaking literature and systematic reviews you can spend the majority of your time screening thousands of articles for relevance. On average it takes 63 weeks to publish a systematic review article and the time and productivity lost cost up to $10,000 for each paper.

From early validation of Research Screener on 9 previous systematic review studies, the algorithm/AI model was able to potentially save the researchers between 63 to 92% of the manual screening time reading irrelevant abstracts. For example, for one systematic review, the algorithm ranked all the relevant abstracts in the first 2,950 abstracts out of 23,423 (ie 13% would only need to be read by the researchers).

For more information visit www.researchscreener.com using Chrome.

What do I need to do?

If this is something you or someone in team may be interested in please email CAHS.researchsupport@health.wa.gov.au

This is a great opportunity to get some of those projects involving literature and systematic reviews out of the way!

3. Other resources of interest

https://iebh.bond.edu.au/education-services/research-tools
https://www.cebm.ox.ac.uk/resources
https://www.cebm.ox.ac.uk/resources/data-extraction-tips-meta-analysis
https://www.who.int/alliance-hpsr/resources/publications/rapid-review-guide/en/

4. Acknowledgements

Centre for Reviews and Dissemination
http://www.york.ac.uk/inst/crd/pdf/Systematic_Reviews.pdf

Prof Roslyn Boyd, generously sharing her expertise and notes from her own course conducted in QLD

Dr Eve Blair

Many other sources, as referenced throughout Prof Sonya Girdler's presentation

Prof Sonya Girdler's amazing doctoral students – who have done so many of these reviews

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital **Foundation**

CAHS Research Education Program

Research Skills Seminar Series

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact.

2023 Seminar Schedule

Interactive in pdf format
Last updated 18/05/23

	DATE	TOPIC	PRESENTER	ENROL	WATCH
1	3 Mar	**Research Fundamentals**	Dr Kenneth Lee, UWA	-	2023
2	17 Mar	**Introductory Biostatistics**	Michael Dymock, TKI	-	2023
3	28 Apr	**Scientific Writing**	A/Prof Tony Kemp, UWA	-	2023
4	5 May	**REDCap for Data Capture and Management**	Dr Jane Mugure Githae, CAHS	-	2023
5	12 May	**Using Social Media in Research**	Dr Kenneth Lee, UWA	-	2023
6	19 May	**Getting the Most out of Research Supervision**	A/Prof Sunalene Devadason, UWA/CAHS	-	2022
7	26 May	**Research Impact**	Dr Tamika Heiden, Vic	-	2023
8	2 Jun	**Survey Design & Techniques**	Dr Jane Mugure Githae, CAHS	-	2023
9	9 Jun	**Conducting Systematic Reviews**	Prof Sonya Girdler, Curtin Uni	-	2022
10	16 Jun	**Consumer & Community Involvement in Research**	Belinda Frank, TKI	REGISTER	2022
11	23 Jun	**Project Management**	Melanie Wright, SMHS	REGISTER	2022
12	30 Jun	**Sample Size Calculations**	Michael Dymock, TKI	REGISTER	2022
13	21 Jul	**Introduction to Good Clinical Practice**	Alexandra Robertson, CAHS	REGISTER	2021
14	28 Jul	**Data Collection and Management**	DoH Data Library, tbc	REGISTER	2022
15	4 Aug	**Rapid Critical Appraisal of Scientific Literature**	Dr Natalie Strobel, ECU	REGISTER	2022
16	18 Aug	**Media and Communications in Research**	tbc	REGISTER	2022
17	25 Aug	**Oral Presentation of Research Results**	Dr Jane Mugure Githae, CAHS	REGISTER	2022
18	1 Sep	**Involving Aboriginal Communities in Research**	Cheryl Bridge, Mara West and Mel Robinson – TKI and CAHS	REGISTER	2022
19	8 Sep	**Knowledge Translation**	A/Prof Fenella Gill, Curtin Uni/CAHS	REGISTER	2021
20	13 Oct	**Research Governance**	Natalie Giles, CAHS	REGISTER	2022
21	20 Oct	**Grant Applications and Finding Funding**	Dr Tegan McNab, TKI	REGISTER	2022
22	27 Oct	**Statistical Tips for Interpreting Scientific Claims**	Michael Dymock, TKI	REGISTER	2022
23	17 Nov	**Ethics Processes for Clinical Research in WA**	Natalie Giles, CAHS	REGISTER	2020
24	24 Nov	**Qualitative Research Methods**	Dr Shirley McGough, Curtin Uni	REGISTER	2022
25	1 Dec	**Innovation and Commercialisation**	Dr Helga Mikkelsen, Brandon BioCatalyst + Ashley Schoof	REGISTER	2022

Register via Eventbrite

View recorded seminars online

Subscribe to our mailing list

Contact Us

☎ (08) 6456 0514

✉ researcheducationprogram@health.wa.gov.au

cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program

Seminars are held from 12:30-1:30pm at Perth Children's Hospital Auditorium and are broadcast live online through Teams and Avaya.
Seminars are recorded and uploaded to our website within a week of presentation. Topics are subject to change with appropriate email notice provided.
Handouts are revised and updated regularly. A light lunch is provided for attendees at our PCH auditorium. Attendance certificates are available on request.

Government of **Western Australia**
Child and Adolescent Health Service

CAHS Research Education Program

Research Skills Seminar Series 2023

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact

Consumer and Community Involvement in Research

16th June 2023

12.30-1.30pm

Every researcher should be actively involving consumer or community members to improve quality and increase impact of their research. Community involvement is increasingly a requirement for funding agencies. This seminar provides a practical introduction and will cover basic principles of consumer and community involvement, the benefits and barriers, and what to put in place to get started.

