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6

MECHANICS OF STYLE

Style refers to guidelines for ensuring clear, consistent communication and presentation in written works. APA Style, as described in this *Publication Manual*, provides guidelines for writing scholarly papers. Publishers and instructors often require authors writing for publication and students writing for a course or degree requirement to follow specific style guidelines to avoid inconsistencies among and within journal articles, book chapters, and academic papers. For example, without style guidelines, authors might use the spellings “health care,” “health-care,” and “healthcare” interchangeably in one work. Although their meaning is the same and the choice of one style over another may seem arbitrary (in this case, “health care,” with a space and no hyphen, is APA Style), such variations in style can distract or confuse readers.

In this chapter, we provide essential style guidelines for scholarly writing, including punctuation, spelling, capitalization, italics, abbreviations, numbers, statistical and mathematical copy, and lists. These guidelines often overlap with those for general good writing practices. However, we omit general grammar rules explained in widely available writing manuals and examples of grammar or usage with little relevance to manuscripts submitted to journals that use APA Style. Style manuals agree more often than they disagree; when they disagree, the *Publication Manual* takes precedence for APA Style papers or publications.

Punctuation

Punctuation establishes the cadence of a sentence, telling readers where to pause (comma, semicolon, and colon), stop (period and question mark), or take a detour (dash, parentheses, and square brackets). Punctuation of a sentence usually denotes a pause in thought; different kinds of punctuation indicate different kinds and lengths of pauses.

6.1 Spacing After Punctuation Marks

Insert one space after the following:

- periods or other punctuation marks at the end of a sentence
- commas, colons, and semicolons
- periods that separate parts of a reference list entry (see Section 9.5)
- periods following initials in names (M. P. Clark)

Do not insert a space in the following cases:

- after internal periods in abbreviations (e.g., a.m., i.e., U.S.)
- after periods in identity-concealing labels for study participants (F.I.M.)
- around colons in ratios (1:4)

Note: We recommend using one space after the period or other punctuation mark at the end of a sentence; however, follow the guidelines of your publisher or instructor if they have different requirements.

6.2 Period

Use a period or periods in the following cases:

- to end a complete sentence
- with initials in names (Bazerman, M. H.)
- in the abbreviations for “United States” and “United Kingdom” when they are used as adjectives (U.S. Navy; it is not required to abbreviate these terms)
- in identity-concealing labels for study participants (F.I.M.)
- in Latin abbreviations (a.m., cf., e.g., i.e., p.m., vs.)
- in reference abbreviations (Vol. 1, 2nd ed., p. 6, paras. 11–12, F. Supp.)
- in era designations (B.C.E., C.E., B.C., A.D.; see Section 9.42)
- to end each element within a reference (except DOIs and URLs; see Section 9.5)

Do not use periods in the following cases:

- in abbreviations of state, province, or territory names (NY; CA; Washington, DC; BC; ON; NSW)
- in capital letter abbreviations and acronyms (APA, NDA, NIMH, IQ)
- in abbreviations for academic degrees (PhD, PsyD, EdD, MD, MA, RN, MSW, LCSW, etc.; see Section 2.5)
- in abbreviations for routes of administration (icv, im, ip, iv, sc)
- in metric and nonmetric measurement abbreviations (cm, hr, kg, min, ml, s)

Note: Use a period with the abbreviation for “inch” or “inches” (in.) because otherwise it could be misread.

- after URLs in the text (see Section 8.22); instead, place URLs in the middle of the sentence or in parentheses to avoid ending a sentence with a URL
- after DOIs or URLs in the reference list (see Section 9.35)

6.3 Comma

Use a comma in the following cases:

- between elements in a series of three or more items, including before the final item (see also Section 6.49); this last comma is called a *serial comma* or *Oxford comma*

Correct: height, width, and depth

Incorrect: height, width and depth

- after an introductory phrase (if the introductory phrase is short, the comma after it is optional)

After the nurses administered the medication, patients rated their pain.

in this section, we discuss

or

in this section we discuss

- to set off a nonessential or nonrestrictive clause (see Section 4.21)—that is, a clause that embellishes a sentence but if removed would leave the grammatical structure and meaning of the sentence intact

Strong fearful faces, which are rarely seen in everyday life, convey intense expression of negative emotions.

- to set off statistics in the text that already contain parentheses, to avoid nested parentheses

Sleep amount was not significantly different between the three groups (nap: $M = 7.48$ hr, $SD = 1.99$; wake: $M = 8.13$ hr, $SD = 1.22$; nap + wake: $M = 7.25$ hr, $SD = 0.76$), $F(2, 71) = 2.32$, $p = .11$.

There was a main effect of group on corrected recognition, $F(2, 71) = 3.38$, $p < .04$, $\eta_p^2 = .087$.

- to separate two independent clauses joined by a conjunction
- to set off the year in exact dates in the text or in a retrieval date (see Section 9.16); however, when only a month and year appear in the text, do not use a comma

Facial expressions were presented, and different photo models were chosen randomly.

Retrieved April 24, 2020, from

in April 2020

- to set off the year in parenthetical in-text citations
(Bergen-Abramoff, 2018)
(Horowitz, 2019, discovered . . .)
- to separate groups of three digits in most numbers of 1,000 or more (see Section 6.38 for exceptions)

Do not use a comma in the following cases:

- before an essential or restrictive clause (see Section 4.21) because removing such a clause from the sentence would alter the intended meaning

Adolescents who spent a small amount of time on electronic communication activities were happier than those who spent no time on such activities.

- between the two parts of a compound predicate

Correct: Participants rated the items and completed a demographic questionnaire.

Incorrect: Participants rated the items, and completed a demographic questionnaire.

- to separate parts of measurement

7 years 4 months

2 min 35 s

5 ft 10 in.

6.4 Semicolon

Use a semicolon in the following cases:

- to separate two independent clauses that are not joined by a conjunction
Students received course credit for participation; community members received \$10.
- to separate two independent clauses joined by a conjunctive adverb such as “however,” “therefore,” or “nevertheless”
The children studied the vocabulary words; however, they had difficulties with recall.
- to separate items in a list that already contain commas (see Section 6.49)
The color groups were red, yellow, and blue; orange, green, and purple; or black, gray, and brown.
- to separate multiple parenthetical citations (see Section 8.12)
(Gaddis, 2018; Lai et al., 2016; Williams & Peng, 2019)
- to separate different types of information in the same set of parentheses, to avoid back-to-back parentheses
($n = 33$; Fu & Ginsburg, 2020)
- to separate sets of statistics that already contain commas
(age, $M = 34.5$ years, 95% CI [29.4, 39.6]; years of education, $M = 10.4$ [8.7, 12.1]; and weekly income, $M = \$612$ [522, 702]).

6.5 Colon

Use a colon in the following cases:

- between a grammatically complete introductory clause (one that could stand alone as a sentence, including an imperative statement) and a final phrase or clause that illustrates, extends, or amplifies the preceding thought (if the clause following the colon is a complete sentence, begin it with a capital letter; see Section 6.13)

There are three main patterns of mother–infant attachment: secure, avoidant, and resistant/ambivalent (Ainsworth et al., 1978).

Yang et al. (2019) confirmed the finding: Test performance depended on preparation.

- in ratios and proportions

The proportion of salt to water was 1:8.

Do not use a colon in the following case:

- after an introduction that is not an independent clause or complete sentence

The formula is $r_i = a_i + e$.

Target behaviors included eating, sleeping, and socializing.

The participants were asked to

- rank the 15 items,
- explain their choices, and
- close their notebooks when finished.

6.6 Dash

Two kinds of dash are used in APA Style: the *em dash* (long dash) and the *en dash* (midsized dash). These dashes are different from hyphens (see Section 6.12) and minus signs (see Section 6.45).

Em Dash. Use an em dash to set off an element added to amplify or digress from the main clause. Overuse of the em dash weakens the flow of material, so use it judiciously. **Do not use a space before or after an em dash.** Word-processing programs can be set to automatically convert two back-to-back hyphens to an em dash. (See Section 6.17 for capitalization following em dashes in titles.)

