Writing the report

Citations

Reasons for getting citations right

- **Give proper credit for others' ideas or work** (e.g., data, code, model) so that you do not misrepresent them as your own.
- **Give credibility to your own arguments** by showing greater consensus behind the idea (building off prior art).
- **Place your work in the proper context** (where your work stands in relation to what came before it).
- Allow others to **trace and verify the information**.

Basic elements

Paired together

- Citations inline (in the document text)
- Reference list (at end) gives details on where this information can be found

Other sources (only inline)

- Personal communication – who, when
- Internal reports, manuscripts in preparation – who, when, what organization

Example (IIE format)

Inline citation

"The theory was first put forward in 1987 [1]."

"Scholtz [2] has argued. . . ."

"For example, see [7]."

"Several recent studies [3, 4, 15, 22] have suggested that. . . ."

Reference list

E-books

[1] L. Bass, P. Clements, and R. Kazman, *Software Architecture in Practice*, 2nd ed. Reading, MA: Addison Wesley, 2003. [E-book] Available: Safari e-book.

Article in Online Encyclopedia

[2] D. Ince, "Acoustic coupler," in *A Dictionary of the Internet*. Oxford University Press, [online document], 2001. Available: Oxford Reference Online, http://www.oxfordreference.com [Accessed: May 24, 2007].

Journal Article Abstract (accessed from online database)

[1] M. T. Kimour and D. Meslati, "Deriving objects from use cases in real-time embedded systems," *Information and Software Technology*, vol. 47, no. 8, p. 533, June 2005. [Abstract]. Available: ProQuest, http://www.umi.com/proquest/. [Accessed November 12, 2007].

Journal Article in Scholarly Journal (published free of charge on the Internet)

[2] A. Altun, "Understanding hypertext in the context of reading on the web: Language learners' experience," *Current Issues in Education*, vol. 6, no. 12, July, 2005. [Online serial]. Available: http://cie.ed.asu.edu/volume6/number12/. [Accessed Dec. 2, 2007].

Newspaper Article from the Internet

[3] C. Wilson-Clark, "Computers ranked as key literacy," *The Atlanta Journal Constitution*, para. 3, March 29, 2007. [Online], Available: http://www.thewest.com.au. [Accessed Sept. 18, 2007].

https://ieee-dataport.org/sites/default/files/analysis/27/IEEE%20Citation%20Guidelines.pdf

Example (Chicago Manual of Style format)

Reference list entries (in alphabetical order)

Dittmar, Emily L., and Douglas W. Schemske. 2023. "Temporal Variation in Selection Influences Microgeographic Local Adaptation." *American Naturalist* 202 (4): 471–85. https://doi.org/10.1086/725865.

Hebert, B. T. 1925. "The Island of Bolsö: A Study of Norwegian Life." *Sociological Review* 17 (4): 307–13. EBSCOhost.

Kwon, Hyeyoung. 2022. "Inclusion Work: Children of Immigrants Claiming Membership in Everyday Life." *American Journal of Sociology* 127 (6): 1818–59. https://doi.org/10.1086/720277.

Lindquist, Benjamin. 2023. "The Art of Text-to-Speech." *Critical Inquiry* 50 (2): 225–51. https://doi.org/10.1086/727651.

In-text citations

(Dittmar and Schemske 2023, 480)

(Hebert 1925, 310)

(Kwon 2022, 1842–43)

(Lindquist 2023, 230)

https://www.chicagomanualofstyle.org/tools_citationguide/citation-guide-2.html

Example (APA format)

Grady, J. S., Her, M., Moreno, G., Perez, C., & Yelinek, J. (2019). Emotions in storybooks: A comparison of storybooks that represent ethnic and racial groups in the United States. *Psychology of Popular Media Culture*, *8*(3), 207–217. https://doi.org/10.1037/ppm0000185

Pope, J. P., & Wall, H. (2025). Is the goal intrinsic or extrinsic? Examining self-determination theory researchers' and the general publics' perceptions of exercise goals. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, *57*(3), 239–248. https://doi.org/10.1037/cbs0000411

Rybaczewska, M., & Sparks, L. (2022). Ageing consumers and e-commerce activities. *Ageing and Society*, *42*(8), 1879–1898. https://doi.org/10.1017/S0144686X20001932

- ***Parenthetical citations***: (Grady et al., 2019; Pope & Wall, 2025; Rybaczewska & Sparks, 2022)
- ***Narrative citations***: Grady et al. (2019), Pope and Wall (2025), and Rybaczewska and Sparks (2022)

https://apastyle.apa.org/style-grammar-guidelines/references/elements-list-entry

Narrative vs Parenthetical citation

As legal observers point out, much dispute resolution transpires outside the courtroom but in the “shadow of the law” (Mnookin and Kornhauser 1979). . . . Here we empirically demonstrate that workers’ and regulatory agents’ understandings of discrimination and legality emerge not only in the shadow of the law but also, as Albiston (2005) suggests, in the “shadow of organizations.”

