CAHS Research Education Program

Research Skills Seminar

Conducting Systematic Reviews

16th August 2024

Presented by

Prof Sonya Girdler
Professor of Occupational Therapy
Director of the Curtin Autism Research Group (CARG)
Director of Program 3 of the 'Living with Autism'
Cooperative Research Centre

Curtin University

Perth Children's Hospital Foundation

Child and Adolescent Health Service, Department of Research

Department of Health, Government of Western Australia

CAHS Research Education Program Research Skills Seminar Series

✉ ResearchEducationProgram@health.wa.gov.au

cahs.health.wa.gov.au/ResearchEducationProgram

Perth Children's Hospital Foundation

Conducting Systematic Reviews

PRESENTATION SLIDES

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

Conducting Systematic Reviews

16th August 2024

Prof Sonya Girdler

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

Compassion | Excellence | Collaboration | Accountability | Equity | Respect

Curtin University

Perth Children's Hospital Foundation

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Acknowledgement of Country

The Child and Adolescent Health Service acknowledge Aboriginal people of the many traditional lands and language groups of Western Australia.
We acknowledge the wisdom of Aboriginal Elders both past and present and pay respect to Aboriginal communities of today.

2

CAHS Research Education Program

Research Skills Seminar Series

- Over 25 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

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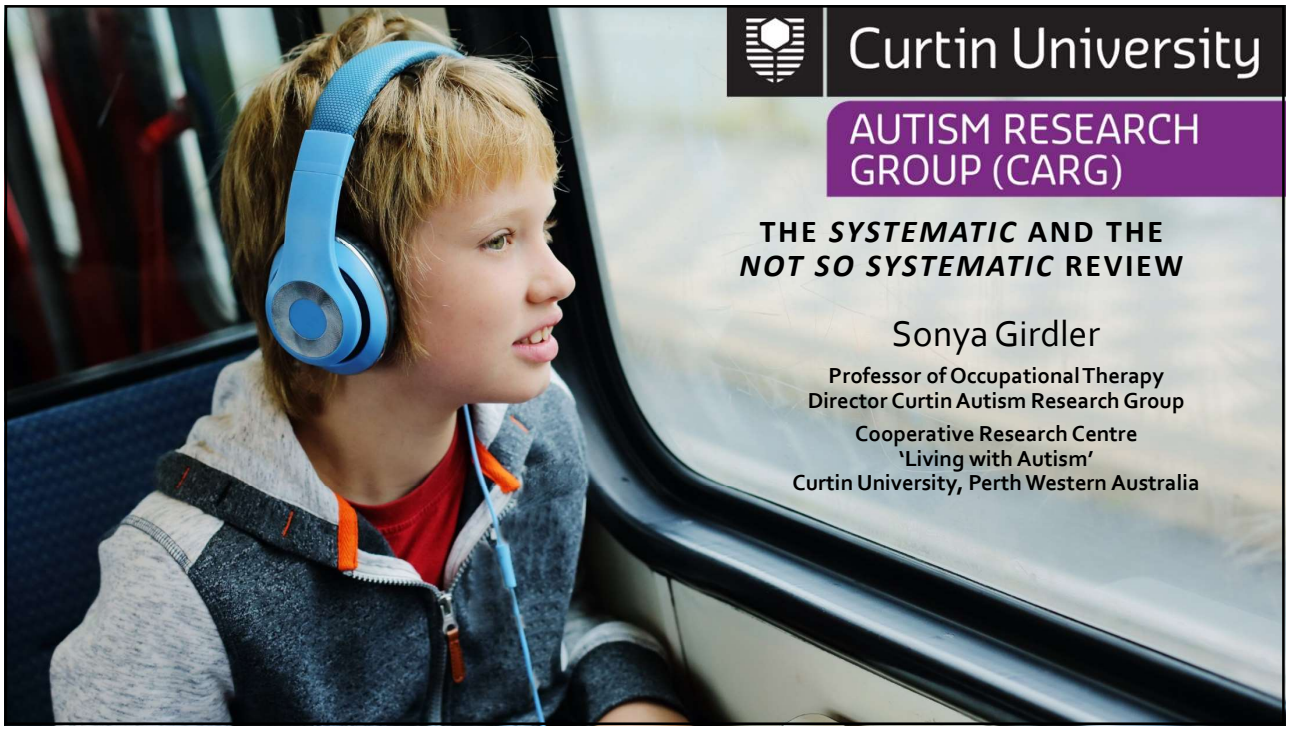

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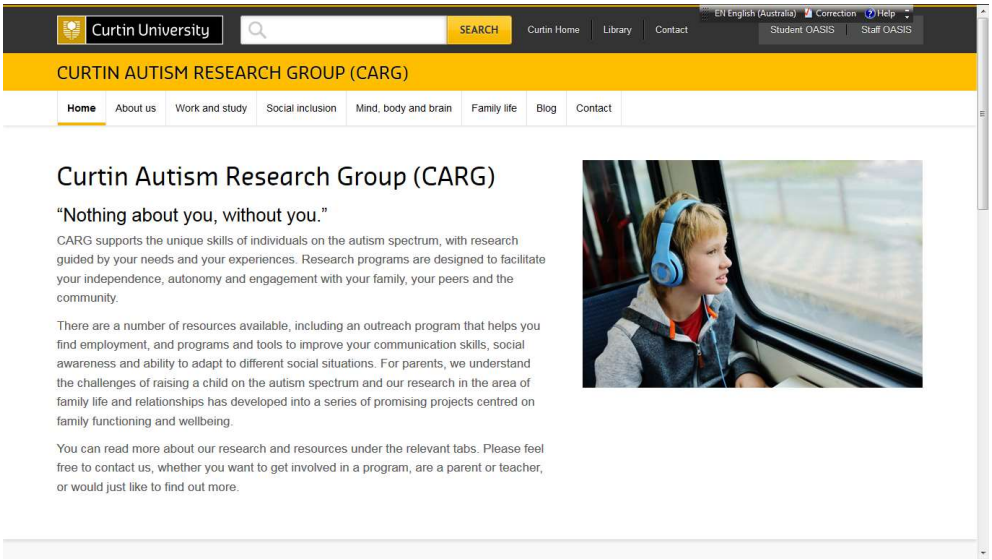
https://carg.curtin.edu.au/



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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

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TODAY'S TALK WILL BE A SMÖRGÅSBORD

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

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WHERE TO GO FOR HELP!