Social adjustment—but not academic adjustment—was associated with extraversion.

En Dash. An en dash is longer and thinner than a hyphen but shorter than an em dash. Use an en dash between words of equal weight in a compound adjective and to indicate a numerical range, such as a page or date range. Do not insert a space before or after an en dash. Word-processing programs have options for inserting an en dash.

author–date citation

Sydney–Los Angeles flight

pp. 4–7

50%–60%

A hyphen rather than an en dash is generally used in an abbreviation that contains dashes, such as the abbreviation for a test or scale (e.g., MMPI-2) or a diagnostic manual (*DSM-5*, *ICD-11*; see Section 6.25).

6.7 Quotation Marks

This section addresses how to use quotation marks other than with direct quotations (see Sections 8.25–8.36). Quotation marks often appear with other punctuation marks. Place commas and periods inside closing quotation marks. Place other punctuation marks (e.g., colons, semicolons, ellipses) outside closing quotation marks.

Use double quotation marks in the following cases:

- to refer to a letter, word, phrase, or sentence as a linguistic example or as itself
 - the letter "m"
 - the singular "they"
 - answered "yes" or "no"

Instead of referring to someone as a “defective child,” talk about a “child with a congenital disability” or a “child with a birth impairment.”

Students wrote “I promise to uphold the honor code” at the top of the test page.

- to present stimuli in the text (long lists of stimuli may be better presented in a table, where quotation marks are not needed)

The stimulus words were “garden,” “laundry,” “briefcase,” and “salary.”

Note: Some publishers prefer italics for the presentation of stimuli and so forth; consult the manuscript preparation guidelines or journal editor for the preferred format.

- to reproduce material from a test item or verbatim instructions to participants (if instructions are long, present them in an appendix or set them off from text in block quote format without quotation marks; see Sections 2.14 and 8.27)

The first item was “How tired do you feel after a long day at work?”

Participants read, “You can write as much as you like when answering the questions.”

- to introduce a word or phrase used as an ironic comment, as slang, or as an invented or coined expression; use quotation marks only for the first occurrence of the word or phrase, not for subsequent occurrences

First occurrence:

considered “normal” behavior
called a “friendly link”

Subsequent occurrence:

normal behavior
a friendly link

- to introduce a label; after the label has been used once, do not use quotation marks for subsequent occurrences

The image label changed from “spiderweb” to “dartboard.” The spiderweb and dartboard labels . . .

- to set off the title of a periodical article or book chapter when the title is used in the text or in a copyright attribution (do not use quotation marks around the article or book chapter title in the reference list entry)

In text:

Oerlemans and Bakker’s (2018) article, “Motivating Job Characteristics and Happiness at Work: A Multilevel Perspective,” described . . .

In the reference list:

Oerlemans, W. G. M., & Bakker, A. B. (2018). Motivating job characteristics and happiness at work: A multilevel perspective. *Journal of Applied Psychology*, 103(11), 1230–1241. <https://doi.org/10.1037/apl0000318>

In a copyright attribution:

Adapted from “Motivating Job Characteristics and Happiness at Work: A Multilevel Perspective,” by W. G. M. Oerlemans and A. B. Bakker, 2018, *Journal of Applied Psychology*, 103(11), p. 1236 (<https://doi.org/10.1037/apl0000318>). Copyright 2018 by the American Psychological Association.

Do not use double quotation marks in the following cases:

- to highlight a key term or phrase (e.g., around a term for which you are going to provide a definition); instead, use italics (see Section 6.22)

- to identify the anchors of a scale; instead, use italics (see Section 6.22)
- to refer to a numeral as itself because the meaning is sufficiently clear without quotation marks
The numeral 2 was displayed onscreen.
- to hedge or downplay meaning (do not use any punctuation with these expressions)
Correct: The teacher rewarded the class with tokens.
Incorrect: The teacher “rewarded” the class with tokens.

6.8 Parentheses

Use parentheses in the following cases:

- to set off structurally independent elements
The patterns were statistically significant (see Figure 5).
- to set off in-text citations (see Section 8.11)
Barnes and Spreitzer (2019) described
(Proctor & Hoffmann, 2016)
- to introduce an abbreviation in the text (see also Section 6.25)
galvanic skin response (GSR)
Child Report of Parental Behavior Inventory (CRPBI; Schaefer, 1965)
- to set off letters that identify items in a list within a sentence or paragraph (see also Section 6.50)
The subject areas included (a) synonyms associated with cultural interactions, (b) descriptors for ethnic group membership, and (c) psychological symptoms and outcomes associated with bicultural adaptation.
- to group mathematical expressions (see also Sections 6.9 and 6.46)
 $(k - 1)/(g - 2)$
- to enclose numbers that identify displayed formulas and equations
 $M_j = \alpha M_{j-1} + f_j + g_j * g_j'$ (1)
- to enclose statistical values that do not already contain parentheses
was statistically significant ($p = .031$)
- to enclose degrees of freedom
 $t(75) = 2.19$
 $F(2, 116) = 3.71$

Note: (When a complete sentence is enclosed in parentheses, like this, place the end punctuation inside the parentheses.) If only part of a sentence is enclosed in parentheses, place punctuation outside the parentheses (like this).

Do not use parentheses in the following cases:

- to enclose text within other parentheses; instead, use square brackets to avoid nested parentheses
(Beck Depression Inventory [BDI]; Beck et al., 1996)

Remember that plural nouns take plural verbs.

Correct: The data indicate

Incorrect: The data indicates

In general, form the possessive of a singular name by adding an apostrophe and an “s” (e.g., “Milner’s theory”). This guideline also applies when a name ends in “s” (e.g., “Descartes’s philosophy,” “James’s work”).

The spellings of terms related to technology evolve over time. Use the following spellings for some common technology words in APA Style papers:

email	ebook	ereader	database
data set	smartphone	internet	intranet
Wi-Fi	website	webpage	the web
home page	username	login page (but “log in” when used as a verb)	emoji (for the plural, either “emoji” or “emojis”)

6.12 Hyphenation

Compound words—words composed of two or more words—take many forms; they may be written as (a) two separate words (open), (b) one hyphenated word, or (c) one solid word. Compound words are often introduced into the language as separate or hyphenated words; as they become more commonplace, they tend to fuse into a solid word. For example, “data base” has become “database,” and “e-mail” has become “email.” The dictionary is an excellent guide for choosing the proper form: When a compound appears in the dictionary, its usage is established, and it is considered a permanent compound (e.g., “health care,” “self-esteem,” “caregiver”). In general, follow the hyphenation shown in the dictionary for permanent compounds (e.g., write “health care” without a hyphen, even in a phrase like “health care setting”); adjust hyphenation only to prevent misreading. Dictionaries do not always agree on the way a compound should be written (open, hyphenated, or solid); Section 6.11 specifies the dictionaries to use for APA Style papers.

