

# Conducting a literature search for a MA

30 March 2020

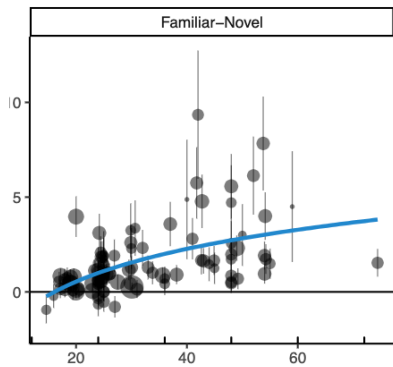
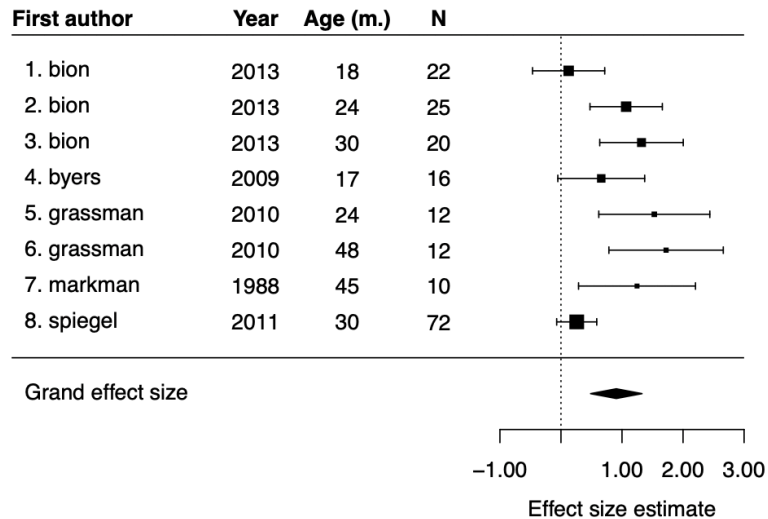
*Modern Research Methods*

# Final Project

- Minimal Group Paradigm (Group 1): Jaily, Sarah, Nicole H, V, Shruti, and Joyce (4:30 on Tuesday)
- Linda Problem (Group 2): Leo, Nicole C., Zoe, Fu, and Themi (5:30 on Tuesday)
- Syntactic Bootstrapping (Group 4): Anjie, Izzy, Alana, Maya (12:30 on Tuesday)
- If you don't have a meeting time yet, email me right after class.
- Meetings in my Zoom office hours (time EST, Pittsburgh Time)
- Before your meeting:
  1. Read seminal paper carefully
  2. Brainstorm inclusion/exclusion criteria (will discuss more today)
  3. Brainstorm search protocol (will discuss more today)

# Conducting a Meta-analysis

## Final product



1. Identify Topic

2. Conduct literature search

3. Code studies and calculate ES

4. Plot and analyze data

5. Report and discuss results

# Reproducibility for meta-analyses

- Review: What is reproducibility?
- Why is it important?
- What might reproducibility mean for meta-analyses?

# Why reproducibility meta-analysis?

- To evaluate quality of meta-analysis
  - Exhaustive representation of the state of the field (based on a systematic literature search)?
  - Quality of individual studies (peer-reviewed)?
- To evaluate relevance of meta-analysis (for your particular interest)
  - Current state of the field (when was literature search conducted)?
- To enable collaborative meta-analysis
  - Consistency across multiple contributors
- To be transparent to the field and yourself
  - Keep track of your own steps

# Steps for a reproducible literature search

1. Define inclusion criteria
  2. Define search protocol
  3. Conduct search
  4. Enter results into spreadsheet
    - scan titles/abstracts
    - make screening decision
    - if exclude, note reason why
- To make your MAs reproducible, we're going to use the [following template](#) (linked on website)

# 1. Inclusion criteria

- What studies are you going to include in your MA?
- Every MA is unique
- These might change later on as you get to know your topic more

# Criteria

- Document type
  - E.g. All literature, journal papers, theses, proceedings papers
- Participants
  - E.g. adults vs. children
- Method
  - E.g., Eye-tracking vs. pointing
- Stimuli
  - E.g., objects vs. pictures