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

LINK TO LIBRARY GUIDE

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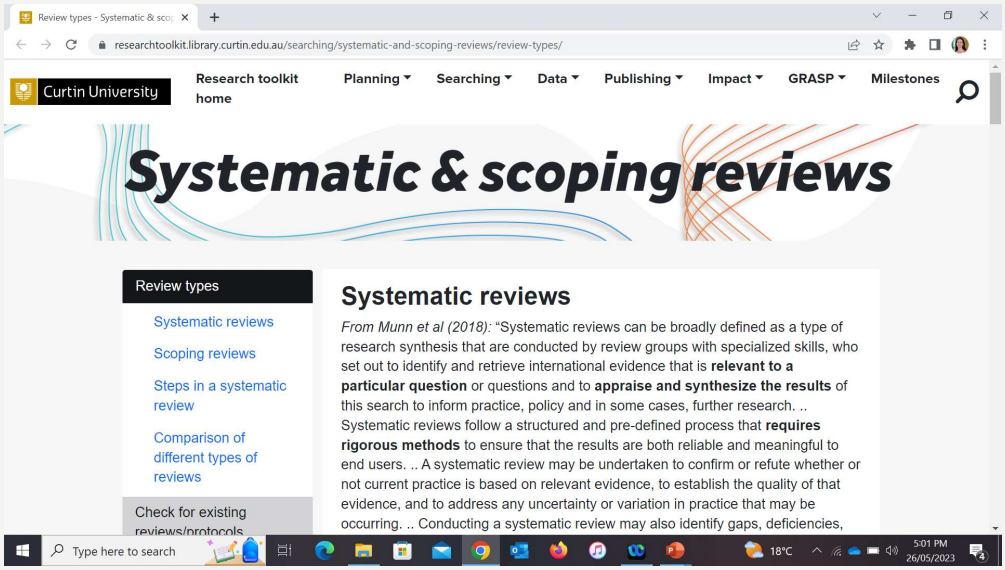
HTTPS://RESEARCHTOOLKIT.LIBRARY.CURTIN.EDU.AU/SEARCHING/SYSTEMATIC-AND-SCOPING-REVIEWS/REVIEW-TYPES/



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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?

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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.

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.

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

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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

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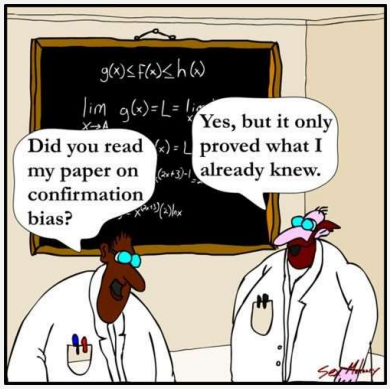
SOME POSSIBLE SOURCES OF BIAS

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



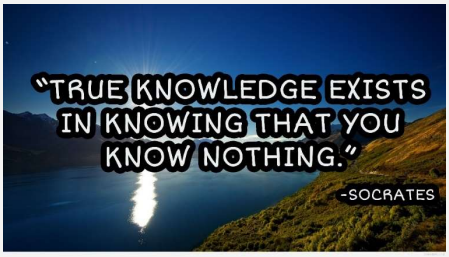
https://www.pinterest.com.au/pin/606579262093273314/

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)

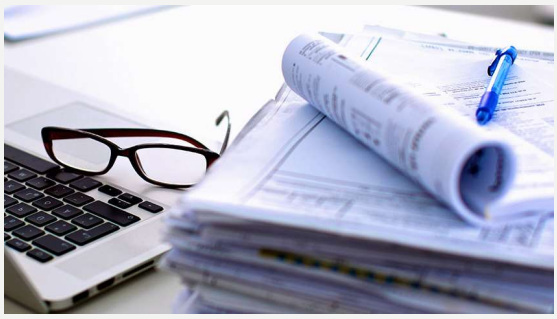
WHAT MAKES EVIDENCE VALID?

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



ASSESSMENT OF VALIDITY

- Only possible with adequate documentation!



WHY DO A (GOOD) SYSTEMATIC REVIEW?

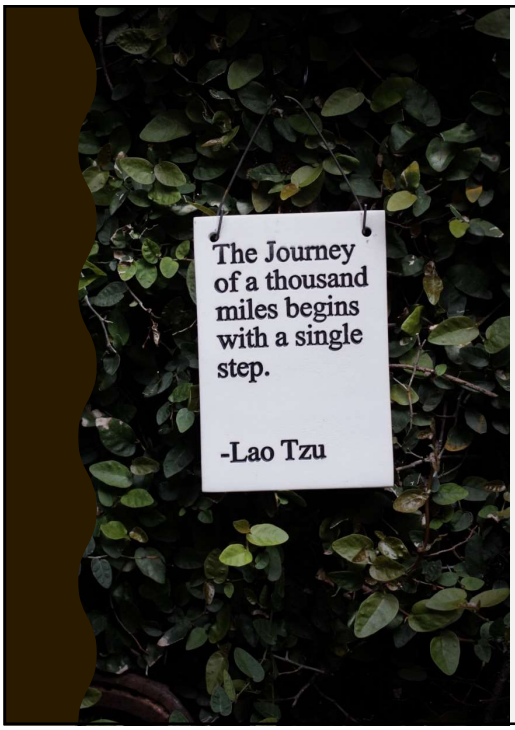
To get the answer most likely to be true, according to the best available evidence, or to identify what further evidence is required to provide the answer.

WHY DO A (GOOD) SYSTEMATIC REVIEW?

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

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



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?

1. DEFINING THE QUESTION

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PICOS

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

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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?

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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

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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

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**

DOES CIMT BENEFIT MY PATIENT?