Another form of compound—the temporary compound—is made up of two or more words that occur together, perhaps only in a particular paper, to express a thought. Temporary compounds are not usually listed in the dictionary. To determine how to hyphenate temporary compounds, follow these guidelines:

- If a temporary compound can be misread or expresses a single thought, use a hyphen, especially when the temporary compound appears as an adjective before the noun. When in doubt, use a hyphen for clarity. For example, “Adolescents resided in two parent homes” may mean that two homes served as residences or that each adolescent lived with two parents; a hyphen in “two-parent homes” specifies the latter meaning.
- If the compound appears after the noun it modifies, do not use a hyphen because, in almost all cases, the phrase is sufficiently clear without one. See Table 6.1 for further examples of hyphen use in temporary compounds.

t-test results	but	results of t tests
same-sex children	but	children of the same sex

Table 6.1 Guide to Hyphenating Temporary Compound Terms

Grammar guideline	Example
Hyphenate	
A compound with a participle when it precedes the term it modifies	decision-making behavior water-deprived animals Canadian-born actor
A phrase used as an adjective when it precedes the term it modifies	trial-by-trial analysis to-be-recalled items one-on-one interviews
An adjective-and-noun compound when it precedes the term it modifies	high-anxiety group middle-class families low-frequency words
A compound with a number as the first element when the compound precedes the term it modifies	six-trial problem 12th-grade students 16-min interval
A fraction used as an adjective	two-thirds majority
Do not hyphenate	
A compound that follows the term it modifies	behavior related to decision making students in the 12th grade a majority of two thirds
A compound including an adverb ending in “-ly”	widely used test relatively homogeneous sample randomly assigned participants
A compound including a comparative or superlative adjective	better written paper less informed interviewers higher order learning highest scoring students
Chemical terms	sodium chloride solution amino acid compound
Latin phrases used as adjectives or adverbs	a posteriori test post hoc comparisons were fed ad lib (but hyphenate the adjectival form: ad-lib feeding)
A modifier including a letter or numeral as the second element	Group B participants Type II error Trial 1 performance
Fractions used as nouns	one third of the participants

- Write most words formed with prefixes and suffixes as one word without a hyphen. See Table 6.2 for examples of prefixes and suffixes that do not require hyphens; see Table 6.3 for examples of prefixed and suffixed words that do require hyphens. The same suffix may be hyphenated in some cases and not in others (e.g., “nationwide” and “worldwide” vs. “industry-wide”).
- When two or more compound modifiers have a common base, that base is sometimes omitted in all except the last modifier, but the hyphens are retained. Leave a space after the hyphen when the base has been omitted, unless punctuation follows the hyphen.

long- and short-term memory

2-, 3-, and 10-min trials

Table 6.2 Prefixes and Suffixes That Do Not Require Hyphens

Prefix or suffix	Example	Prefix or suffix	Example
able	retrievable	mid	midterm
after	aftercare	mini	minisession
anti	antisocial	multi	multimethod
bi	bilingual	non	nonsignificant
cede/sede/ceed	intercede	over	oversampling
co	covariate	phobia	agoraphobia
cyber	cyberwarfare	post	posttest
equi	equimax	pre	preexperimental
extra	extracurricular	pseudo	pseudoscience
gram	cardiogram	quasi	quasiperiodic
infra	infrared	re	reevaluate
inter	intersex	semi	semidarkness
like	wavelike	socio	socioeconomic
macro	macrocosm	sub	subtest
mega	megawatt	super	superordinate
meta	metaethnography	supra	supraliminal
meter	nanometer	un	unbiased
micro	microcosm	under	underdeveloped

Note. However, use a hyphen in "meta-analysis" and "quasi-experimental."

Table 6.3 Compound Words That Require Hyphens

Occurrence	Example
Compounds in which the base word is <ul style="list-style-type: none"> capitalized 	pro-Freudian Likert-type Stroop-like
<ul style="list-style-type: none"> a number 	post-1977
<ul style="list-style-type: none"> an abbreviation 	pre-UCS trial
<ul style="list-style-type: none"> more than one word 	non-achievement-oriented students
All "self-" compounds, whether adjectives or nouns ^a	self-report technique the test was self-paced self-esteem
Words that could be misunderstood	re-pair (pair again) re-form (form again) un-ionized (not ionized)
Words in which the prefix ends and the base word begins with "a," "i," or "o" ^b	meta-analysis anti-intellectual co-occur

^a But "self psychology."

^b "Pre" and "re" compounds are not hyphenated with base words beginning with "e" (e.g., "preexisting," "reexamine").

Capitalization

APA Style is a “down” style, meaning that words are lowercase unless there is specific guidance to capitalize them, as described in the following sections.

6.13 Words Beginning a Sentence

Capitalize the following:

- the first word in a complete sentence
- the first word after a colon if what follows the colon is a complete sentence
The statement was emphatic: Further research is needed.

Do not capitalize the following:

- a personal name that begins with a lowercase letter when the name begins a sentence; alternatively, reword the sentence
. . . after the test. van de Vijver et al. (2019) concluded
- a proper noun (other than a personal name) that begins with a lowercase letter (e.g., iPad, eBay) or a lowercase statistical term (e.g., *t* test, *p* value) when it begins a sentence (see Section 6.26); instead, reword the sentence to avoid beginning with a lowercase letter

6.14 Proper Nouns and Trade Names

Capitalize the following:

- proper nouns and proper adjectives
- names of racial and ethnic groups (see also Section 5.7)
We interviewed 25 Black women living in rural Louisiana.
- names of specific university departments, academic institutions, and academic courses

Capitalize	Do not capitalize
Department of Psychology, San Francisco State University	a psychology department, a university
Psychology 101	a psychology course
Science of Nursing Practice	a nursing course

- trade and brand names (in general, do not include the copyright or trademark symbol after a trade or brand name used in an academic paper; however, such symbols may be included in business and marketing materials)

Capitalize	Do not capitalize
APA Style	a writing style
Zoloft	sertraline (generic name for Zoloft)
iPhone, Android phone	smartphone
Wi-Fi	wireless, hotspot

Do not capitalize the following:

- proper adjectives that have a common meaning (consult a dictionary for guidance; see Section 6.11), except for personal names within these terms
 - eustachian tube
 - cesarean section
 - but
 - Freudian slip
 - Wilks's lambda
 - Euclidean geometry

6.15 Job Titles and Positions

Capitalize a job title or position when the title precedes a name (titles are not used in bylines; see Section 2.5):

- President Lincoln was elected in 1860.
- Executive Director of Marketing Carolina Espinoza led the meeting.
- Dr. Aisha Singh, Dr. Singh
- Registered Nurse Paul T. Lo, Nurse Lo

Do not capitalize a job title or position when the title follows the name or refers to a position in general:

- Abraham Lincoln was president of the United States.
- Carolina Espinoza, executive director of marketing, led the meeting.
- president, vice president, chief executive officer, executive director, manager
- professor, instructor, faculty, dean
- psychologist, psychiatrist, counselor, social worker
- physician, doctor, physician assistant
- nurse, registered nurse, advanced practice nurse, nurse practitioner

6.16 Diseases, Disorders, Therapies, Theories, and Related Terms

Do not capitalize the names of the following:

- diseases or disorders
 - autism spectrum disorder
 - major depression
 - diabetes
 - leukemia
- therapies and treatments
 - cognitive behavior therapy
 - applied behavior analysis
 - immunotherapy
 - cataract surgery
- theories, concepts, hypotheses, principles, models, and statistical procedures
 - object permanence
 - associative learning model
 - psychoanalytic theory
 - theory of mind
 - law of effect
 - two-group t test

However, capitalize personal names that appear within the names of diseases, disorders, therapies, treatments, theories, concepts, hypotheses, principles, models, and statistical procedures.

- Alzheimer's disease
- non-Hodgkin's lymphoma
- Freudian theory
- Down syndrome
- Maslow's hierarchy of needs
- Pavlovian conditioning

6.17 Titles of Works and Headings Within Works

APA Style uses two types of capitalization for titles of works and headings within works: title case and sentence case. In *title case*, major words are capitalized. In *sentence case*, most words are lowercased. Nouns, verbs (including linking verbs), adjectives, adverbs, pronouns, and all words of four letters or more are considered major words. Short (i.e., three letters or fewer) conjunctions, short prepositions, and all articles are considered minor words.