https://guides.library.upenn.edu/c.php?g=1182107&p=8644217

Style guides for citation and reference list formats

choose one and be consistent

- IEEE (Institute of Electrical and Electronic Engineers)
- Chicago Manual of Style
- APA (American Psychological Association)
- MLA (Modern Language Association)
- …and others

Note that if you have a lot of references that you are managing manually, following the IEEE style (numbered citations) will pose more challenges as you incrementally add references.

https://guides.libraries.psu.edu/CitationStyles

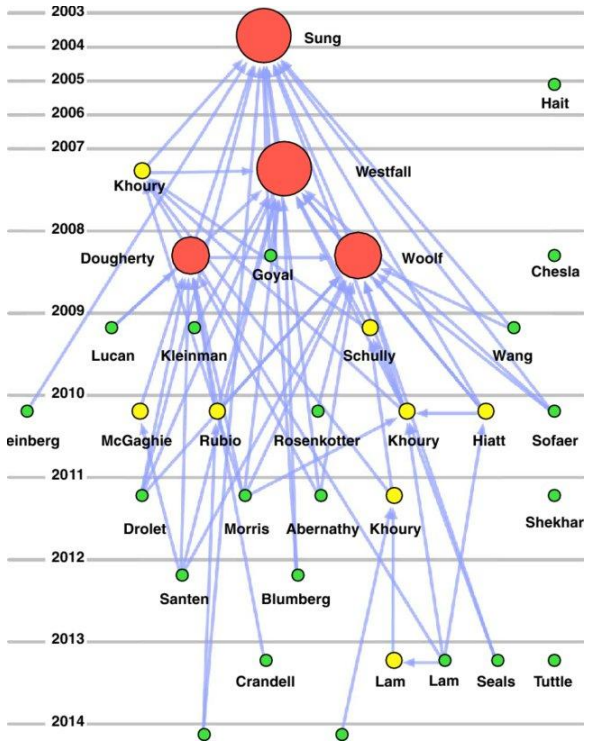
Types of citations / references

formats specified by style guide

- Books
- Reports and technical reports
- Periodicals (newspapers, journal articles)
- **Personal communication** (nonretrievable except back to person)
  - state “name of person, personal communication, year”
- **Web/electronic resources**
  - not just URL pasted into body of text, or hyperlinked to text elements
  - author in citation and URL + date of last access in reference list

Good practices

- Check each source to make sure that it contains the claims you are saying it does.
- Cite **original** sources where possible – i.e., the source where the idea, model, conclusion first originated.
  - There are many others that may follow, but they should all cite this original source, as should you.
  - If a subsequent source contributed to a conceptual reframing on the subject, you can cite it also.
- Include DOIs (digital object identifiers) where possible.



Fort et al., *J. Clin. Transl. Sci.*, 2017

Citing AI tools
current practice

- This is a moving target

- An AI tool is not considered to be an “author” as it cannot be held responsible for its work.

- Important elements to include:
  - Tool name and version
  - Prompt or query
  - Response
  - Follow up queries and responses
  - Name of person who queried

Some references for citing AI tools

- https://libguides.mit.edu/cite-AI-tools
- https://guides.library.cmu.edu/CitationManagement/GenerativeAI
- https://library-guides.ucl.ac.uk/referencing-plagiarism/acknowledging-AI

- How/where to include such citations is dependent on the style guide

Main point – state how you used AI tools in your work.

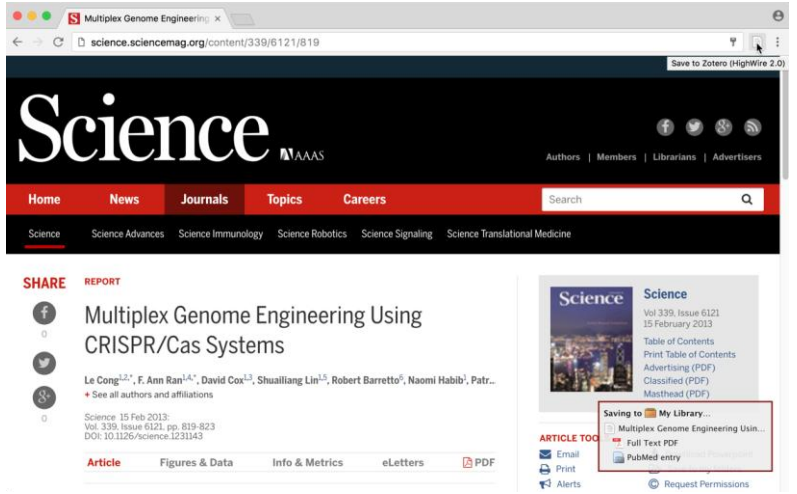
Reference manager (optional)