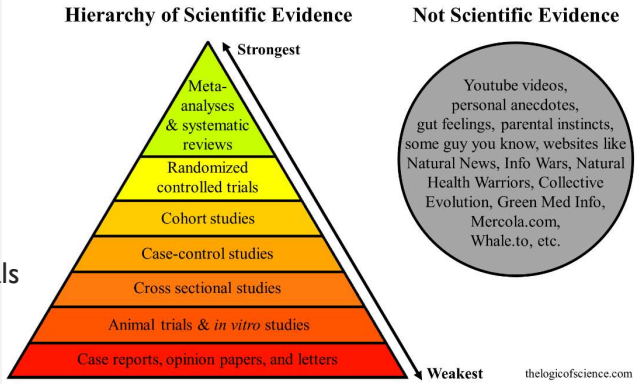
- Does providing one hour of Constrain Induced Movement Therapy weekly for a 6 month period **(I)** to children with spastic hemiplegia ages 4-6 years **(P)** result in a greater increase in range of routinely performed bimanual tasks **(O)** than that observed in similar children that do not receive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

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.

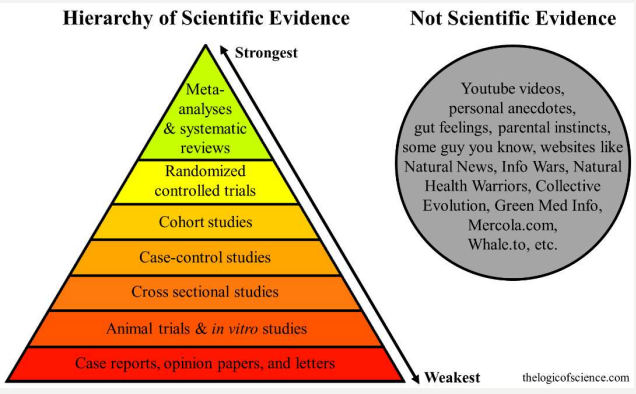
HIERARCHY OF STUDY DESIGN I

- 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



HIERARCHY OF STUDY DESIGN II

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



2. SEARCH

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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

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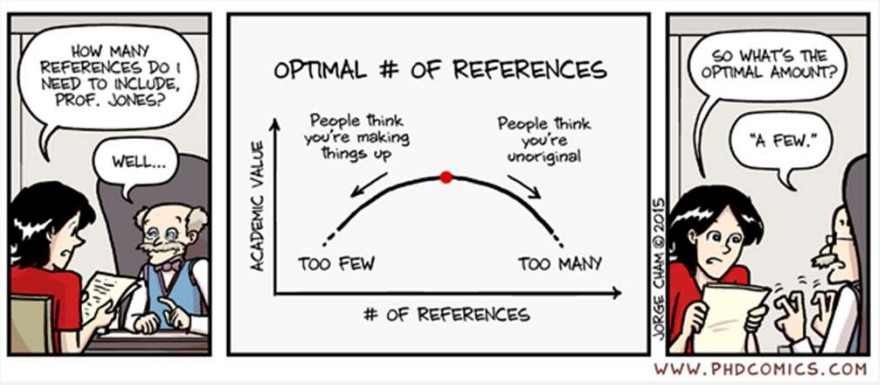
WHAT EVIDENCE?

Studies vs reports of studies vs reviews



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)*

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

THE SEARCH STRATEGY – ELECTRONIC DATABASES

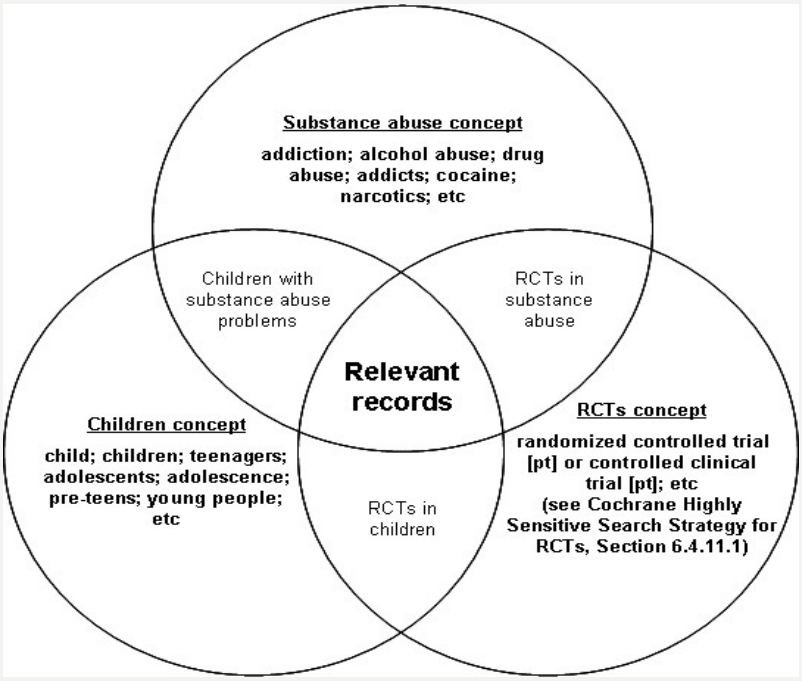
Sensitive (cast the net wide)

include **essential** inclusion criteria only

Synonyms and spelling variations

preferably not too many (eg. intellectual impairment)

Explode, Focus, Scope



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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

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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

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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.

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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.

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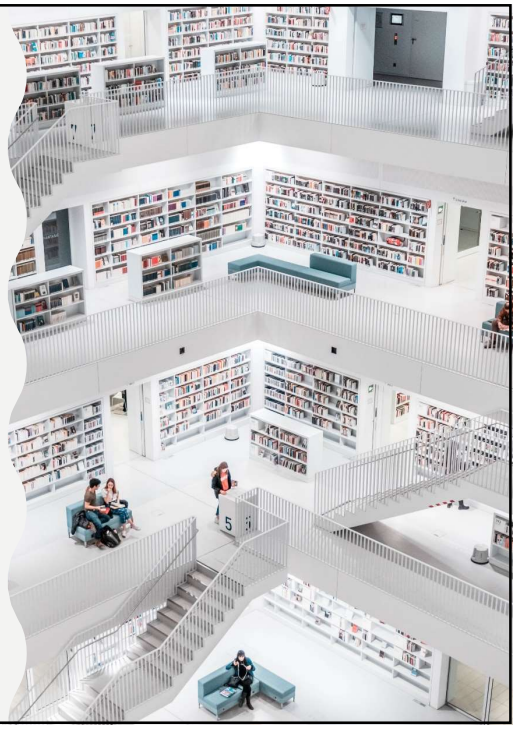
LIBRARIANS ARE YOUR FRIENDS!