Title Case. In title case, capitalize the following words in a title or heading:

- the first word, even a minor word such as “The”
- the first word of a subtitle, even if it is a minor word
- the first word after a colon, em dash, or end punctuation in a heading, even if it is a minor word
- major words, including the second part of hyphenated major words (e.g., “Self-Report,” not “Self-report”)
- words of four letters or more (e.g., “With,” “Between,” “From”)

Lowercase only minor words that are three letters or fewer in a title or heading (except the first word in a title or subtitle or the first word after a colon, em dash, or end punctuation in a heading):

- short conjunctions (e.g., “and,” “as,” “but,” “for,” “if,” “nor,” “or,” “so,” “yet”)
- articles (“a,” “an,” “the”)
- short prepositions (e.g., “as,” “at,” “by,” “for,” “in,” “of,” “off,” “on,” “per,” “to,” “up,” “via”)

When to Use Title Case. Use title case for the following:

- titles of articles, books, reports, and other works appearing in text
In the book *Bilingualism Across the Lifespan: Factors Moderating Language Proficiency*
In the article “Media Influences on Self-Stigma of Seeking Psychological Services: The Importance of Media Portrayals and Person Perception”
- titles of tests or measures, including subscales (see Section 6.18)
Wechsler Adult Intelligence Scale
WAIS-IV Verbal Comprehension Index
- all headings within a work (Levels 1–5; see Section 2.27)
- the title of your own paper and of named sections and subsections within it
the Data Analyses section
- titles of periodicals (these are also italicized)
Journal of Experimental Psychology: Learning, Memory, and Cognition
The Washington Post
- table titles (these are also italicized; see Section 7.11)
- figure titles (these are also italicized), axis labels, and legends (see Sections 7.25–7.27)

Sentence Case. In sentence case, lowercase most words in the title of a heading. Capitalize only the following words:

- the first word of the title or heading
- the first word of a subtitle
- the first word after a colon, em dash, or end punctuation in a heading
- nouns followed by numerals or letters
- proper nouns

When to Use Sentence Case. Use sentence case for the following:

- titles of articles, books, reports, webpages, and other works in reference list entries, even if title case was used in the original work (see also Section 9.19)
Golden, A. R., Griffin, C. B., Metzger, I. W., & Cooper, S. M. (2018). School racial climate and academic outcomes in African American adolescents: The protective role of peers. *Journal of Black Psychology, 44*(1), 47–73. <https://doi.org/10.1177/0095798417736685>
Mena, J. A., & Quina, K. (Eds.). (2019). *Integrating multiculturalism and intersectionality into the psychology curriculum: Strategies for instructors*. American Psychological Association. <https://doi.org/10.1037/0000137-000>
- table column headings, entries, and notes (see Sections 7.12–7.14)
- figure notes (see Section 7.28)

Note: Words in the image of a figure (see Section 7.26) may be in either title case or sentence case. Follow the same guidelines for capitalization in a figure image as used in the text.

6.18 Titles of Tests and Measures

Capitalize titles of published and unpublished tests and measures and their subscales. Do not capitalize words such as “test” and “scale” unless they are part of the test or subscale title. See Section 10.11 for more on use of italics with the titles of test and measures.

Thematic Apperception Test

Minnesota Multiphasic Personality Inventory–2

MMPI-2 Depression scale

Stroop Color–Word Interference Test

the authors’ Mood Adjective Checklist

SF–36 Physical Functioning scale

Do not capitalize shortened, inexact, or generic titles of tests or measures.

a vocabulary test

Stroop-like color test

6.19 Nouns Followed by Numerals or Letters

Capitalize nouns followed by numerals or letters that denote a specific place in a series.

Figure 3

Appendix B

Footnote 2

Trials 5 and 6

Grant AG11214

Table 1, Row 2, Column 6

Research Question 3

Days 7–9

Part 4

Chapter 8

Exception: Do not capitalize the words “page” or “paragraph” before a numeral, in accordance with long-standing practice.

page 2

paragraph 4

Do not capitalize the following:

- the words “numeral” or “letter” when referring to a numeral or letter as itself because the numeral or letter does not denote a place in a series beyond integers or the alphabet

the numeral 7

the letter “a”

- nouns that precede a variable

trial *n* and item *x*

but

Trial 3 and Item b (The number and letter are not variables.)

- names of genes and proteins that include numerals or letters

nuclear receptor subfamily 3, group C, member 1

6.20 Names of Conditions or Groups in an Experiment

Do not capitalize names of conditions or groups in an experiment.

the experimental and control groups

participants were assigned to information and no-information conditions

but

Conditions A and B (see Section 6.19)

6.21 Names of Factors, Variables, and Effects

Capitalize names of derived variables within a factor or principal components analysis. The words “factor” and “component” are not capitalized unless followed by a numeral (see Section 6.19).

Big Five personality factors of Extraversion, Agreeableness, Openness to Experience, Conscientiousness, and Neuroticism

Mealtime Behavior (Factor 4)

Do not capitalize effects or variables unless they appear with multiplication signs. (Be careful not to use the term “factor” when you mean “effect” or “variable,” e.g., in an interaction or analysis of variance.)

small age effect

sex, age, and weight variables

but

Sex × Age × Weight interaction

3 × 3 × 2 (Groups × Trials × Responses) design

2 (methods) × 2 (item types)

Italics

6.22 Use of Italics

Use italics for the following:

- **key terms or phrases**, often accompanied by a definition
Mindfulness is defined as “the act of noticing new things, a process that promotes flexible responding to the demands of the environment” (Pagnini et al., 2016, p. 91).

Note: Use italics for a term or phrase only once, when it is most appropriate to draw readers’ attention to the term or phrase; elsewhere, the term should be in standard (nonitalic) type. For example, if a word is used in a heading and then defined in the text that follows, italicize the term as part of the definition rather than in the heading.

- **titles of books**, reports, webpages, and other stand-alone works (see Section 9.19)
Concise Guide to APA Style
- **titles of periodicals** (see Section 9.25)
Cultural Diversity & Ethnic Minority Psychology
- genera, species, and varieties
Cebus apella
- letters used as statistical symbols or algebraic variables
Cohen’s $d = 0.084$
 $a/b = c/d$
MSE
- some test scores and scales
Rorschach scores: $F+$, Z
MMPI-2 scales: Hs , Pd
- periodical volume numbers in reference lists
Neuropsychology, 30(5), 525–531.
- anchors of a scale (but not the associated number)
ranged from 1 (*poor*) to 5 (*excellent*)
rated using a Likert scale (1 = *strongly disagree* to 5 = *strongly agree*)
- the first use of a word, phrase, or abbreviation from another language when readers may not be familiar with it; however, if the term appears in a dictionary for the language in which you are writing (see Section 6.11), do not use italics
- gene symbols (see Section 6.31)
NR3C1

Do not use italics for the following:

- titles of book series (e.g., the Harry Potter series)
- the punctuation mark after an italicized word or phrase
What is *plurality*?

Note: Italicize a punctuation mark that is part of an italic element, such as a colon, comma, or question mark within a book title, periodical title, or heading.

Miles and Sweet's (2017) book *Chicken or Egg: Who Comes First?* addressed . . .

- punctuation between elements of a reference list entry (e.g., the comma after a volume and issue number, the period after a book title)
- words, phrases, and abbreviations of foreign origin that appear in a dictionary for the language in which you are writing (see Section 6.11)

a posteriori

et al.

a priori

per se

ad lib

vis-à-vis

fait accompli

mens rea

force majeure

zeitgeist

- chemical terms

NaCl, LSD

- trigonometric terms

sin, tan, log

- nonstatistical subscripts to statistical symbols or mathematical expressions

F_{\max}

$S_A + S_B$

- Greek letters

β , α , χ^2

- letters used as abbreviations

reaction time (RT)

- gene names and gene proteins (see Section 6.31)

glucocorticoid receptor gene, GR protein

- mere emphasis

Incorrect: It is important to bear in mind that *this* process is *not* proposed as a *stage* theory of development.

Note: Italics for emphasis are acceptable if emphasis might otherwise be lost or the material misread; in general, however, use syntax to provide emphasis. See Section 8.31 for how to add emphasis in quoted material. Italics and bold may be used for emphasis in tables, depending on the requirements of the journal (e.g., to show factor loadings of a particular size; see Table 7.14 in Section 7.21).