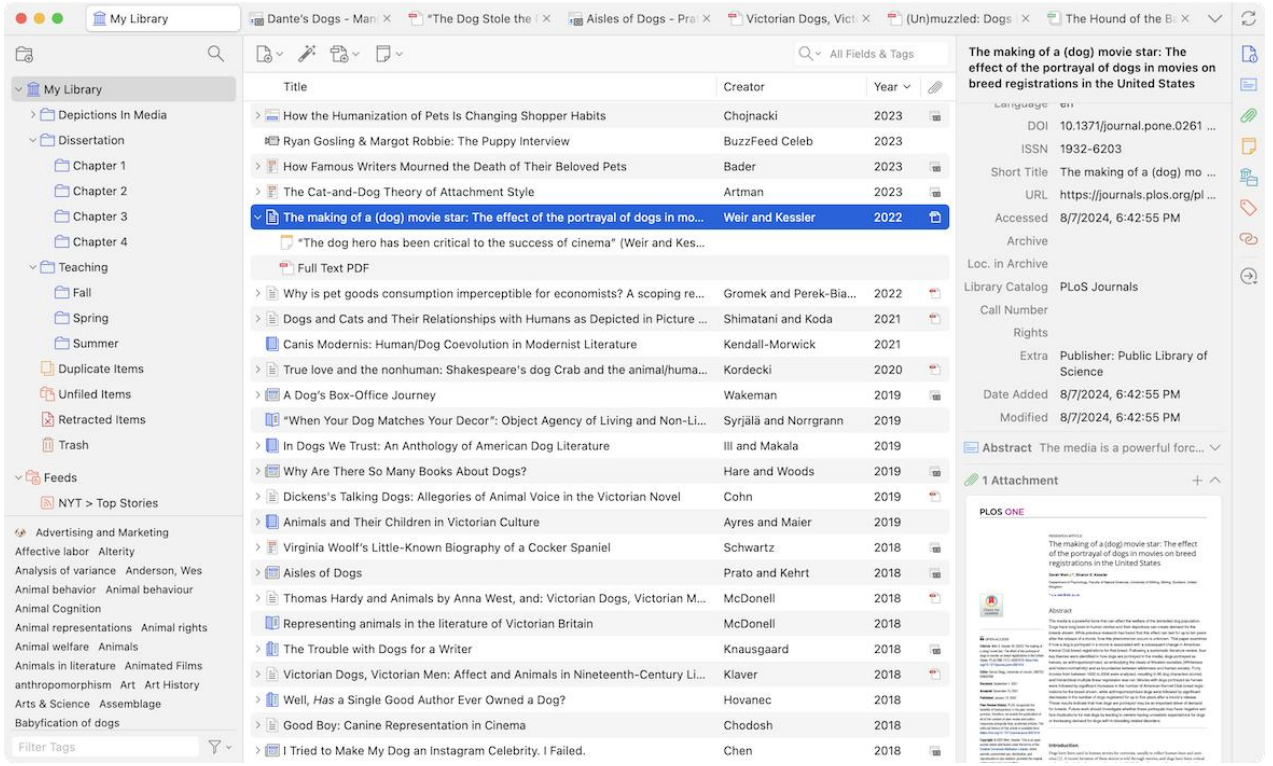
Zotero app

- free and open source
- available on all major platforms

Zotero app integration

- With browser extensions, import references into desktop App with a click of a button (PDFs, web pages)
- Generate .bib file for LaTeX
- Connects with MS Word, Google Docs





Formatting

Units

NIST Guide for the Use of the International System of Units (SI)

7.2 Space between numerical value and unit symbol

In the expression for the value of a quantity, the unit symbol is placed after the numerical value and a space is left between the numerical value and the unit symbol. The only exceptions to this rule are for the unit symbols for degree, minute, and second for plane angle (...) in which case no space is left between the numerical value and the unit symbol.

Equations

Use proper equation formatting in your reports (*readability*)

- Write report in LaTeX
- MS Word Equation Editor
- LaTexIt (macOS), KLaTeX (most Oses)
  - need installation of LaTeX
  - LaTeX syntax generates images to paste into Word/Google Doc
- CortexJS or codecogs (web interface) – no installation
- Write MathJax into HTML directly and copy into Word/Google Doc

Examples

*log10 N/N0 = -k * CT* vs $\log_{10} \frac{N}{N_0} = -k \cdot CT$

*LT(t) = c0 + c1*t + c2*t^2* vs $LT(t) = c_0 + c_1 t + c_2 t^2$

Main document vs. appendix

Appendices can be used to provide further details

- might be of interest to a smaller group of readers
- expound on details that detract from the overall narrative

State the main findings in the text and refer the reader to the details in the additional documents. Don't just say more information can be found there. Example:

- YES: “Across all study sites, models A and B agreed within ±30% (Appendix B).”
- NO: “See Appendix B for comparison of model results across of study sites.”