- 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



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3. SELECTING STUDIES

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SELECTING STUDIES

A two step process:

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

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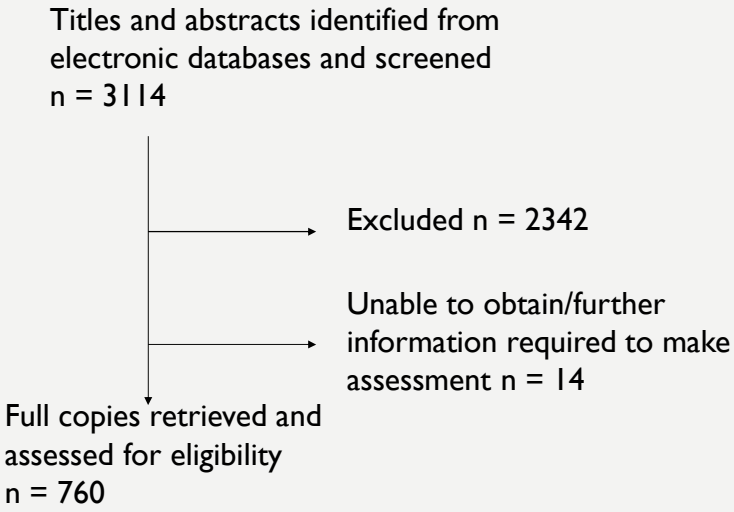
Fig 1.1 from CRD Systematic reviews. P.26
Flow Chart of study selection process step 1



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)

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

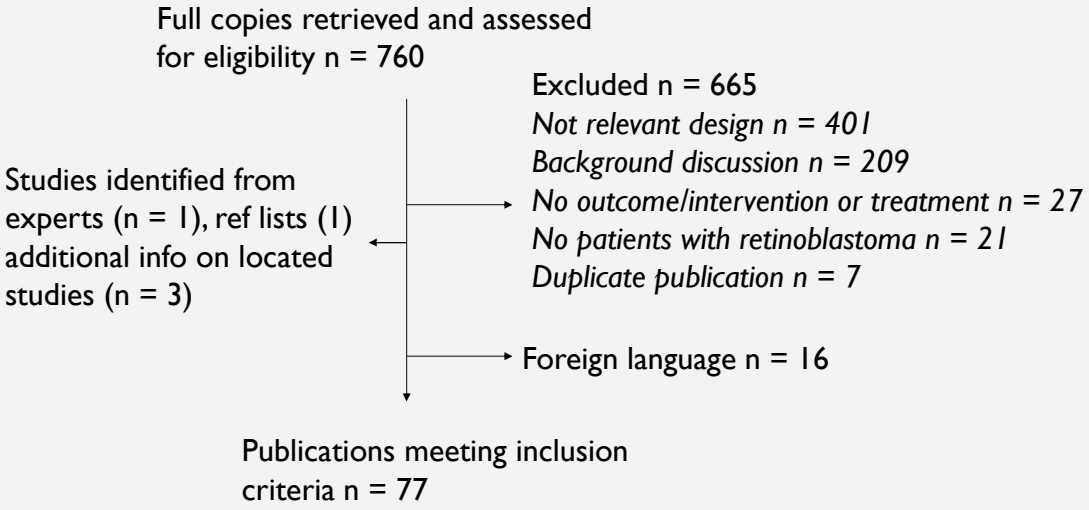
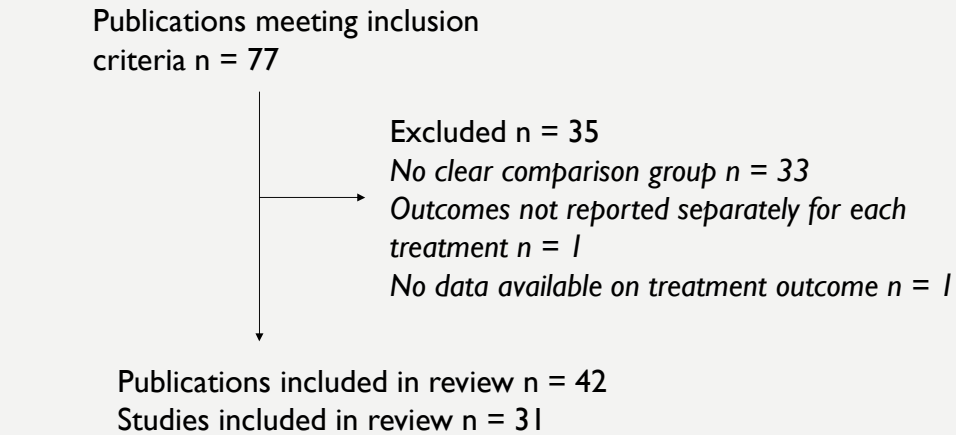


Fig 1.1 from CRD Systematic reviews. P.26
Flow Chart of study selection process, step 2B



SELECTING STUDIES

A 2 step process:

•Clearly irrelevant from title/abstract

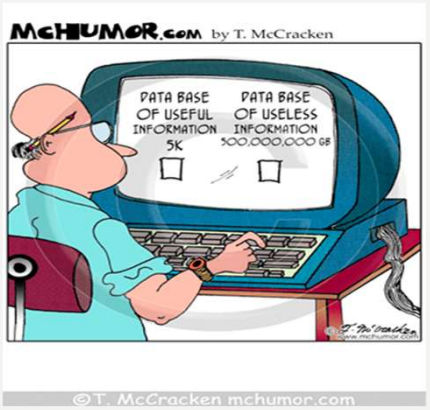
(can the search strategy be more precise?)

•Full report compared with inclusion and exclusion criteria

•Minimize bias:

–Reasons for exclusion documented

–More than one selector and look at your agreement



4. EXTRACT STANDARDISED DATA

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)

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.