6.23 Reverse Italics

When words that would normally be italicized appear within text that is already italicized, those words should be set in standard (nonitalic) type, referred to as *reverse italicization*. For example, when the title of a book contains the title of another book, use standard type for the title within the title. In the text, use title case for both titles; in the reference list entry, use sentence case for both titles. In the following example, Marinelli and Mayer wrote a book about Freud's book

The Interpretation of Dreams; Marinelli and Mayer's book title is italicized, and Freud's book title within it is written in standard type.

In text:

In *Dreaming by the Book: Freud's The Interpretation of Dreams and the History of the Psychoanalytic Movement*, Marinelli and Mayer (2003) explored . . .

In the reference list:

Marinelli, L., & Mayer, A. (2003). *Dreaming by the book: Freud's The interpretation of dreams and the history of the psychoanalytic movement*. Other Press.

Abbreviations

An *abbreviation* is a shortened form of a word or phrase; abbreviations of phrases are often composed of the first letter of each word of the phrase (i.e., acronym). To maximize clarity, use abbreviations sparingly and consider readers' familiarity with the abbreviation.

6.24 Use of Abbreviations

Although abbreviations can be useful for long, technical terms in scholarly writing, communication is often garbled rather than clarified if an abbreviation is unfamiliar to readers. In general, use an abbreviation if (a) it is conventional and readers are likely to be more familiar with the abbreviation than with the complete form and (b) considerable space can be saved and cumbersome repetition avoided. For example, the abbreviations "L" for large and "S" for small in a paper describing different sequences of reward (LLSS or LSLS) would be effective and readily understood shortcuts. In another paper, however, writing about the "L reward" and the "S reward" might be both unnecessary and confusing. In most instances, abbreviating experimental group names is ineffective because the abbreviations are not adequately informative or easily recognizable; some are more cumbersome than the full name. For the same reason, do not use the abbreviations "S," "E," and "O" for subject, experimenter, and observer in the text.

Overuse. Sometimes the space saved by using abbreviations is not justified by the time necessary for readers to master the meaning, as in the following example:

The advantage of the LH was clear from the RT data, which reflected high FP and FN rates for the RH.

Without abbreviations, the previous passage reads as follows:

The advantage of the left hand was clear from the reaction time data, which reflected high false-positive and false-negative rates for the right hand.

Although there is no absolute limit for the use of abbreviations, writing is generally easier to understand when most words are written out rather than when overflowing with abbreviations.

Underuse. In general, if you abbreviate a term, use the abbreviation at least three times in a paper. If you use the abbreviation only one or two times, readers may have difficulty remembering what it means, so writing the term out each time aids comprehension. However, a standard abbreviation for a long, familiar term is clearer and more concise even if it is used fewer than three times.

6.25 Definition of Abbreviations

In APA Style papers, do not define abbreviations that are listed as terms in the dictionary (e.g., AIDS, IQ). Also do not define measurement abbreviations (see Section 6.27), time abbreviations (see Section 6.28), Latin abbreviations (see Section 6.29), or many statistical abbreviations (see Section 6.44). Define all other abbreviations, even those that may be familiar to your readers (e.g., “RT” for reaction time or “ANOVA” for analysis of variance; see also Section 6.24). After you define an abbreviation, use only the abbreviation; do not alternate between spelling out the term and abbreviating it.

Definition in the Text. When you first use a term that you want to abbreviate in the text, present both the full version of the term and the abbreviation.

- When the full version of a term appears for the first time in a heading, do not define the abbreviation in the heading; instead define the abbreviation when the full version next appears. Use abbreviations in headings only if the abbreviations have been previously defined in the text or if they are listed as terms in the dictionary.
- When the full version of a term first appears in a sentence in the text, place the abbreviation in parentheses after it.
attention-deficit/hyperactivity disorder (ADHD)
- When the full version of a term first appears in parenthetical text, place the abbreviation in square brackets after it. Do not use nested parentheses.
(i.e., attention-deficit/hyperactivity disorder [ADHD])
- If a citation accompanies an abbreviation, include the citation after the abbreviation, separated with a semicolon. Do not use nested or back-to-back parentheses.
Beck Depression Inventory–II (BDI-II; Beck et al., 1996)
(Beck Depression Inventory–II [BDI-II]; Beck et al., 1996)

Definition in Tables and Figures. Define abbreviations used in tables and figures within each table and figure, even if the abbreviations have already been defined in the text. The abbreviation can appear in parentheses after first use of the term within the table or figure, including in the table or figure title, or the definition can appear in a table or figure general note or a figure legend. If an abbreviation is used in multiple tables and figures, define it in each table or figure. Do not define abbreviations that do not appear in a table or figure. Do not define or write out standard abbreviations for units of measurement and statistics in a table or figure (see Sections 6.44 and 7.15).

6.26 Format of Abbreviations

Plural Forms. To form the plural of most abbreviations and statistical symbols, add a lowercase “s” alone, without an apostrophe.

IQs DOIs URLs Eds. vols. Ms ps ns ESs

Note: To form the plural of the reference abbreviation for “page” (p.), write “pp.” Do not add an “s” to make abbreviations for units of measurement plural.

3 cm (not 3 cms)

24 hr (not 24 hrs)

Repeated Units of Measurement. Do not repeat abbreviated units of measurement when expressing multiple amounts.

16–30 kHz 0.3, 1.5, and 3.0 mg/dl

When reporting related statistics, such as means and standard deviations, report the unit with the main statistic but do not repeat it for the related statistic(s) when the unit remains the same.

Correct: ($M = 8.7$ years, $SD = 2.3$)

Incorrect: ($M = 8.7$ years, $SD = 2.3$ years)

Compound Units. Use a centered dot between the symbols of a compound term formed by the multiplication of units.

Pa • s

Use a space between the full names of units of a compound unit formed by the multiplication of units; do not use a centered dot.

pascal second

6.28 Time Abbreviations

To prevent misreading, do not abbreviate the words “day,” “week,” “month,” and “year,” even when they are accompanied by numeric values. Do abbreviate the words “hour,” “minute,” “second,” “millisecond,” “nanosecond,” and any other division of the second when they are accompanied by numeric values.

Term	Abbreviation	Example
hour	hr	6 hr
minute	min	30 min
second	s	5 s
millisecond	ms	2.65 ms
nanosecond	ns	90 ns

6.29 Latin Abbreviations

Use the following standard Latin abbreviations only in parenthetical material; in the narrative, use the translation of the Latin term. In both cases, punctuate as if the abbreviation were spelled out in the language in which you are writing.

Latin abbreviation	Translation
cf.	compare
e.g.,	for example,
, etc.	, and so forth
i.e.,	that is,
viz.,	namely,
vs.	versus or against

Exceptions: Use the abbreviation “v.” (for “versus”) in the title or name of a court case in the reference list and in all in-text citations (see Section 11.4). Use the Latin abbreviation “et al.” (which means “and others”) in both narrative and parenthetical citations (see Section 8.17). (The abbreviation “ibid.” is not used in APA Style.)

6.30 Chemical Compound Abbreviations

Chemical compounds may be expressed by the common name or the chemical name. If you prefer to use the common name, provide the chemical name in parentheses on first mention. Avoid expressing compounds with chemical formulas because these are usually less informative to readers and have a high likelihood of being typed or typeset incorrectly (e.g., “aspirin” or “salicylic acid,” not “C₉H₈O₄”). If names of compounds include Greek letters, retain the letters as symbols and do not write them out (e.g., “β carotene,” not “beta carotene”). If a compound name containing a Greek letter appears at the beginning of a sentence, capitalize the first letter of the word to which the symbol is connected (see Section 6.26).

Long names of organic compounds are often abbreviated. If the abbreviation is listed as a term in a dictionary (see Section 6.25; e.g., “NADP” for “nicotinamide adenine dinucleotide phosphate”), you do not need to write it out in full on first use.

