

Today's topics:

- **Reading research papers**
- **Unpacking data graphics**

Background preparation:

- *Kaplan (2016), Ch 2 and Appendix (review)*
- *Prep questions / Yiakoumetti (2006) data graphic*

0. Today's objectives

After today's class, you should be able to:

- Determine whether an article is peer-reviewed and/or comes from a reliable source
- Identify where in a research article to find the key components of a quantitative research project
- “Parse” a data graphic and explain how its structure relates to a measurable RQ
- “Interpret” a data graphic and explain what answer it provides for the measurable RQ

1. Is an article from a reliable source?

Group discussion

- What are some ways to find articles on a topic?
- What are some ways to tell whether the articles you find are from a reliable source?

1. Is an article from a reliable source?

Debriefing

Some good ways to find articles:

- [Google Scholar through UNC Libraries](#)
 - Can filter your search
 - Can see who cites a particular source
 - UNC version often lets you click through to the article (if not, try via [library catalog search](#))
- [Other databases](#) through UNC Libraries
- Any other tips?

1. Is an article from a reliable source?

Debriefing

Some ways to evaluate your source

- Is the journal peer-reviewed?
 - See example on outline from last class
- Does the journal have a good reputation?
 - Impact factor → not always that helpful in linguistics
 - Q1 or at least Q2 (“first/second quartile”) in [SCImago Journal Rank \(SJR\)](#)
 - Professional judgment (ask me!)

2. Process for reading a research article

- The typical sections in a scientific article

How do they relate to the “steps of the scientific method”?

- Abstract
- Introduction / Background / Previous Studies
- Experiment n (repeat as needed)
 - Methodology: Participants, materials, etc.
 - Results and Discussion
- General Discussion / Conclusion / Implications

2. Process for reading a research article

- What are some useful tips for reading / approaching / getting information from a research article?

2. Process for reading a research article

A. Get a **general overview** of the article

- Overview of the research questions, the author's position, and the experiment's results

(Where in the article can we look for these?)

- Preview of the structure of the article

(What is a useful way to do this?)

2. Process for reading a research article

A. Get a **general overview** of the article

- Overview of the research questions, the author's position, and the experiment's results
 - Abstract
 - General Discussion / Conclusion
- Preview of the structure of the article
 - Read all the section headings

2. Process for reading a research article

B. Understand the **context/motivation** of the study

- What are the big-picture research questions?
- Why are these questions worth asking? (What do we already know?)

2. Process for reading a research article

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2. Process for reading a research article

C. Understand the **structure** and **goals** of each **experiment**

- What are the **measurable research questions**?
- What are the **hypotheses**?
- How was the experiment **designed**, and why?
Can you see any flaws or points of **concern**?

2. Process for reading a research article

C. Understand the **structure** and **goals** of each **experiment**

- What are the **measurable research questions**?
- What are the **hypotheses**?
- How was the experiment **designed**, and why?
Can you see any flaws or points of **concern**?
 - Sections on each experiment (methodology)
 - Looking at the **structure** of how the **results** are **reported** often helps with this too!

2. Process for reading a research article

D. Understand the **results** of each **experiment**

- What **numerical results** were found?
- How can the **patterns** in the data be summarized?
- Are the patterns in the data **unlikely** to be a coincidence?

2. Process for reading a research article

D. Understand the **results** of each **experiment**

- What **numerical results** were found?
- How can the **patterns** in the data be summarized? → **descriptive** statistics / data graphics
- Are the patterns in the data **unlikely** to be a coincidence? → **inferential** statistics
 - Sections on each experiment (results)
 - Results should be presented with statistics

2. Process for reading a research article

- E. Consider what the **results** of the experiments are supposed to show about the **research questions**
- What do the authors think the results mean?
 - Do you agree, or can you see an alternative interpretation?

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- General Discussion / Conclusion / Implications

3. Understanding a data graphic

- When you want to understand or explain a data graphic, the first step is to “**parse**” it
 - What do the **axes** represent?
 - Are there different **groups** or **conditions**?
 - How does the structure of the graphic
 - the axes
 - any categories/groups/conditionsrelate to the **structure** of the experiment / the **measurable research question(s)**?
- Try it: [Yiakoumetti \(2006\)](#), Fig. 2 (from PQ 09.05)

3. Understanding a data graphic

- When you want to understand or explain a data graphic, the next step is to “**interpret**” it
 - What do the authors want the audience to **notice** about the data graphic? (Comparisons?)
 - What **story** is told by the pattern we are supposed to notice?
 - How does the data graphic **answer** the **measurable research question(s)** of the study?
- Try it: [Yiakoumetti \(2006\)](#), Fig. 2 (from PQ 09.05)

4. Upcoming

Next class, we will

- Review key points and themes covered so far
- Introduce the first-round case-study presentations assignment