Perth Children's Hospital Auditorium

Level 5, 15 Hospital Ave Nedlands
Accessible via pink or yellow lifts
- OR -
Access online via Teams or Avaya
- OR -
Watch live
from a hosted video-conferencing site

- Bunbury Hospital
- Fiona Stanley Hospital
- Lions Eye Institute
- Royal Perth Hospital

Register via Eventbrite

View recorded seminars online

Subscribe to our mailing list

Meet the presenter

Belinda Frank
Involvement Coordinator
Telethon Kids Institute

Belinda started her consumer advocacy work in 2002, originally as a board member and then state manager for a not for profit organisation.

In 2016 she started work at TKI as the Consumer Advocate then moving into the Development Team with the establishment of the Consumer and Community Health Research Network.

Belinda currently serves on state and national research committees.

TELETHON KIDS INSTITUTE
Discover. Prevent. Cure.

researcheducationprogram@health.wa.gov.au (08) 6456 0514
cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program

Government of **Western Australia**
Child and Adolescent Health Service

CAHS Research Education Program

Research Skills Seminar Series 2023

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact

Project Management

23rd June 2023

12.30-1.30pm

Efficient and effective project management techniques are essential to move your research project from initiation to execution, through to success.

This seminar provides insights to improve internal communications, foster team alignment, facilitate risk management and improve workflows for smooth processes and engaged stakeholders.

Perth Children's Hospital Auditorium

Level 5, 15 Hospital Ave Nedlands
Accessible via pink or yellow lifts

- OR -

Access online via Teams or Avaya

- OR -

Watch live
from a hosted video-conferencing site

- Bunbury Hospital
- Fiona Stanley Hospital
- Lions Eye Institute
- Royal Perth Hospital

Register via Eventbrite

View recorded seminars online

Subscribe to our mailing list

Meet the presenter

Melanie Wright
Director Research
South Metropolitan Health Service

Excellent health care, every time
Care ▪ Integrity ▪ Respect ▪ Excellence ▪ Teamwork

Mel has 39 years of healthcare experience and for the past 6 years has led strategic transformation of the research environment in SMHS, achieving significant cultural change, to one where researchers are supported, enabled and empowered to conduct high quality local, state and international research projects.

Mel is passionate about project management, research and involving consumers with lived experience in every aspect of healthcare as equal and active partners. Mel has over 10 years of healthcare project management experience and she is also passionate about teaching, coaching and mentoring staff to achieve their very best.

researcheducationprogram@health.wa.gov.au (08) 6456 0514
cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program

Government of **Western Australia**
Child and Adolescent Health Service

CAHS Research Education Program

2023 REDCap Workshop Series

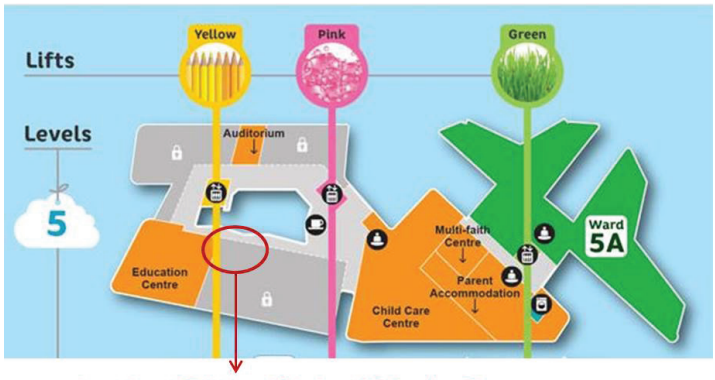
REDCap Workshop 6: Advanced REDCap

27th June 2023 • 1.00 - 3.30pm • PCH, TKI Level 5 Seminar Room

This workshop explores a more in-depth look at advanced features in REDCap and how to design and distribute a survey through REDCap.

Enrolment in this workshop requires previous attendance at one of our preliminary sessions (Basic OR Intermediate) or be able to demonstrate that you are already administering projects within REDCap.

Can you comfortably create a matrix of fields, use branching logic, piping and calculated fields?
If you answer No to any of the above, please register for an Intermediate Workshop.



Location of the TKI Seminar Room

Accessible via yellow or pink lifts

About the Presenter

Dr Jane Mugure Githae
REP Research Fellow

Mugure joins us from Kenya where she practiced as a General Surgeon & Honorary Lecturer in General Surgery. She has experience in clinical research, clinical audits and medical education. She is keen to simplify the process of integrating day-to-day clinical work with research.

REDCap
Research Electronic Data Capture

https://20230627RedcapAdvanced.eventbrite.com.au

Register via Eventbrite

View our online REDCap resources

Subscribe to our mailing list

Places are strictly limited and offered on a first-come, first-serve basis. If you are unable to attend a workshop for which you have registered, please contact Research Education Program support via email to cancel your booking and/or be placed in another workshop or on the waitlist.

Laptops are available if required

Contact Us

(08) 6456 0514 researcheducationprogram@health.wa.gov.au
cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program

Perth Children's Hospital Foundation

REDCap Workshops are presented by the Research Education Program, CAHS Department of Research, WA Department of Health.
In partnership and with support from the PCH Foundation and Telethon Kids Institute as part of the Research Education Program REDCap Workshop Series.

TELETHON KIDS INSTITUTE
Discover. Prevent. Cure.

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

cahs.health.wa.gov.au/ResearchEducationProgram

CAHS Research Education Program Research Skills Seminar Series

✉ ResearchEducationProgram@health.wa.gov.au
cahs.health.wa.gov.au/ResearchEducationProgram