Concentrations. If you express a solution as a percentage concentration instead of as a molar concentration, specify the percentage as a weight-per-volume ratio (wt/vol), a volume ratio (vol/vol), or a weight ratio (wt/wt) of solute to solvent. The higher the concentration, the more ambiguous the expression is as a percentage. Specifying the ratio is especially necessary for concentrations of alcohol, glucose, and sucrose. Specifying the salt form is also essential for precise reporting of *d*-amphetamine HCl or *d*-amphetamine SO₄ (expression of a chemical name in combination with a formula is acceptable in this case).

12% (vol/vol) ethyl alcohol solution

1% (wt/vol) saccharin solution

Routes of Administration. Abbreviate a route of administration when it is paired with a number-and-unit combination. Do not use periods with abbreviations for routes of administration: icv = intracerebral ventricular, im = intramuscular, ip = intraperitoneal, iv = intravenous, sc = subcutaneous, and so forth.

anesthetized with sodium pentobarbital (90 mg/kg ip)

two subcutaneous injections (*not* sc injections)

6.31 Gene and Protein Name Abbreviations

Writing about genes can be challenging. Each gene has an official full name and symbol, designated by the HUGO Gene Nomenclature Committee, that describe the gene's function or location and often the protein it produces. Use standard gene names found in gene databases such as those from the National Center for Biotechnology Information (<https://www.ncbi.nlm.nih.gov/gene>) and the HUGO Gene Nomenclature Committee (<https://www.genenames.org/>). Gene names are organism specific (e.g., human, mouse), so use an appropriate database. Additionally, the same gene may be known by an “alias” (or alternate scientific, informal, and/or historical) name and symbol. For example, the glucocorticoid receptor gene, which is highly implicated in the response to stress, has the official name “nuclear receptor subfamily 3, group C, member 1”; has the official symbol *NR3C1*; and produces GR proteins; it is also commonly known as the “glucocorticoid receptor,” abbreviated “GR.” If a gene is known by more than one name or symbol, select one presentation and use it consistently;

the first time you mention a gene in your paper, you may also note the other name and/or symbol by which it is known to alert readers who may not be familiar with the designation you chose. Also state whether you are referring to the gene or to its protein, and use appropriate terminology (e.g., use “expression” when discussing genes and “levels” when discussing proteins).

Do not italicize gene names written out in full (e.g., corticotropin-releasing hormone) and gene proteins (e.g., CRH). However, do italicize gene symbols (e.g., *CRH*). It is not required to abbreviate the full name of a gene and to use its symbol; follow the guidelines in Section 6.24 if you are considering using an abbreviation for a gene. For further discussion of gene names and formatting, see Wain et al. (2002) and the International Committee on Standardized Genetic Nomenclature for Mice and Rat Genome and Nomenclature Committee (2018).

Numbers

In general, use numerals to express numbers 10 and above and words to express numbers below 10. Consider on a case-by-case basis whether to follow the general guideline or if an exception applies.

6.32 Numbers Expressed in Numerals

Use numerals to express the following:

- numbers 10 and above throughout the paper, including the abstract (for exceptions, see Sections 6.33–6.34) and both cardinal and ordinal numbers (see Section 6.35)

15th trial	200 participants
13 lists	10th-grade students
12 models	105 stimulus words

- numbers that immediately precede a unit of measurement

a 5-mg dose	with 10.5 cm of
-------------	-----------------

- numbers that represent statistical or mathematical functions, fractional or decimal quantities, percentages, ratios, and percentiles and quartiles

multiplied by 5	3 times as many
0.33 of the sample	more than 5%
a ratio of 16:1	the 5th percentile

- numbers that represent time, dates, ages, scores and points on a scale, exact sums of money, and numerals as numerals

5 days	about 8 months
4 decades	was 2 years old
12:30 a.m.	scored 4 on a 7-point scale
1 hr 34 min	the numeral 6 on the keyboard
2-year-olds	approximately 3 years ago
ages 65–70 years	received \$5 in compensation

- numbers that denote a specific place in a numbered series and parts of books and tables (the noun before the number is also capitalized when it denotes a specific place in a series; see Section 6.19); however, when the number precedes the noun, the usual guidelines for number use apply

Number after a noun	Number before a noun
Year 1	the 1st year
Grade 4, Grade 10	the fourth grade, the 10th grade
Items 3 and 5	the third and fifth items
Question 2	the second question
Table 2, Figure 5	the second table, the fifth figure
Column 8, Row 7	the eighth column, the seventh row
Chapter 1, Chapter 12	the first chapter, the 12th chapter

Exceptions: Do not capitalize the abbreviations for page(s) or paragraph(s), even when they are followed by a numeral (e.g., p. 3, pp. 2–5, para. 9, paras. 1–4).

6.33 Numbers Expressed in Words

Use words to express the following:

- numbers zero through nine (except as described in Sections 6.32 and 6.34) in the text, including the abstract
- any number that begins a sentence, title, or heading (when possible, reword the sentence to avoid beginning with a number)

Forty-eight percent of the sample showed an increase; 2% showed no change.
Twelve students improved, and 12 students did not improve.

- common fractions

one fifth of the class two-thirds majority

- universally accepted usage

Twelve Apostles Five Pillars of Islam

6.34 Combining Numerals and Words to Express Numbers

Use a combination of numerals and words to express back-to-back numerical modifiers.

2 two-way interactions ten 7-point scales

However, if this makes the text more difficult for readers, consider rewording the sentence.

6.35 Ordinal Numbers

Treat ordinal numbers as you would cardinal numbers.

Ordinal	Cardinal base
second-order factor	two orders
fourth grade, 10th grade	four grades, 10 grades
first item of the 75th trial	one item, 75 trials
first and third groups	one group, three groups
3rd year	3 years

The suffixes of ordinal numbers can be presented with or without a superscript (e.g., either 4th or 4th), but be consistent in presentation throughout your paper.

6.36 Decimal Fractions

Use a zero before the decimal point in numbers that are less than 1 when the statistic can exceed 1.

$$\begin{array}{ll} t(20) = 0.86 & F(1, 27) = 0.57 \\ \text{Cohen's } d = 0.70 & 0.48 \text{ cm} \end{array}$$

Do not use a zero before a decimal fraction when the statistic cannot be greater than 1 (e.g., correlations, proportions, levels of statistical significance).

$$r(24) = -.43, p = .028$$

The number of decimal places to use in reporting the results of experiments and data-analytic manipulations should be governed by the following principle: Round as much as possible while considering prospective use and statistical precision. As a general rule, fewer decimal digits are easier to comprehend than are more digits; therefore, it is usually better to round to two decimal places or to rescale the measurement (in which case effect sizes should be presented in the same metric). For instance, a difference in distances that must be carried to four decimals to be seen when scaled in meters can be more effectively illustrated in millimeters, which would require only a few decimal digits to illustrate the same difference.

When properly scaled, most data can be effectively presented with two decimal digits of accuracy. Report correlations, proportions, and inferential statistics such as t , F , and chi-square to two decimals. When reporting data measured on integer scales (as with many questionnaires), report means and standard deviations to one decimal place (as group measures, they are more stable than individual scores). Report exact p values (e.g., $p = .031$) to two or three decimal places. However, report p values less than .001 as $p < .001$. The tradition of reporting p values in the form of $p < .10$, $p < .05$, $p < .01$, and so forth was appropriate in a time when only limited tables of critical values were available. However, in tables the “ $p <$ ” notation may be necessary for clarity (see Section 7.14). For guidance on the types of statistics to report in your paper, see the reporting standards for quantitative methods and results (Sections 3.6–3.7).

6.37 Roman Numerals

If Roman numerals are part of an established terminology, do not change them to Arabic numerals. For example, use “Type II error,” not “Type 2 error.” Use Arabic numerals for routine seriation (e.g., Step 1, Experiment 2, Study 3).