Literature Search Template

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	A	B	C	D	E	F
1	crit	definition				Date_added/revised
2	Document type	All literature, journal papers, theses, proceedings papers				1.1.2017
3	Participants	Children				1.1.2017
4	Participants	Children under 2				31.3.2017
5	Method	Behavioral only, including Headturn Preference Procedure, Central Fi				1.1.2017
6	Method	No preferential looking				31.3.2017
7	Stimuli	Speech				1.1.2017
8	Stimuli	No artificial languages				31.3.2017
9	Exclusion: Research question	Rule learning, word-object mapping, artificial grammar				1.1.2017
10						
11						
12						
13						
14						
15						

Add

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criteria

search\_protocols

relevant\_studies

notes



## 2. Search Protocols

- Database search
  - Google scholar
  - PubMed
  - ...
- Scanning references
  - Recent paper: Who does it cite?
  - Seminal paper: Who cites it?
- Expert list
  - Direct request
  - Review paper (can be biased)

# Search protocols for group projects

- Goal: find as many studies as possible that satisfy your search criteria
- Why is more better?
  - Just like when running participants in an experiments, the more data you have the less variance, and the more precise your estimate
  - A meta-analysis of 50 effect sizes is a lot more precise than a meta-analysis of 6 effect sizes
- Will vary by meta-analysis – some will have a lot more studies than others
- Protocols:
  1. Google scholar keyword search
  2. Who cites seminal paper
  3. Invite you to do others if have time/necessary



# Literature Search Template

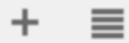


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	A	B	C	D	E	F	G
1	protocol_id	date	source	search_terms	results	results_scanned	notes
2	1	3/31/2020	google scholar	infant word segmentation	over 10,000	first 100	
3	2	4/2/2020	google scholar	papers citing seminal paper	5,000	first 100	
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criteria


search\_protocols

relevant\_studies


notes


# 3. Conduct search

In Google Scholar (<https://scholar.google.com/>)



"mutual exclusivity" "word learning"



Articles

About 2,550 results (0.12 sec)

Any time

Since 2020

Since 2019

Since 2016

Custom range...

Sort by relevance

Sort by date

☒ include patents



☒ include citations

☒ Create alert

**The mutual exclusivity bias in children's word learning**

WE Merriman, LL Bowman, B MacWhinney - ... of the society for research in ..., 1989 - JSTOR


Nearly every recent account of children's **word learning** has addressed the claim that children are biased to construct mutually exclusive extensions, that is, that they are disposed to keep the set of referents of one word from overlapping with those of others. Three basic ...

☆  Cited by 520 Related articles All 8 versions 

**The principle of mutual exclusivity in word learning: To honor or not to honor?**

TK Au, M Glusman - Child development, 1990 - Wiley Online Library


According to Markman and Wachtel, children assume that nouns pick out mutually exclusive object categories, and so each object should have only one category label. While this assumption can be useful in **word learning**, it is not entirely reliable. Therefore, children ...

☆  Cited by 271 Related articles All 14 versions

**Use of the mutual exclusivity assumption by young word learners**

EM Markman, JL Wasow, MB Hansen - Cognitive psychology, 2003 - Elsevier

... Evidence for the role of **mutual exclusivity** in such indirect **word learning** has been questioned because: (1) it comes mostly from 2 and 3-year-olds and (2) the findings might be accounted for, not by children avoiding second labels, but by the novel object which creates a lexical ...

☆  Cited by 330 Related articles All 14 versions

[PDF] jstor.org

[PDF] jstor.org

[PDF] stanford.edu

## 4. Enter results into spreadsheet

- Record in spreadsheet
- Read title and abstract
- Make inclusion exclusion decision
- Reasons for exclusion:
  - not relevant
  - not empirical (no data)
  - doesn't satisfy inclusion criteria X