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

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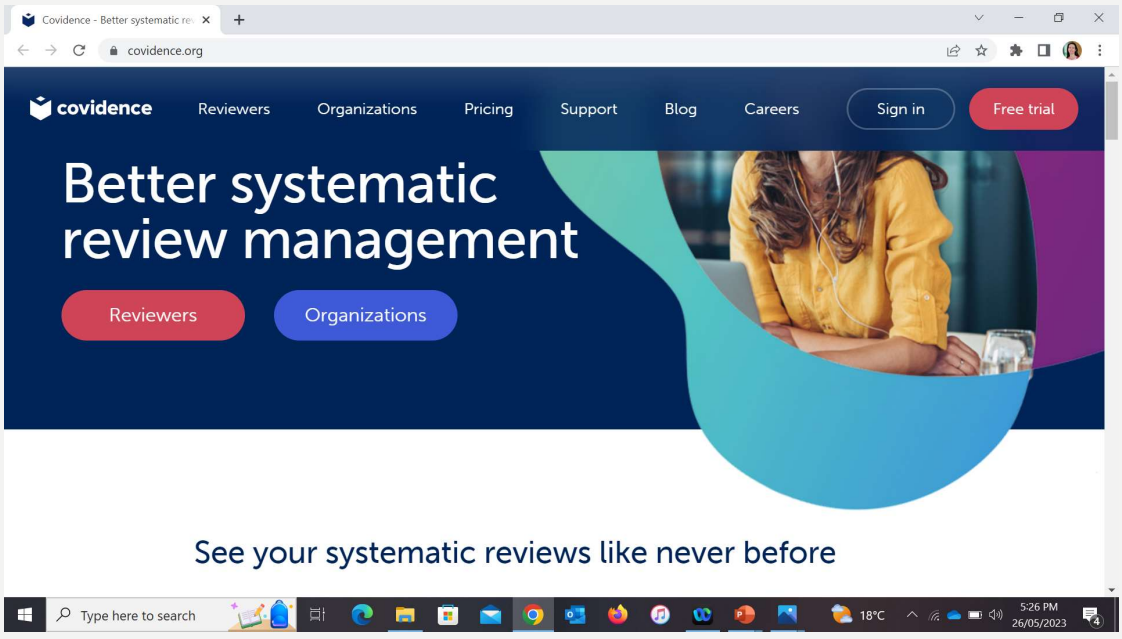

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5. ASSESS QUALITY

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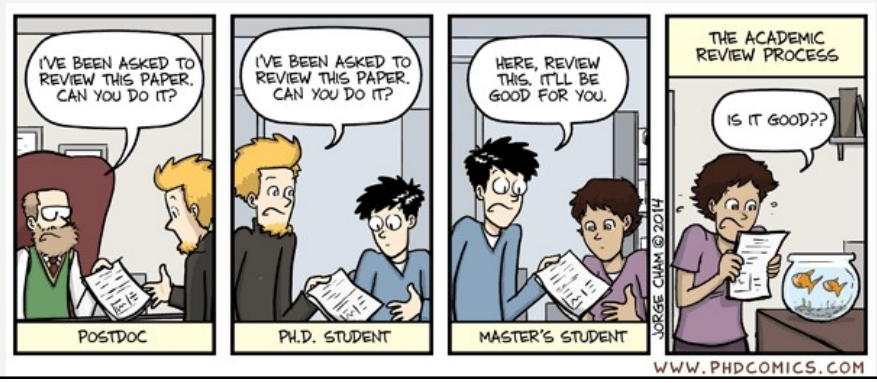
WHAT IS QUALITY?

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?



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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/

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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/

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6. SUMMARISE

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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

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SYNTHESISE

Using the data to answer your research question.

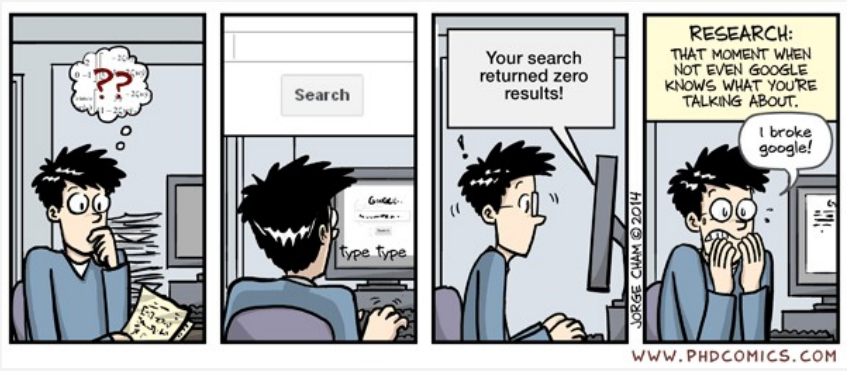
Includes assessing consistency, generalisability and strength of the evidence supporting the answer.

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 ☺

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.



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)

SYNTHESIS

Qualitative

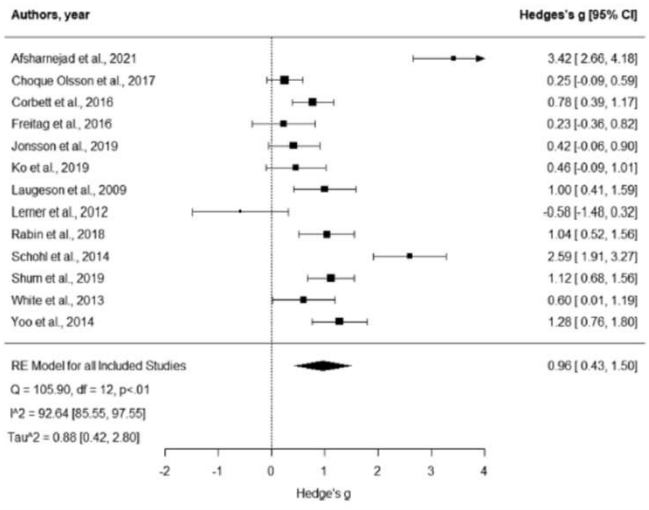
and/or

Quantitative?

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

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*]

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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.

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WHEN IS META ANALYSIS POSSIBLE?

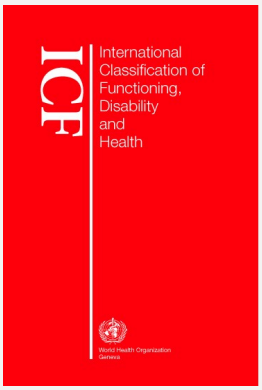
- Must have measures of the same outcome
- Outcomes must be expressible in a comparable manner.
- Need studies with similar PICOS elements
- When does a variation in elements become significant?

