

APA Style & Research

PSYCH 494: Human Factors & Ergonomics
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"uplifting the whole people"

Learning Outcomes

1. Why use APA style?
2. What is the format of APA style?
3. How are in-text citations handled?
4. How are references formatted?
5. When should numerals be used?
6. What are some issues in word usage?
7. Where can I learn more about APA style?



APA style was updated in 2020; the 7th edition has updated:

- updated citation and reference formats
- bias-free language guidelines
- guidelines for formatting tables and figures
- journal article reporting standards



Rationale

Reasons for using APA style:

- provides consistent format within a discipline (over 1,000 journals use APA style)
- allows readers to cross-reference and find your sources easily
- gives you credibility as a writer
- protects you from plagiarism
- reduces bias in language (e.g., sexism)

Format

General format (for manuscript--not publication):

- letter size (8½ × 11 in. [21.59 × 27.94 cm]) page
- 1 in. (2.54 cm) margins on all sides
- font options include Times New Roman 12, Calibri 11, Arial 11, and Georgia 11
- no “decorative” typefaces (e.g., Comic Sans) ☹
- use same font throughout

Format

Layout:

- student paper title page:
 - page number in upper-right corner (title page is page 1)
 - paper title: 3 or 4 lines down, centred, bold font, double-spaced; capitalize important words
 - then on separate lines: author’s name, author’s affiliation (department & institution), course number & name, instructor name, and due date
 - no running head is required for student papers

Format

- abstract:
 - start on separate page
 - centre and bold the word “Abstract”
 - continue page numbering
 - brief, comprehensive summary (150-250 words)
 - **NOT** required for the term paper in this class

Format

- body:
 - start on separate page
 - continue page numbering
 - centre and bold full paper title at the top
 - do **NOT** use “Introduction” heading
 - refer to manual for style/format of headings (“Method,” “Results,” “Discussion” apply to experimental papers, not literature reviews or student papers)

Format

Avoid direct quotations; paraphrase or summarize instead.

Which quote should be paraphrased?

"Slipping arises when the coefficient of friction between the shoe material and walkway surface provides insufficient resistance to counteract the forward, resultant forces at the point of contact."
(Mital, Kilbom, & Kumar, 2000, p. 183)

Format

or

"For 40 years now, we have had *assimilation* and *accommodation*, the mysterious and shadowy forces of *equilibration*, the 'Batman and Robin' of the developmental processes. What are they? How do they operate? Why is it after all this time, we know no more about them than when they first sprang upon the scene?"
(Klahr, 1982, p. 80)

Format

- double-space all lines (note: Microsoft Word defaults to 1.15 line spacing, *and* adds 10 points after each paragraph by default!)
- do **NOT** justify right margin; leave "ragged"
- figures (e.g., graphs, photos, diagrams, etc.):
 - for theses, dissertations, and student papers, figures can be included throughout the body of the paper (instead of in an appendix at the end of the paper)

Numerals

Use numerals for quantities:

- all numbers 10 and above
- below 10, if grouped with a number above nine:
2 rats out of a litter of 13
- number preceding a unit of measurement:
2 cm in length
- statistical/mathematical values:
5% of the population
4 times greater

Numerals

- times, dates, ages, scores, points on a scale, etc.:
 - 12:30 a.m.
 - 3-year-old
 - 5 weeks ago
 - 22 minutes
 - September 11
 - 3 on a 7-point scale

Numerals

Use words for quantities:

- if it begins a sentence, for common fractions, or if “universally accepted”
 - Four days ago...
 - two-thirds
 - ten commandments
- if they are approximations:
 - about three months ago

Language

Take care in use of words and language:

- use person-first language (“people living in poverty”) not labels (“the poor”)
- “they” is endorsed as a gender-neutral pronoun
- no contractions: use “do not” not “don’t”
- avoid anthropomorphism:
 - ✗ “The experiment demonstrated...”
 - ✓ “The experimenter demonstrated...”
- “since” means the passage of time; use “because”

Language

● make sure you know the difference between:

- “that” vs. “which”
- “further” vs. “farther”
- “i.e.” vs. “e.g.”
- use **present** tense when referring to your paper:
 - This paper reviews several studies that...
- use **past** tense when describing research results or events:
 - Rowan-Robinson and May (2013) showed that...