Writing clearly

Clarity and precision

“Data” is often vague and can more precisely be written as

- “measurements”/”observations”
- “simulation results” / “model predictions/estimates/calculations”
- …unless it’s used to refer to any kind of data

In technical reports, phrases like “good agreement”, “very good agreement”, etc. should be explained more precisely. Examples:

- STATEMENT: Model estimates show good agreement with expected values.
- BETTER: Model estimates show good agreement; within 30% of expected values.

In analyzing observational data or complex model results

- there are many underlying factors that can generate similar outcomes.
- you cannot control for all factors → you results likely cannot confirm a hypothesis but merely support it

Background:

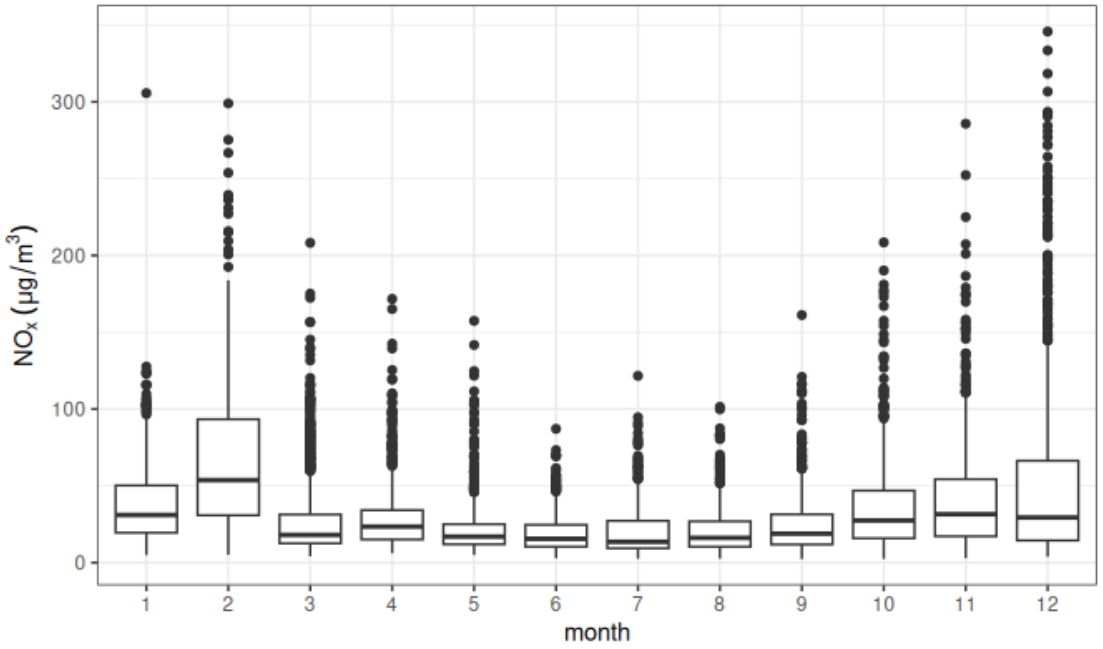
- NOx (oxides of nitrogen; NO+NO2) is emitted from combustion sources
- Figure to the right generated from observations in Zurich 2019

Statements:

- INCORRECT: Seasonal trends in NOx *confirm* that presence of higher combustion emissions during the winter
- BETTER: Seasonal trends in NOx *are consistent with* higher combustion emissions during the winter

Why:

- Mixing depth (atmospheric boundary layer height) is higher during summer than winter, so there is more dilution during summer – this can potentially also explain the observation



Some results may have multiple interpretations that cannot be further narrowed down with a reasonable amount of effort. Where possible:

- Don’t list all conceivable interpretations.
- Advance possible interpretations according to your perceived likelihood of them (as the expert closest to the topic), rather than leaving the reader to choose their preferred interpretation from an unordered list.

Do not present data that is not uninterpreted (by you) for the reader.

Assessing your results

Reasonableness

- Does your model reproduce results within expected order of magnitude?
- Does your model reproduce expected trends (up/down)?
- With respect to what reference?
  - More complex model
  - Observations
  - General knowledge or qualitative knowledge synthesized from reports
  - Rationalization of trends due to underlying physics/chemistry
- Add caveat if geographical location/time period of the work used for reference is different enough that direct comparisons are difficult to make.