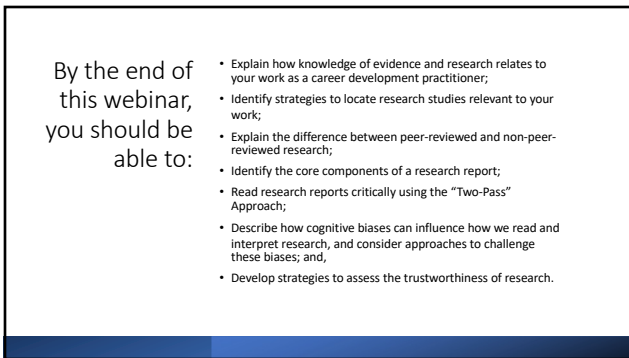


1




2



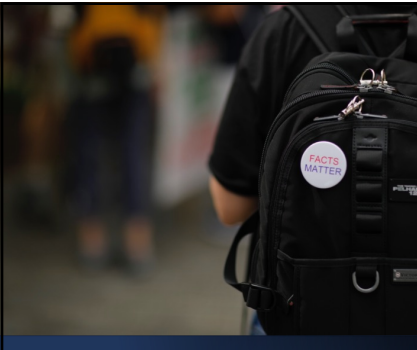
3

To achieve this, please be prepared to:

- Engage in active notetaking
- Write down responses to action steps and reflection questions
 - Share responses in the "question" box
- Complete a self-test at end
- Submit questions via question box



4

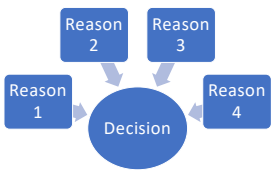


What Do We Mean by 'Evidence'?

- Evidence: data/information that provide basis for a position/point of view
 - Facts
 - Observations (from research, own experience, etc.)

5

Why evidence (sometimes) matters to decision-making




Decisions made based on reasons

Evidence-informed decision-making: evidence as a key reason to support the conclusion

→ Need to ensure using good quality evidence

6

“Many career development practitioners (CDPs) strive to make decisions based on evidence. This is a good thing. ... Evidence-informed approaches can help CDPs adjust client practices to achieve superior outcomes, increase credibility in efforts to influence policy, and assist in obtaining or maintaining funding.”
 – Berdahl 2022



7



Does your organization use evidence to inform decision-making? If so, how does it obtain this evidence?

Selected responses:

- we use LMI information from Government websites both provincial and national.
- we collect evidence via our "ROI Tool" (questions in .xls that are translated into visuals by Power BI)
- we collect LM information to help clients make an informed decision about going back to school or looking for work
- we use paper evaluations and looking back at numbers of previous outcomes
- We use client surveys as well as data collected from pre-program start through out 18 months post-program completion
- sometimes looking at what other institutions are doing

8

Ways to Engage with Research

Published Research - Need to locate studies - Need to read critically - Need to use responsibly (interpretation, situating in larger literature, citation)	Secondary Data Analysis - Need to locate data - Need to analyze and interpret data (skills, time) - Need to use responsibly (ethics, interpretation, citation, records) - Need to situate in larger published research literature	Primary Data Collection and Analysis - Need time, funding, design expertise - Need to collect data ethically - Need to analyze and interpret data (skills, time) - Need to use responsibly (ethics, interpretation, citation, records) - Need to situate in larger published research literature
--	--	--

9


Locating research studies to inform your work

- ✓ Credible
- ✓ Accessible
- ✓ Relevant



10

Remember: misleading evidence is worse than no evidence!



11

Academic Sources versus Other Sources

Academic Literature	Other ("Grey Literature")
<ul style="list-style-type: none">• Academic books and journals• Mix of restricted access (behind paywall) and open access• Available through university library databases<ul style="list-style-type: none">• Tip: click the "peer reviewed journal articles" box; click the year limits box (2010 – 2022)	<ul style="list-style-type: none">• Newspaper and magazine articles• Government, think tank and NGO reports• Professional journals<ul style="list-style-type: none">• Important: the word "journal" in the title does not mean it is an <i>academic</i> journal
<ul style="list-style-type: none">• Typically peer-reviewed ("refereed")	<ul style="list-style-type: none">• Typically <i>not</i> peer-reviewed

12

What is peer reviewed? Why does it matter?