Citations

Citations refer to an external source of information.

- the source of every piece of information presented must be cited
- if you present information but do not cite a source, you are claiming to be the source (which may be a misrepresentation)
- citing sources of information strengthens your argument, and gives you credibility

Citations

Include author(s) surname(s) and year of publication.

Do **not** include page number.

Citations are placed in the body of the paper:

- parenthetically (name(s) and date in parentheses):
PSYCH 494 students were found to be cool (Loepelmann, 2024).
- narratively (date in parentheses):
Loepelmann (2024) found PSYCH 494 students to be cool.

Citations

- multiple authors:
 - for one to two authors, **always** cite **all** names (and year, of course)
 - for three or more authors, give first author's name and "et al."
Scott et al. (1990) reported...

Citations

- multiple publications, same author:
 - oldest first; separate years with a comma
Skinner (1938, 1956) suggested...
- multiple publications, same author, same year:
 - use letter suffixes
Skinner (1953a, 1953b) found that...
(year/letter combos must match those in references list)

Citations

For two authors cited in text:

- use "and" between names in a sentence:
Smith and Jones (1997) found that...
- use "&" between names in parentheses:
...was found (Smith & Jones, 1997).

Citations

If you cite a source at the beginning of the paragraph, you do not have to keep repeating the citation after every sentence in the paragraph if it is clear that the source is the same.

Morin (1988) described two separate but linked epidemics. He distinguished the HIV (viral) epidemic from the subsequent AIDS (disease) epidemic. Morin also discussed a third epidemic, which is as much a part of the pathology of AIDS as the virus itself.

Citations

Direct quotes:

- name(s)/year, plus page number(s) required
- if source has no page numbers (e.g., website), give the section heading ("Discussion section"), followed by the "¶" symbol (or the abbreviation "para.") and the paragraph number
- less than 40 words: put in double quotation marks
- 40 or more words: do **NOT** use in this course
- △ generally, **AVOID** direct quotes

Citations

Other rules:

- no date? Use "n.d."
(Kerner, n.d.)
- no author? Use first few words of title of article, surrounded by quotation marks, followed by year
("Stolen painting found by tree," 1987)
- citing an apparatus (product, software, etc.)
iPhone 15 (Apple Inc., 2023)

Citations

- support all claims by citing evidence--this makes your argument (and paper) stronger
- cite specific data in your paper: provide quantities (statistics!), not just a qualitative description
e.g., "group 1 scored 74% and group 2 scored 56%" not "group 1 scored significantly higher than group 2"
- report means, confidence intervals, effect sizes, correlations, etc. of dependent variables

Citations

- do **NOT** give probabilities (e.g. $p < 0.05$), test statistics (e.g., $F(2,10) = 100.09$), standard deviations, etc.
- report number of participants or demographic information only if relevant or noteworthy (e.g., particularly large or small n , important differences due to gender or age, etc.)
- you may include figures to help illustrate a point, but use tables *sparingly*, if at all (figures and tables are **NOT** included in your minimum page count)

Citations

- cite figures (graphs, diagrams, etc.) or tables from external sources as a direct quote in the title, which should be in italics
- name(s)/year, plus page number(s) required

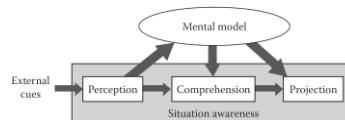


Figure 1

Schema, Mental Models, and SA (Endsley & Jones, 2011, p.21)

References

Detailed list of the sources you have used. Starts on a new page.

- centre and **bold** the word "References"
- use hanging indent of 0.5 inches (1.27 cm):
Wagoner, J. H., & Sullenberger, C. B. (1978). Pupillary size as an indicator of preference in humor. *Perceptual and Motor Skills, 47*(3), 779-782.
<https://doi.org/10.2466/pms.1978.47.3.779>

References

- actually, double-space each reference like this:

Wagoner, J. H., & Sullenberger, C. B. (1978). Pupillary size as an indicator of preference in humor.

this allows comments to fit!

Perceptual and Motor Skills, 47(3), 779-782.