  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.

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



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)

7. CONCLUSIONS

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

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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

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Original article

autism

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

Autism
1–33

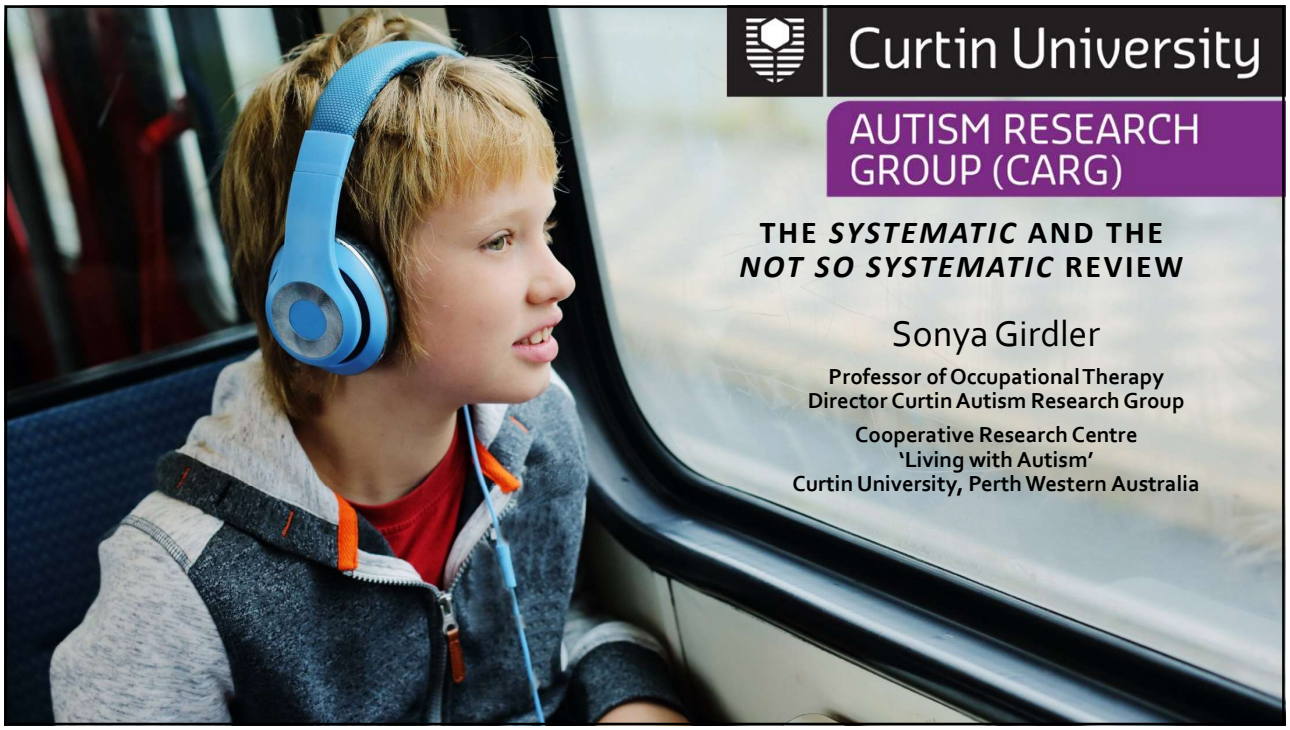
DOI: 10.1177/1362361318787789
journals.sagepub.com/home/aut
SAGE

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

GOOD LUCK!

DO SYSTEMATIC REVIEW!



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Questions? Comments

80

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Coming up next

23 Aug Knowledge Translation
– Prof Fenella Gill, Curtin University/CAHS

30 Aug Media and Communications in Research
– Peta O'Sullivan, CAHS

Register → **trybooking.com/eventlist/researcheducationprogram**

We love feedback

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

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Conducting Systematic Reviews

RESOURCE NOTES

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

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

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Perth Children's Hospital

CAHS Research Education Program

REDCap Workshop Series

Research Electronic Data Capture

Perth Children's Hospital Foundation

The Research Education Program - supported by the Perth Children's Hospital Foundation and the Telethon Kids Institute - offers a series of hands-on workshops that focus on the most integral features of REDCap and its application to your research project data. Workshops aim to directly build user skills in a guided environment, with time to ask questions and work on your own project.
Dates below are still being finalised so check back again for latest version.

Presented by: Research Education Program Research Fellow Dr Giulia Peacock

Location: PCH, TKI Seminar Room, Level 5 (West).

TELETHON KIDS INSTITUTE Discover. Prevent. Cure.

Topic	Day	Date	Time	Max No *(in person)*
Workshop 1 – Basic Walkthrough	Tuesday	27 Feb	2:30pm to 4:30pm	Watch
Workshop 2 – Intermediate Walkthrough	Tuesday	12 March	1:00pm to 3:30pm	Watch
Workshop 3 – Advanced REDCap - Creating Surveys	Tuesday	30 April	1:00pm to 3:30pm	Watch
Workshop 4 – REDCap Troubleshooting Workshop	Tuesday	28 May	2:00pm to 4:00pm	cancelled
Workshop 5 – Basic Walkthrough	Tuesday	16 July	1:00pm to 3:30pm	Watch
Workshop 6 – Intermediate Walkthrough	Tuesday	20 Aug	1:00pm to 3:30pm	**40** Register
Workshop 7 – Advanced REDCap - Creating Surveys	Tuesday	10 Sep	2:00pm to 4:30pm	**40** Register
Workshop 8 – REDCap Troubleshooting Workshop	Tuesday	15 Oct	1:00pm to 3:30pm	**40** Register

IMPORTANT

Attendance is open to all Department of Health and Telethon Kids Institute staff.

Places are strictly limited and offered on a first-come, first-serve, basis. If you are not able to attend a workshop for which you have registered, please contact Research Education Program support via phone or email to cancel your reservation and/or be placed in another workshop or on the waitlist.