- ✓ Work clearly has gone through blind review process
- 📄 Listed clearly on journal's/publisher's webpage

"Peer review is designed to assess the validity, quality and often the originality of articles for publication. Its ultimate purpose is to maintain the integrity of science by filtering out invalid or poor quality articles. ... peer review functions as a filter for content ...Running articles through the process of peer review adds value to them." - Wiley

13

Challenge: Predatory Journals and Illusions of Peer Review

"Predatory journals are a global threat. They accept articles for publication — along with authors' fees — without performing promised quality checks for issues such as plagiarism or ethical approval. Naive readers are not the only victims. Many researchers have been duped into submitting to predatory journals, in which their work can be overlooked." – Nature, 2019



14

Get Me Off Your ****ing Mailing List: Predatory Journals

"In 2005, computer scientists David Mazieres and Eddie Kohler created this highly profane ten-page paper as a joke, to send in replying to unwanted conference invitations. It literally just contains that seven-word phrase over and over, along with a nice flow chart and scatter-plot graph ... an Australian computer scientist named Peter Vamplew sent it to the *International Journal of Advanced Computer Technology* in response to spam from the journal. Apparently, he thought the editors might simply open and read it. Instead, they automatically accepted the paper — with an anonymous reviewer rating it as "excellent" — and requested a fee of \$350." – Joseph Stromberg, Nov. 2014

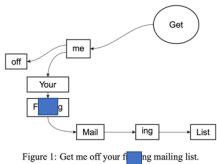


Figure 1: Get me off your ****ing mailing list.

15

Bottom line:
responsible use of
published research
requires due diligence!

- If peer reviewed, confirm legitimacy
 - <https://bealllist.net/>
- If grey literature, carefully consider source
- Librarians are *excellent* sources of knowledge!

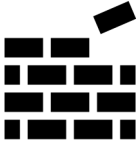


16

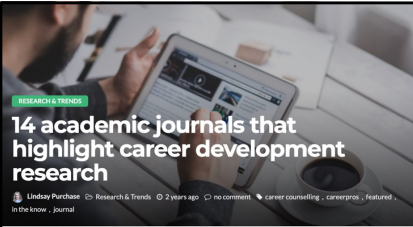
Peer Reviewed Research:
Open Access versus Paywalls

Hints:

- Use library databases
- Check authors' websites, ResearchGate, and Google Scholar pages
- Email corresponding authors directly



17



14 academic journals that highlight career development research

Finding *relevant* studies

- Library databases
- Statistics Canada and government agencies
- Organizations
 - CERIC
 - Future Skills Centre
 - Canadian Career Development Foundation
- Google scholar
- Conferences
- Internet searches

Stay informed about the the latest in career development theory and practice with these journals from Canada and around the world. This not a comprehensive list of journals that would be of interest to career professionals; psychology, education and counselling journals - among others - also publish articles related to career development.

18

How would you like to use published research to inform your work?

I want to use published research to: (identify 1-3 specific things)

1. (e.g., identify best practices in online career counselling)
2. (e.g., keep on top of new knowledge)
3. (e.g., create an evidence base for my grant application)

What actions will you take to move these forward?

To achieve this, I will: (identify specific next step)

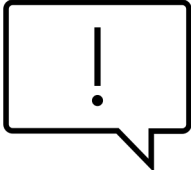
1. (e.g., search key word "online" in the *Canadian Journal of Career Development*)
2. (e.g., sign up for new issue alerts from three journals)
3. (e.g., locate ten journal articles to start a literature review)

Share responses in the "question" box

19

Keep in mind...

- Research reports are *arguments*. Researchers are making a case that:
 - The evidence is credible
 - The evidence supports the conclusions
- Readers have a responsibility to critically assess the researchers' argument.



20

Research report core components

(label names will vary)

Abstract	• Purpose of study, core findings.
Introduction	• Argument/thesis that study will support
Literature Review	• What was previously known
Research Design	• How the data were collected, strengths and limitations
Research Findings	• Data presentations
Discussion and Conclusion	• Connecting data to the argument
References	• Works cited

21

Two Pass Approach to Critically Reading Research

- **FIRST: get sense of material, argument, trustworthiness**
 - Skim abstract, introduction to clarify research question
 - Skim introduction to clarify argument to be made
 - Skim methods section to clarify methodology
 - Skim findings, conclusion to link back to argument
- **THEN: read article**
 - Assess argument
 - Assess trustworthiness

```

graph TD
    A["'Lay of the land'"] --> B["'Deep dive'"]
    B --> C["Reflect"]
  
```

22

**Critical Reading:
Distinguishing
Between
Evidence**

“our aim is not to learn how to find the perfect study. No such study exists. Every study has some limitations. Instead, we examine how to distinguish between evidence that, despite its relatively minor limitations, merits guiding our practice versus more seriously flawed evidence that should be viewed more cautiously.”