<https://doi.org/10.2466/pms.1978.47.3.779>

References

- every source cited in the body of your paper **must** appear in the reference list, and every entry in your reference list **must** be cited in your paper
- sort in references alphabetically by first author
- single author (Jones) before multiple co-authors (Jones and Smith)
- same author, multiple references: earliest first (Skinner, 1938 before Skinner, 1956)
- same author, same year: add letters to year (Skinner (1953a) and Skinner (1953b))

References

- single-authored book:

Norman, D. A. (2013). *The design of everyday things* (Revised and expanded edition). Basic Books.

(one space after period following author's initial)
(capitals in book [or article] titles are restricted to the first letter of the first word, proper names, and the first letter of the first word after a semicolon, period, or question mark)

(italicize book titles)

References

- multiple-authored book:

Weiten, W., McCann, D., & Loepelmann, K. A. (2007). *Introduction to psychology: Concept charts*. Nelson Canada.

(when listing authors, use an ampersand (&) in the reference list, not "and")

References

- chapter in edited book:

Bryant, J. (1989). Message features and entertainment effects. In J. J. Bradac (Ed.), *Message effects in communication science* (pp. 231-262). Sage.

(include page numbers if you're referencing only one chapter of a book)

References

- format technical reports like a book:

U.S.-Canada Power System Outage Task Force. (2004). *Final report on the August 14, 2003 blackout in the United States and Canada: Causes and recommendations*. North American Electric Reliability Council.

<https://www.energy.gov/sites/prod/files/oeprod/DocumentsandMedia/BlackoutFinal-Web.pdf>

(give report number after title, if available)

References

- single-authored print journal article:

Garramone, G. M. (1985). Effects of negative political advertising: The roles of sponsor and rebuttal. *Journal of Broadcasting & Electronic Media*, 29(2), 149-159.

<https://doi.org/10.1080/08838158509386573>

(Capitalize First Letter of every Important Word in the Journal Title; do **NOT** abbreviate journal title)

(italicize journal title and volume number, but not issue number; give issue number if it exists)

References

- journal article with article number instead of a page range:

Cheryan, S., Master, A., & Meltzoff, A. N. (2015). Cultural stereotypes as gatekeepers: Increasing girls' interest in computer science and engineering by diversifying stereotypes. *Frontiers in Psychology*, 6, Article 49

<https://doi.org/10.3389/fpsyg.2015.00049>

(if no article number exists, just give volume number)

References

- multiple-authored magazine article:
Morphew, M. E., Balmer, D. V., & Khoury, G. J. (2001, Fall). Human performance in space. *Ergonomics in Design*, 9(3), 6-11.
<https://doi.org/10.1177/106480460100900403>
(magazines start each issue with page 1, whereas journals continue numbering where the last issue left off)

References

- unknown author (book):
Merriam-Webster's collegiate dictionary (11th ed.). (2003). Merriam-Webster.
- unknown author (newspaper article):
Caffeine linked to mental illness. (1991, July 13). *The New York Times*, pp. B13, B15.
- apparatus (product, software, etc.):
Apple Inc. (2023). *iPhone 15* [Apparatus and software]. <https://www.apple.com/ca/iphone-15/>

References

- unpublished doctoral dissertation or master's thesis:
Bialik, M. C. (2007). *Hypothalamic regulation in relation to maladaptive, obsessive-compulsive, affiliative, and satiety behaviors in Prader-Willi syndrome* [Unpublished doctoral dissertation]. UCLA.
<http://gradworks.umi.com/33/17/3317017.html>
(avoid theses or dissertations, because they are not peer-reviewed or published)

References

- unpublished convention paper:
Thomas, S., & Gitlin, T. (1993, May). *Who says there's a dominant ideology and what happens if that concept is falsified?* [Conference presentation]. Annual Meeting of the International Communication Association, Washington, DC.
(give year and month of meeting)(were you there?)
(italicize title of convention papers)
(if you got this paper via the Internet, then include the URL)



References

- URLs (Uniform Resource Locators):
 - hyperlink, underlined & blue (be consistent)
 - do **NOT** include URLs with ezproxy.library.ualberta.ca in them (these expire and require UAlberta login credentials)
 - do **NOT** include URLs from Google Books or Amazon
 - do **NOT** include date of retrieval, unless material is subject to change (e.g., Wikis)
 - let word processing software handle line breaks for URLs