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CAHS Research Education Program

REDCap Research Electronic Data Capture Workshop Series

REDCap Workshop 6: Intermediate Walkthrough

20th August 2024 1.00 - 3.30pm

Beyond the basics

- This level offers a more comprehensive look at creating a database and using surveys, and builds upon the topics in the REDCap Basics Workshop.
- Those who attend this workshop should be familiar with navigating and using REDCap for project set-up and it will be most beneficial to those who have identified an upcoming need for the advanced functionality covered in this workshop.
- Do you already know how to create a project from scratch and use branching logic? If no, please register for a Basics Workshop. This workshop is for users who are already familiar with the REDCap interface. Open to all WA Health and TKI staff only.

Meet the presenter

Dr Giulia Peacock

CAHS Research Education Program Research Fellow

Giulia graduated medical school from the University of Notre Dame Fremantle in 2014. She supplements her clinical work as an Advanced Paediatric Trainee by conducting and publishing research in paediatric cardiology and through active involvement in medical education.

She is currently completing her Masters in Clinical Science, Child Health Research at the University of Western Australia. She hopes to ensure easy accessibility to research education and support, to create best outcomes for all patients.

PCH, TKI Level 5 Seminar Room

Accessible via the yellow or pink lifts

Register via Trybooking.com

View recorded workshops online

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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.

2024 Seminar Schedule

Interactive in pdf format
Last updated 13/8/24

#	DATE	TOPIC	PRESENTER	ENROL	WATCH
1	9 Feb	**Research Fundamentals**	Dr Kenneth Lee, UWA	-	2024
2	16 Feb	**Introductory Biostatistics**	Michael Dymock, TKI	-	2024
3	8 Mar	**Social Media in Research**	Dr Amy Page, UWA	-	2024
4	22 Mar	**Introduction to Good Clinical Practice**	Alexandra Robertson, CAHS	-	2024
5	19 Apr	**Research Governance**	Dr Natalie Giles, CAHS	-	2024
6	3 May	**Scientific Writing**	A/Prof Tony Kemp, UWA	-	2024
7	17 May	**Project Management**	Melanie Wright, SMHS	-	2024
8	7 Jun	**Research Impact**	Dr Tamika Heiden, Vic	-	2024
9	21 Jun	**Consumer & Community Involvement in Research**	Belinda Frank, TKI	-	2023
10	19 Jul	**Getting the Most out of Research Supervision**	Dr Timothy Barnett, TKI	-	2024
11	26 Jul	**Enrolling Incapacitated Patients into Medical Research in WA**	Prof Daniel Fatovich and Mark Woodman, EMHS	-	2024
12	2 Aug	**Sample Size Calculations**	Michael Dymock, TKI	-	2024
13	9 Aug	**Rapid Critical Appraisal of Scientific Literature**	A/Prof Natalie Strobel, ECU	-	2024
14	16 Aug	**Conducting Systematic Reviews**	Prof Sonya Girdler, Curtin Uni	REGISTER	2023
15	23 Aug	**Knowledge Translation**	Prof Fenella Gill, Curtin/CAHS	REGISTER	2023
16	30 Aug	**Media and Communications in Research**	Peta O'Sullivan, CAHS	REGISTER	2023
17	6 Sep	**Involving Aboriginal Communities in Research**	Cheryl Bridge, TKI and co.	REGISTER	2023
18	11 Oct	**Grant Applications and Finding Funding**	Dr Tegan McNab, TKI	REGISTER	2023
19	18 Oct	**Oral Presentation of Research Results**	Dr Giulia Peacock, CAHS	REGISTER	2023
20	25 Oct	**Statistical Tips for Interpreting Scientific Claims**	Michael Dymock, TKI	REGISTER	2023
21	1 Nov	**Survey Design and Techniques**	Dr Giulia Peacock. CAHS	REGISTER	2023
22	15 Nov	**Ethics Processes for Clinical Research in WA**	Dr Natalie Giles, CAHS	REGISTER	2023
23	22 Nov	**Qualitative Research Methods**	Dr Lorna Davin, Uni Notre Dame	REGISTER	2023
24	29 Nov	**Innovation and Commercialisation**	Dr Helga Mikkelsen (Brandon BioCatalyst) & Ashley Schoof (TKI)	REGISTER	2022
25	6 Dec	**Data Collection & Management (REDCap)**	Dr Giulia Peacock, CAHS	REGISTER	2023

Register via Trybooking.com

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Seminars are held from 12:30-1:30pm at Perth Children's Hospital Auditorium and are broadcast live online through Avaya and Teams.
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. Attendance certificates are available on request.

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.

Knowledge Translation

23rd August 2024 12.30 - 1.30pm

Ensuring that research findings are translated into practice involves a systematic approach from the beginning when you are designing your research. Implementation science bridges the gap between developing and evaluating effective interventions and implementation and de-implementation in routine practice. This seminar covers key elements of implementation research; theoretical approaches, research designs, involvement of stakeholders, behaviour change interventions.

Meet the presenter

Curtin University

Professor Fenella Gill
Acute Paediatric Nursing, Perth Children's Hospital and Curtin University

Fenella was an NHMRC Translating Research into Practice Fellow for post-doctoral research on partnering with parents in the care of their deteriorating child in hospital. She has undertaken training in implementation science in Canada and Australia and has held two further Implementation Science Fellowships. Fenella led the development of an evidence based paediatric early warning system with integrated family involvement and sepsis recognition. The ESCALATION System has been recently implemented throughout all WA hospitals where children are cared for and also adopted in pre-hospital emergency care by St John Ambulance WA. She now leads a research program Safer care for children in hospital to optimise the ESCALATION System.

Perth Children's Hospital Auditorium

Level 5, 15 Hospital Ave Nedlands
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or
Access online via Teams or Avaya or
Watch from a hosted video-conferencing site

- Fiona Stanley Hospital
- Lions Eye Institute
- Pathways in Shenton Park
- Royal Perth Hospital

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Media and Communications in Research

30th August 2024 12.30 -1.30pm

Understanding how to work with the media is essential and a critical responsibility for all researchers, whether it's the newspaper, TV, radio, or social media.

This seminar will provide practical techniques on working with the media and ensuring your bottom line is delivered in an engaging, accurate, and responsible way.