fx

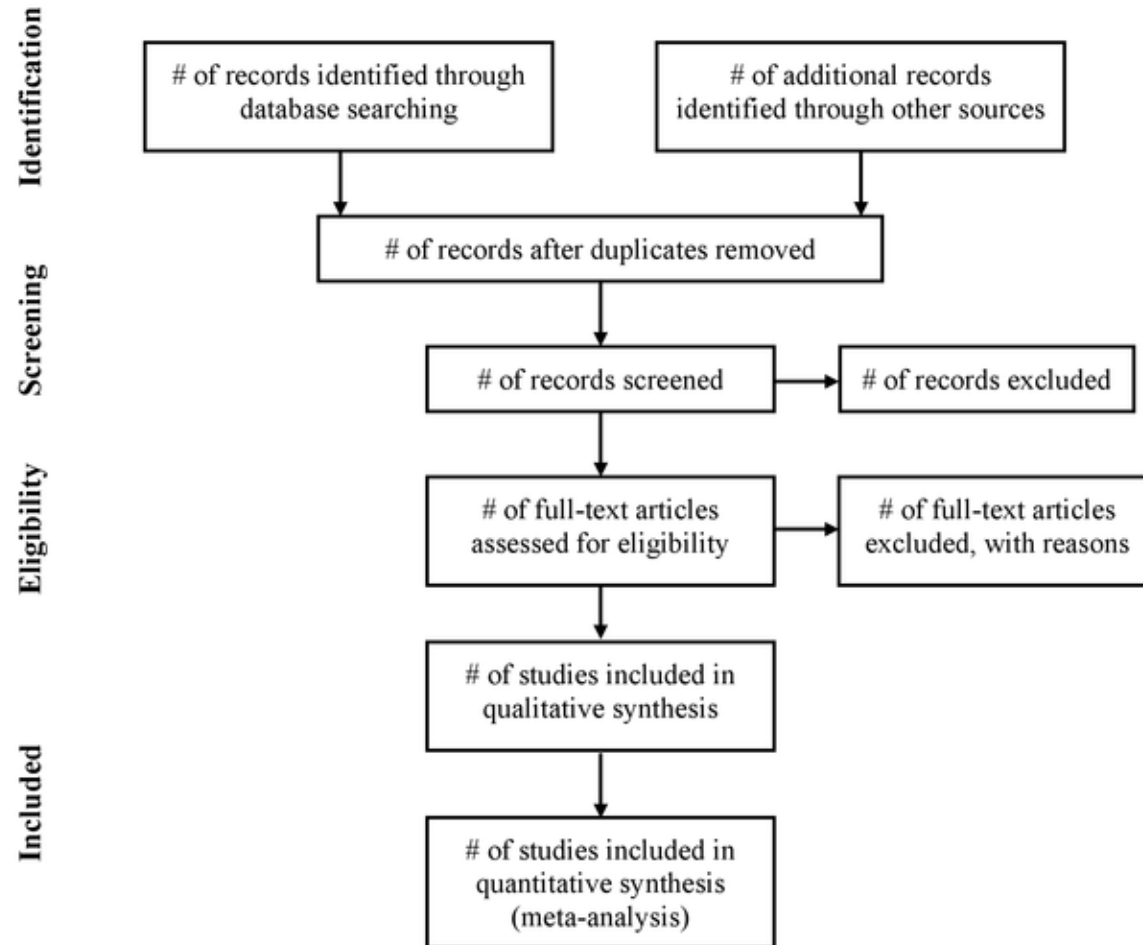
	A	B	C	D	E	F	G	H	I
1	protocol_id	coder_name	date_added	google_scholar_page	unique_id	paper_citation_ap	link	screening_decision	exclusion_reason
2	1	molly	3/30/2020	1	merriman1989	Merriman, W. E., Bowma	<a href="https://www.jstor.org/stable/2281111">https://www.jstor.org/stable/2281111</a>	include	
3	1	molly	3/30/2020	1	smith2010	Smith, et al. (2010)	<a href="https://www.jstor.org/stable/2281111">https://www.jstor.org/stable/2281111</a>	exclude	not empirical (review paper)
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# Literature search variables

- protocol\_id – id number of search protocol from “search protocols tab”
- coder\_name – who entered this data?
- date\_added – date
- google\_scholar\_page – what page of search results?
- unique\_id – lastname+year of paper (e.g., smith2010), all lowercase, distinguish duplicates with a letter (e.g. smith2010a)
- paper\_citation\_apa - APA paper citation (copy from google scholar)
- link – link to title/abstract from google scholar
- screening decision – include/exclude
- exclusion\_reason – if exclude, why?
  - not relevant
  - not empirical (no data)
  - doesn't satisfy inclusion criteria X



# The PRISMA statement



# Next Time: Start your own literature searches

Steps for a reproducible literature search

1. Define inclusion criteria
2. Define search protocol
3. Conduct search
4. Enter results into spreadsheet
  - scan titles/abstracts
  - make inclusion decision
  - if exclude, note reason why