References

- Internet-only journal article:
Gross, L. (2006). Just a few computational principles generate a realistic model of the brain's visual system. *Public Library of Science: Biology*, 4(5), Article e161.
<https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.0040161>
(give URL; but if DOI is available, use it instead of URL)

References

- DOI[®] (Digital Object Identifier) 
 - DOI is like an URL, but it takes you to the online article even if it has moved (to be taken to article, enter DOI at www.doi.org)
 - give DOI even if it takes you to a paywall
 - place DOI at the end of the reference
 - prefix DOI with <https://doi.org/> and hyperlink
 - cannot find DOI? Use search.crossref.org 

References

- print/Internal journal article, with DOI:
Cooke, N. J. (2008). Preface to the special 50th anniversary issue of *Human Factors*. *Human Factors*, 50(3), 347-350.
<https://doi.org/10.1518/001872008X312242>
(let word processing software handle line breaks for DOIs)

References

- advance online publication:
Deng, M., Chen, J., Wu, Y., Ma, S., Li, H., Yang, Z., Shen, Y. (2024). Using voice recognition to measure trust during interactions with automated vehicles. *Applied Ergonomics*. Advance online publication.
<https://doi.org/10.1016/j.apergo.2023.104184>
(if there is no DOI, give URL of the journal's official home page)

Finding Research Evidence

What sources should I use?

- **primary sources:** original research articles
 - a research article has sections like "methods," "participants," "results," and "discussion"
 - typically published in peer-reviewed scientific journals; most available online in databases via UAlberta Library website
 - surveys may be acceptable primary sources

Finding Research Evidence

What sources should I avoid?

- **secondary sources:** descriptions or summaries of research performed by someone other than the author
 - these include textbooks, magazines (including *Scientific American*), newspapers, science websites, blogs, documentaries, and Wikipedia
 - systematic reviews and meta-analyses are acceptable secondary sources

Finding Research Evidence

- **preprints:** articles that have been written (or submitted) but not yet accepted for publication
 - have not been peer-reviewed; may have flaws, biases, or other problems
 - ⚠ be careful with sites like ResearchGate, Academia.edu, and PsyArXiv

Tips

- Do **not** include "personal communication" (letters, emails, etc.) in references list
- in text, cite by giving initials and surname of the communicator, and the date
- Do **not** use online APA style citation/reference generators
- none work perfectly, and will cost you marks

Tips

- Do **not** rely exclusively on articles that are available online
- there is much significant research that is not available online (this means going to the actual library to look at collected volumes of journals)
- Do** include important, influential research studies
- if you keep coming across the same source repeatedly, or if it has been cited more often

Tips

- How can I tell which sources are more influential, and more important?
- check with Web of Science™ database that indexes scientific papers by topic, author, etc.
 - shows the number of times a given source has been cited by others
 - this can be a guide to the most important papers on a given topic
- guides.library.ualberta.ca/databases/web-of-science

Tips

- Can't find a study (not online or in the library)?
- use Interlibrary Loan service:
www.library.ualberta.ca/services/interlibrary-loan/
 - as a last resort, use "as cited in"
...(Rabbitt, 1982, as cited in Lyon et al., 2014).
(list only Lyon et al.'s paper in the References section)
(use these secondary sources *sparingly*, if at all)

Tips

How many sources should my paper have?

- 2 sources for every page of your paper (i.e., $2 \times 12 = 24$ minimum)?
- but books are longer and may be more comprehensive than short research articles
- and the *quality* of your sources is more important than the quantity (e.g., peer-reviewed randomized controlled study > website reference)

Which citation is best?

- a) In the population, most people are right-handed.
- b) In the population, most people are right-handed (Holder, 2001).
- c) In the population, 70%-95% of people are right-handed (Holder, 2001).
- d) In the population, 70%-95% ($t=5.23, p < 0.05$) of people are right-handed (Holder, 2001).

What's wrong with this reference?

Chapanis, A. (1999). *The Chapanis Chronicles: 50 Years of Human Factors Research, Education, and Design*. Aegean Publishing.