Meet the presenter

Peta O'Sullivan
Communications Coordinator – CAHS Research Department

Peta's early working life was as a journalist, working in print media and writing both news and feature articles, before eventually moving into sub-editing. Peta has been with the WA Health System for over a decade, working in communications. While at the Department of Health Peta has had the opportunity to work on stories promoting WA research, which she has really enjoyed.

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Access online via Teams or
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- Fiona Stanley Hospital
- Lions Eye Institute
- Pathways in Shenton Park
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CAHS Research Education Program

2024 Research Skills Workshop Series

Perth Children's Hospital Foundation

The Research Education Program (REP) Research Skills Workshop Series, supported by the Perth Children's Hospital Foundation and the Telethon Kids Institute, offers a series of interactive workshops that focus on building the most fundamental research skills required to undertake clinical research projects.

TELETHON KIDS INSTITUTE Discover. Prevent. Cure.

Workshops aim to directly build user skills and knowledge in a guided environment, with time to ask questions specific to your own project.

Presented by: CAHS Research Department and invited guests **Location:** PCH, TKI Seminar Room, Level 5 (W)

Topic	Day	Date	Time	Max *(in-person)*
Workshop 4 - Navigating Research Ethics and Governance in WA If you are undertaking a research project or are thinking about becoming involved in research, understanding the review and approval requirements for your research project may appear intimidating. This workshop aims to help you understand the process of ethical and governance review for research approvals at CAHS - includes PCH, CACHS, CAHMS and Neonatology.	Tue	23 April	2.00pm - 4:00pm	Watch
Workshop 1 - Setting up Clinical Trials Clinical trials are the benchmark for testing interventions in healthcare. This workshop aims to provide practical advice to clinical researchers who want to gain insight on how to develop and complete their clinical trial on time and within budget. Come learn practical aspects of the steps involved in developing a clinical trial from the research idea to protocol development and execution.	Mon	20 May	12.00 noon - 2.00pm PCH level 6 TKI Manda	Watch
Workshop 2 - Manuscript Writing Journal publications are an integral part of dissemination of research findings. However, it can be overwhelming to convert several months of research into a succinct manuscript that will be loved by peer-reviewers and attract readers. This workshop is designed to give those who have completed their research projects, practical skills to transform their research data into publishable peer-reviewed literature.	Tue	11 June	2.00pm - 4:00pm	Watch
Workshop 3 - Oral Presentation of Research Results Dissemination of research findings is integral in knowledge translation and clinical practice change. Oral presentations provide rapid dissemination of research findings to a target audience. We invite you to a practical session that will provide useful tips, practice sessions and personalised feedback to help deliver an adequate depth of your research findings to various research stakeholders.	Tue	22 Oct	2.00pm - 4:00pm	**40** Register

IMPORTANT

Places are strictly limited and offered on a first-come, first-serve, basis. If you are not able to attend a workshop for which you have registered, please contact Research Education Program support via phone or email to cancel your reservation and/or be placed on the waitlist.

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CAHS Research Education Program

2024 Research Skills Workshop Series

Oral Presentation of Research Results Workshop

22nd October 2024 2.00 - 4.00pm

Dissemination of research findings is integral in knowledge translation and clinical practice change. Oral presentations provide rapid dissemination of research findings to a target audience.

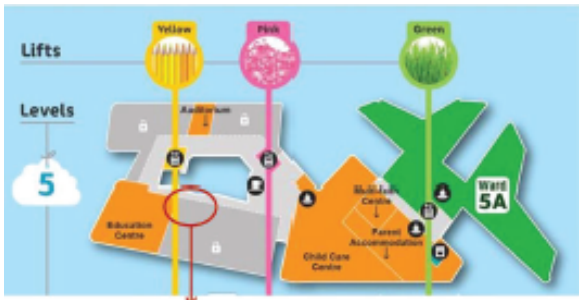
We invite you to a practical session that will provide useful tips, practice sessions and personalised feedback to help deliver an adequate depth of your research findings to various research stakeholders.

Meet the presenter

Dr Giulia Peacock
Research Fellow
CAHS Research Education Program

Giulia graduated medical school from the University of Notre Dame Fremantle in 2014. Giulia supplements her clinical work as an Advanced Paediatric Trainee by conducting and publishing research in paediatric cardiology and through active involvement in medical education. She is currently completing her Masters in Clinical Science, Child Health Research at the University of Western Australia. She hopes to ensure easy accessibility to research education and support, to create best outcomes for all patients.

PCH, Level 5, TKI Seminar Room



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Perth Children's Hospital

Child Health Research Symposium

Empowering Futures: Advancing Child Health

4 - 7 November

2024

You are invited!

Monday 4 November at 5pm
PCH Collegiate Lounge

Join us in opening our CAHS Symposium

Poster Opening Night

For more information, contact us on
✉ pch.symposium@health.wa.gov.au

Neonatology | Community Health | Mental Health | Perth Children's Hospital

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.

Conducting Systematic Reviews

Thank you for your interest in this seminar

Please complete this 1-minute evaluation.
Your feedback will help guide future presentations and educational activities.

How did you attend the seminar?

- ○ Live seminar at Perth Children's Hospital
- ○ Hosted video-conference on-site (e.g. FSH, Lions Eye, RPH etc.)
- ○ Online via Avaya or Teams
- ○ Viewed online recording

Please rate your agreement with the following statements:

	N/A	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
The aims and objectives were clear	○	○	○	○	○	○
The session was well structured	○	○	○	○	○	○
Presentation style retained my interest	○	○	○	○	○	○
The speaker communicated clearly	○	○	○	○	○	○
The material extended my knowledge	○	○	○	○	○	○
The additional resources were helpful	○	○	○	○	○	○

What were the best aspects of the seminar?

What changes or improvements would you suggest?

How did you hear about the seminar?
(you can select multiple answer)

- ☐ Email invitation from Research Education Program
- ☐ CAHS Newsletters e.g. The Headlines, The View, CAHS Research Newsletter
- ☐ "Health Happenings" E-News
- ☐ Healthpoint Intranet Upcoming Events
- ☐ Collegiate lounge screen or other posted promotional material
- ☐ Telethon Kids Institute screen or other posted promotional material
- ☐ Telethon Kids Institute Newsletter
- ☐ Other

Thank you!

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