6.38 Commas in Numbers

Use commas between groups of three digits in most figures of 1,000 or more. Some exceptions are as follows:

Category	Example of exception
page numbers	page 1029
binary digits	00110010
serial numbers	290466960
degrees of temperature	3414 °C
acoustic frequency designations	2000 Hz
degrees of freedom	$F(24, 1000)$

6.39 Plurals of Numbers

To form the plurals of numbers, whether expressed as numerals or as words, add “s” or “es” alone, without an apostrophe.

twos and sixes

the 1960s

30s and 40s

Statistical and Mathematical Copy

APA Style for presenting statistical and mathematical copy reflects (a) the standards of content and form agreed on in the field and (b) the requirements of clear communication. The *Publication Manual* addresses standards for presentation only; it does not provide guidance on how to choose statistics, conduct analyses, or interpret results. Consult a statistics reference work or a statistician for help if needed.

6.40 Selecting Effective Presentation

Statistical and mathematical copy can be presented in text, in tables, and/or in figures. In deciding which approach to take, follow these general guidelines:

- If you need to present three or fewer numbers, first try using a sentence.
- If you need to present four to 20 numbers, first try using a table.
- If you need to present more than 20 numbers, first try using a figure.

Select the mode of presentation that optimizes readers' understanding of the data. Detailed displays that allow fine-grained understanding of a data set may be more appropriate to include in supplemental materials (see Section 2.15) than in the print version of an article. However, editors publish tables and figures at their discretion; they may also request new tables and figures.

6.41 References for Statistics

Do not provide a reference for a statistic in common use (e.g., Cohen's *d*); this convention applies to most statistics used in journal articles. Provide a reference when (a) less common statistics are used, (b) a statistic is used in an unconventional or controversial way, or (c) the statistic itself is the focus of the paper.

6.42 Formulas

Do not provide a formula for a statistic in common use; however, provide a formula when the statistic or mathematical expression is new, rare, or essential to the paper. The presentation of equations is described in Sections 6.46 and 6.47.

6.43 Statistics in Text

When reporting inferential statistics (e.g., *t* tests, *F* tests, chi-square tests, and associated effect sizes and confidence intervals), include sufficient information to allow readers to fully understand the analyses conducted. The data supplied, preferably in the text but possibly in supplemental materials depending on the magnitude of the data arrays, should allow readers to confirm the basic reported analyses (e.g., cell means, standard deviations, sample sizes, correlations) and should enable interested readers to construct some effect-size estimates and confidence intervals beyond those supplied in the

paper per se. In the case of multilevel data, present summary statistics for each level of aggregation. What constitutes sufficient information depends on the analytic approach reported.

F ratios:

For immediate recognition, the omnibus test of the main effect of sentence format was significant, $F(2, 177) = 6.30, p = .002, \text{est } \omega^2 = .07$.

t values:

The one-degree-of-freedom contrast of primary interest was significant at the specified $p < .05$ level, $t(177) = 3.51, p < .001, d = 0.65, 95\% \text{ CI } [0.35, 0.95]$.

Hierarchical and other sequential regression statistics:

High school GPA predicted college mathematics performance, $R^2 = .12, F(1, 148) = 20.18, p < .001, 95\% \text{ CI } [.02, .22]$.

If you present descriptive statistics in a table or figure, do not repeat them in the text, although you should (a) mention the table in which the statistics can be found in the text and (b) emphasize particular data in the text when they aid in the interpretation of the findings.

When enumerating a series of similar statistics, be certain that the relation between the statistics and their referents is clear. Words such as “respectively” and “in order” can clarify this relationship.

Means (with standard deviations in parentheses) for Trials 1–4 were 2.43 (0.50), 2.59 (1.21), 2.68 (0.39), and 2.86 (0.12), respectively.

When reporting confidence intervals, use the format 95% CI [*LL*, *UL*], where *LL* is the lower limit of the confidence interval and *UL* is the upper limit. Every report of a confidence interval must clearly state the level of confidence. However, when confidence intervals are repeated in a series or within the same paragraph, the level of confidence (e.g., 95%) has remained unchanged, and the meaning is clear, do not repeat “95% CI.”

95% CIs [5.62, 8.31], [−2.43, 4.31], and [−4.29, −3.11], respectively

When a confidence interval follows the report of a point estimate, do not repeat the units of measurement.

$M = 30.5 \text{ cm}, 99\% \text{ CI } [18.0, 43.0]$

6.44 Statistical Symbols and Abbreviations

Symbols and abbreviations are often used for statistics (e.g., “mean” is abbreviated “*M*”). Table 6.5 contains common statistical abbreviations and symbols.

- Do not define symbols or abbreviations that represent statistics (e.g., *M*, *SD*, *F*, *t*, *df*, *p*, *N*, *n*, *OR*, *r*) or any abbreviations or symbols composed of Greek letters (e.g., α , β , χ^2) in Table 6.5.
- However, define the other abbreviations in Table 6.5 (e.g., AIC, ANOVA, BIC, CFA, CI, NFI, RMSEA, SEM) when they are used anywhere in your paper (see Sections 6.25 and 7.14–7.15).

Some terms are used as both abbreviations and symbols. Use the abbreviation when referring to the concept and the symbol when specifying a numeric value. The symbol form will usually be either a non-English letter or an italicized

English letter. Most abbreviations can be turned into symbols (for use when reporting numerical estimates) by simply italicizing the abbreviation.

Note: Some quantitative approaches (e.g., structural equation modeling) use multiple notation systems; any notation system is acceptable as long as it is used consistently. If you use a notation system other than the one shown in Table 6.5, identify it for readers. Do not mix notation systems within a paper.

As with all aspects of paper preparation, ensure that there are no ambiguities that could lead to errors in final production, particularly with mathematical and statistical symbols, unusual characters, and complex alignments (e.g., subscripts, superscripts). Avoid misunderstandings and corrections by preparing mathematical copy carefully.

Symbols Versus Words. When using a statistical term in narrative text, use the term, not the symbol. For example, state “the means were” not “the *M*s were.” When using a statistical term in conjunction with a mathematical operator, use the symbol or abbreviation. For example, write “($M = 7.74$),” not “(*mean* = 7.74).”

Symbols for Population Versus Sample Statistics. Population parameters are usually represented by Greek letters. Most estimators are represented by italicized Latin letters. For example, the population correlation would be represented as ρ , and the estimator would be represented as r ; $\text{est}(\rho)$ and $\hat{\rho}$ are also acceptable. Some test statistics are represented by italicized Latin letters (e.g., t and F), and a few are represented by Greek letters (e.g., Γ).

Symbols for Number of Subjects. Use an uppercase, italicized N to designate the number of members in the total sample (e.g., $N = 135$). Use a lowercase, italicized n to designate the number of members in a limited portion or subsample of the total sample (e.g., $n = 80$ in the treatment group).

Symbols for Percentage and Currency. Use the percent symbol and currency symbols only when they are accompanied by a numeral; also use them in table headings and in figure labels and legends to conserve space. Use the word “percentage” or the name of the currency when a number is not given. Repeat the symbol for a range of percentages or quantities of currency.

18%–20%

determined the percentage

\$10.50, £10, €9.95, ¥100–¥500

in Australian dollars, in U.S. dollars

Standard, Bold, and Italic Type. Statistical symbols and mathematical information in papers are prepared with three different type styles: standard (roman), **bold**, and *italic*. The same type style is used in text, tables, and figures.

- Use standard type for Greek letters, subscripts and superscripts that function as identifiers (i.e., are not variables, as in the subscript “girls” in the example that follows), and for abbreviations that are not variables (e.g., log, GLM, WLS).

$\mu_{\text{girls}}, \alpha, \beta_i$

- Use bold type for symbols for vectors and matrices.

\mathbf{V}, Σ

- Use italic type for all other statistical symbols.

$N, M_x, df, SSE, MSE, t, F$

On occasion, an element may serve as both an abbreviation and a symbol (e.g., SD); in this case, use the type style that reflects the function of the element (see Table 6.5).

6.45 Spacing, Alignment, and Punctuation for Statistics

Space mathematical copy as you would space words: $a+b=c$ is as difficult to read as *wordswithoutspacing*. Instead, type $a + b = c$. For a minus sign indicating sub-

traction, use a space on each side of the sign (e.g., $z - y = x$); for a minus sign indicating a negative value, use a space before but not after the sign (e.g., -8.25).