- Rubin 2008, 38

23

**Challenges
to
Objectivity**

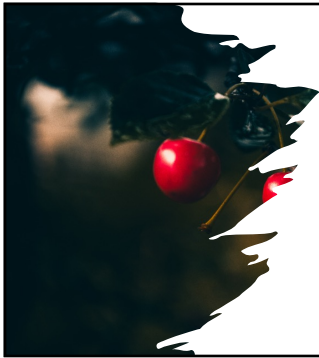
Motivated reasoning: tendency to deliberately interpret evidence to confirm pre-existing belief

Confirmation bias: “the seeking or interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand.”(Nickerson 1998)

Disconfirmation bias: tendency to highly critical of information that contradicts one’s preexisting beliefs

“arguments incompatible with prior beliefs are scrutinized longer, subjected to more extensive refutational analyses, and consequently are judged to be weaker than arguments compatible with prior beliefs.” (Edwards and Smith 1996)

24



Objectivity, Cognitive Biases and Evidence Utilization

Overall, we humans tend to:

- attribute more expertise to those whose findings are consistent with our pre-existing beliefs, and less to those whose findings are inconsistent with our pre-existing beliefs
- Cherry-pick in our use of information
- Hold impossible expectations for arguments/evidence that are inconsistent with our pre-existing beliefs

25

Cognitive biases → risk “research nihilism” as excuse to dismiss evidence that does not conform to pre-existing beliefs

“It is very easy to find flaws with all studies. It is much more difficult, though, to teach people to differentiate between limitations and fatal flaws; that is, to judge whether the problems are serious enough to jeopardize the results or should simply be interpreted with a modicum of caution. Without this judgment, it is easy to become nihilistic, feeling that no study can be believed...” – Edward J. Mullen and David L. Streiner 2004, 118

26

The importance of research literacy

“The challenge for CDPs, of course, is knowing how to engage with evidence responsibly and ethically. As a practitioner, you can quickly go online and find an abundance of information available, of varying quality and trustworthiness. The risk of “doing your own research” is that, as a **non-expert**, you can be misled by **poor-quality studies** and can easily misinterpret the results of **good-quality studies.**” – Berdahl 2022

27

The importance of understanding the Evidence Continuum

Misleading evidence (strong design flaws; worse than no evidence?)

No or limited evidence

Best available evidence

Strong evidence (causality demonstrated; no design flaws; multiple studies)

28

Commit to considering both individual studies *and* larger bodies of knowledge

Quality of evidence: examination of *individual studies*

Quantity of evidence: examination of *body of knowledge*


- Argument lacks evidence → argument is not convincing
- Argument supported by small number of studies → argument *somewhat* convincing
- Argument supported by several different lines of evidence → argument is convincing

29

Commit to using critical reading to distinguish between evidence

- Assess the strengths of a given study, and how it can help us understand (describe, explain) reality.
- Assess the limitations of a given study, and its limitations in helping us understand (describe, explain) reality.
- Assess if there is a combination of studies (bodies of evidence) with similar findings that gives us greater confidence in our understanding (descriptions, explanations) of reality


30



Checklist questions for individual studies

- What exactly is the argument?
- Do the authors present a balanced review of existing research that both supports and refutes their position?
- Are the key terms clearly defined?
- Is the methodology adequately explained?
- Is the analysis balanced?
- Is there a clear connection between the evidence provided and the conclusions drawn?
- Overall, do you feel that the argument is strongly, somewhat, or not at all supported by the evidence?

31




Checklist questions for bodies of literature

- Are systematic reviews, review studies, or literature reviews available?
- How many good quality studies exist? Do they point to similar conclusions?
- How recent are the studies? Is there reason for concern about contemporary relevance?
- Where did the studies occur? Is there reason for concern about contextual relevance?

Tip: use a literature review spreadsheet

32



Reflection Point


How can I start to make (more) use of published research in my work?
 What is an easy first next step?

Share responses in the "question" box

33

Self-Assessment

- How does knowledge of evidence and research relate to your work?
- How can you locate research studies relevant to your work?
- What is the difference between peer-reviewed and non-peer-reviewed research?
- What are the core components of a research report?
- What is the "Two-Pass" Approach to reading research studies?
- How do cognitive biases influence how we read and interpret research? What can you do to challenge these biases?
- What strategies can you use to assess the trustworthiness of research?



34

Substack: loleen.substack.com

Twitter: [@loleen_Berdahl](https://twitter.com/loleen_Berdahl)

LinkedIn: [linkedin.com/in/LoleenBerdahl](https://www.linkedin.com/in/LoleenBerdahl)



Questions? Please put in the "question" box!

35