What's wrong with this reference?

Chayes, L., McKellar, D., & Winn, B. (1998). Percolation and Gibbs states multiplicity for ferromagnetic Ashkin-Teller models on Z^2 . *Journal of Physics A: Mathematical and General*, 9055-9063.
<https://doi.org/10.1088/0305-4470/31/45/005>

What's wrong with this reference?

The Gallup Organization. (2001). *2001 national survey of drinking and driving*.
<http://www.nhtsa.gov/DOT/NHTSA/Traffic%20Injury%20Control/Articles/Associated%20Files/DD2001v1.pdf>.

What's wrong with this reference?

Kanai, R., Feilden, T., Firth, C., and Rees, G. (2011). Political orientations are correlated with brain structure in young adults. *Current Biology*, 21(8), 677-680. doi:10.1016/j.cub.2011.03.017

What's wrong with this reference?

Sheridan, T. B. (2016). Human-Robot Interaction: Status and Challenges. *Human Factors*, 58(4), 525-532. <https://doi-org.login.ezproxy.library.ualberta.ca/10.1177/0018720816644364>

What's wrong with this reference?

Conkle, A., & West, K. (2008). Psychology on the road. *Observer*, 21, 18-23.
<https://www.psychologicalscience.org/observer/psychology-on-the-road>

What's wrong with this reference?

Norman, D. A. (2013) *The design of everyday things* (Revised and expanded edition). Basic Books.

Disclaimer

This presentation does **NOT** cover everything you need to know!

See the term paper document for more resources on citing, summarizing, and paraphrasing.

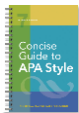
- do you know what constitutes plagiarism?
- do you know the difference between summarizing and paraphrasing?

Also, see More Help on APA Style...

More Help on APA Style



American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). APA.



American Psychological Association. (2020). *Concise guide to APA style* (7th ed.). APA.

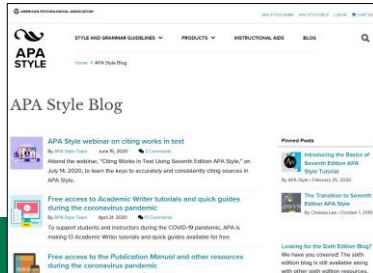
More Help on APA Style



Beins, A. M., & Beins, B. C. (2021). *Effective writing in psychology: Papers, posters, and presentations* (3rd ed.). Wiley.

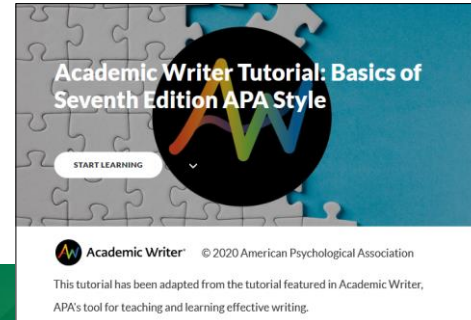
More Help on APA Style

apastyle.apa.org/blog/ (7th edition) and blog.apastyle.org/apastyle/apa-style-blog-6th-edition-archive.html (6th edition) cover *many* obscure situations



More Help on APA Style

apastyle.apa.org has some (limited) tutorials:



More Help on Research

UAlberta Library Psychology Subject Guide:

guides.library.ualberta.ca/psychology

Subject Librarian for Psychology:

Virginia Pow (virginia.pow@ualberta.ca) can help you via consultation



More Help on Writing

Writing Services:

www.ualberta.ca/current-students/academic-success-centre/writing-services/

- peer tutoring
- professional advising
- writing workshops
- academic copy editing

Basic APA Style Checklist

- All sources of information are **cited**
- All **claims** are supported by citing relevant evidence
- Evidence is based on **primary** sources
- Quantitative **data/statistics** are given, as appropriate
- All **citations** are listed in **references**, and vice-versa
- checked for **DOIs** for every article (search.crossref.org)

awc.ashford.edu/cd-apa-checklist.html

academicguides.waldenu.edu/writingcenter/apa/checklist

apastyle.apa.org/instructional-aids/publication-manual-formatting-checklist.pdf