Note: A minus sign is a different typographical character than a hyphen (it is longer and slightly higher); your word-processing program has options for inserting a minus sign in your paper.

Align signs and symbols carefully. Use the subscript and superscript functions of your word-processing program. In most cases, type subscripts first and then superscripts (x_a^2). However, place a subscript or superscript such as the symbol for prime right next to its letter or symbol (x'_a). Because APA prefers to align subscripts and superscripts one under the other (“stacking”) for ease of reading instead of setting one to the right of the other (“staggering”), if you are publishing an article that includes statistics in an APA journal, your subscripts and superscripts will be stacked when they are typeset. If subscripts and superscripts should not be stacked, indicate this in a cover letter or in the manuscript.

Presentation of Equations

Punctuate all equations, whether they are in the line of text or displayed (i.e., typed on a separate line), to conform to their place in the syntax of the sentence (see the period following Equation 3 in Section 6.47). If your paper will be typeset and you have an equation that exceeds the column width of a typeset page, indicate in the accepted manuscript where breaks would be acceptable.

6.46 Equations in Text

Place short and simple equations, such as $a = [(1 + b)/x]^{1/2}$, in the line of text. To present fractions in the line of text, use a slash (/). To make the order of operations in an equation visually unambiguous, use parentheses, square brackets, and braces (together referred to as “fences”). Use parentheses first to enclose material; use square brackets to enclose material already in parentheses; and use braces (curly brackets) to enclose material already in square brackets and parentheses: first (), then [()], and finally {[()]}.

Equations in the line of text should not project above or below the line; for example, the equation at the beginning of this section would be difficult to set in the line of text if it were in this form:

$$a = \sqrt{\frac{1 + b}{x}}.$$

Instead, such equations are displayed on their own line (see Section 6.47).

6.47 Displayed Equations

Display simple equations if they must be numbered for later reference. Display all complex equations. Number all displayed equations consecutively, with the number in parentheses near the right margin of the page.

$$w_j \pm z_{1-\alpha/2} \hat{\sigma}_{w_j}.$$

(3)

When referring to numbered equations, include the full word “equation” (e.g., “Equation 3” or “the third equation,” not “Eq. 3”).

6.48 Preparing Statistical and Mathematical Copy for Publication

Display all mathematical signs and symbols in typed form, when possible. If a character cannot be produced by your word-processing program, insert it as an image. Type fences (i.e., parentheses, brackets, and braces), uppercase and lowercase letters, punctuation, subscripts and superscripts, and all other elements exactly as you want them to appear in the published article.

Lists

6.49 List Guidelines

Just as heading structure alerts readers to the order of ideas in a paper, *seriation*—that is, lists—helps readers understand a related set of key points within a sentence or paragraph. In a series, all items should be syntactically and conceptually parallel (see Section 4.24 for a more detailed discussion of parallelism).

When a list within a sentence contains three or more items, use a serial comma before the final item (see also Section 6.3).

Participants were similar with respect to age, gender, and ethnicity.

However, if any item in a list of three or more items already contains commas, use semicolons instead of commas between the items (see Section 6.4).

We were interested in how students describe their gender identities and expressions; their perceptions of emotional and physical safety on campus, including whether and how such perceptions impact their gender expression; and their perceptions of trans-affirming versus trans-negative reactions among fellow students and faculty.

6.50 Lettered Lists

Within a sentence or paragraph narrative, identify elements in a series with lowercase letters in parentheses when doing so will help readers understand the separate, parallel items in a complex list. Lettered lists may also be used to draw attention to the items—but not as much attention as a numbered or bulleted list. Use commas or semicolons between items as described in Section 6.49.

Our sample organization used a waterfall model that featured the following sequential stages: (a) requirements analysis, (b) specification, (c) architecture, (d) design, and (e) deployment.

We tested three groups: (a) low scorers, who scored fewer than 20 points; (b) moderate scorers, who scored between 20 and 50 points; and (c) high scorers, who scored more than 50 points.

6.51 Numbered Lists

Use a numbered list to display complete sentences or paragraphs in a series (e.g., itemized conclusions, steps in a procedure). Use a lettered or bulleted list rather than a numbered list if the items are phrases. Use the numbered list function of your word-processing program to create the numbered list;

this will automatically indent the list as well. Select the option for an Arabic numeral followed by a period but not enclosed in or followed by parentheses. Capitalize the first word after the number (and the first word in any subsequent sentence), and end each sentence with a period or other punctuation as appropriate.

We addressed the following research questions:

1. What research methodologies are used to examine the effects of cultural competency training?
2. How are psychologists trained to be culturally competent?
3. How are training outcomes assessed?
4. What are the outcomes of cultural competency training?

6.52 Bulleted Lists

The use of a numbered list may connote an unwanted or unwarranted ordinal position (e.g., chronology, importance, priority) among the items. To achieve the same effect without the implication of ordinality, use bullets to identify the items in the series. Use the bulleted list function of your word-processing program to create the bulleted list; this will automatically indent the list as well. Symbols such as small circles, squares, dashes, and so forth may be used for the bullets. When an article accepted for publication is typeset, the bullet symbol will be changed to the style used by that journal.

Items That Are Complete Sentences. If bulleted list items are complete sentences, begin each sentence with a capital letter and finish it with a period or other end punctuation.

There are several ways in which psychologists could apply social-media-driven methods to improve their work:

- Social psychologists could use these methods to improve research on emotional experiences.
- Community psychologists could use these methods to improve population assessment at the city level.
- Clinical psychologists could use these methods to improve assessment or treatment.

Items That Are Phrases. If bulleted list items are phrases or sentence fragments (i.e., not full sentences), begin each bulleted item with a lowercase letter (for exceptions, such as proper nouns, see Sections 6.14–6.21). There are two options for punctuating a bulleted list in which the items are phrases or fragments.

Phrases Without End Punctuation. The first option is to use no punctuation after the bulleted items (including the final one), which may be better when the items are shorter and simpler.

Some strategies used by faculty of color in the United States for survival and success on the tenure track include the following:

- learning the rules of the game
- being aware of who possesses power
- working doubly hard
- emphasizing one's strengths and establishing some authority
- finding White allies (Lutz et al., 2013; Turner et al., 2011)

Phrases With End Punctuation. The second option is to insert punctuation after the bulleted items as though the bullets were not there, following the guidelines in Sections 6.3 and 6.4 for comma and semicolon usage; this option may be better when the items are longer or more complex.

Adolescents may crave the opportunities for peer connection that social media affords because it allows them to

- communicate privately with individuals or publicly with a larger audience,
- seek affirmation by posting pictures or commentary and receiving likes or comments,
- see how their numbers of friends and followers compare with those of their peers, and
- monitor who is doing what with whom by seeing how many peers like and comment on their posts and comparing the feedback they get with what others received (Underwood & Ehrenreich, 2017).

Items That Contain Both Phrases and Sentences. When bulleted items contain both phrases and sentences (as with a list of definitions in a glossary), various formats are possible, but the presentation should be consistent and logical. One approach is to lowercase the word or phrase at the beginning of the bullet in bold, followed by a colon. If what follows the colon is a sentence fragment, lowercase the first word after the colon.

- **creativity:** the ability to produce or develop original work, theories, techniques, or thoughts.

Use a period after a sentence fragment when an additional sentence follows the fragment; otherwise, the punctuation after the fragment is optional.

- **goal:** the end state toward which a human or nonhuman animal is striving. It can be identified by observing that an organism ceases or changes its behavior upon attaining this state.

If what follows the colon is a complete sentence, capitalize the first word after the colon and end the sentence with a period or other end punctuation.

- **problem solving:** Individuals use problem solving to attempt to overcome difficulties, achieve plans that move them from a starting situation to a desired goal, or reach conclusions through the use of higher mental functions, such as reasoning and creative thinking.