Writing Style

The prime objective of scientific reporting is clear communication. You can achieve this by presenting ideas in an orderly manner and by expressing yourself smoothly and precisely. Establishing a tone that conveys the essential points of your study in an interesting manner will engage readers and communicate your ideas more effectively.

3.05 Continuity in Presentation of Ideas

Readers will better understand your ideas if you aim for continuity in words, concepts, and thematic development from the opening statement to the conclusion. Continuity can be achieved in several ways. For instance, punctuation marks contribute to continuity by showing relationships between ideas. They cue the reader to the pauses, inflections, subordination, and pacing normally heard in speech. Use the full range of punctuation aids available: Neither overuse nor underuse one type of punctuation, such as commas or dashes. Overuse may annoy the reader; underuse may confuse. Instead, use punctuation to support meaning.

Another way to achieve continuity is through the use of transitional words. These words help maintain the flow of thought, especially when the material is complex or abstract. A pronoun that refers to a noun in the preceding sentence not only serves as a transition but also avoids repetition. Be sure the referent is obvious. Other transition devices are time links (*then, next, after, while, since*), cause–effect links (*therefore, consequently, as a result*), addition links (*in addition, moreover, furthermore, similarly*), and contrast links (*but, conversely, nevertheless, however, although*).

3.06 Smoothness of Expression

Scientific prose and creative writing serve different purposes. Devices that are often found in creative writing—for example, setting up ambiguity; inserting the unexpected; omitting the expected; and suddenly shifting the topic, tense, or person—can confuse or disturb readers of scientific prose. Therefore, try to avoid these devices and aim for clear and logical communication.

Because you have been so close to your material, you may not immediately see certain problems, especially contradictions the reader may infer. A reading by a colleague may uncover such problems. You can usually catch omissions, irrelevancies, and abruptness by putting the manuscript aside and rereading it later. Reading the paper aloud can make flaws more apparent. (See also section 3.11.)

If, on later reading, you find that your writing is abrupt, introducing more transition devices may be helpful. You may have abandoned an argument or theme prematurely; if so, you need to amplify the discussion.

Abruptness may result from sudden, unnecessary shifts in verb tense within the same paragraph or in adjacent paragraphs. By using verb tenses consistently, you can help ensure smooth expression. Past tense (e.g., "Smith *showed*") or present perfect

tense (e.g., "researchers *have shown*") is appropriate for the literature review and the description of the procedure if the discussion is of past events. Stay within the chosen tense. Use past tense (e.g., "anxiety *decreased* significantly") to describe the results. Use the present tense (e.g., "the results of Experiment 2 *indicate*") to discuss implications of the results and to present the conclusions. By reporting conclusions in the present tense, you allow readers to join you in deliberating the matter at hand. (See section 3.19 for details on the use of verb tense.)

Noun strings, meaning several nouns used one after another to modify a final noun, create another form of abruptness. The reader is sometimes forced to stop to determine how the words relate to one another. Skillful hyphenation can clarify the relationships between words, but often the best approach is to untangle the string. For example, consider the following string:

commonly used investigative expanded issue control question technique

This is dense prose to the reader knowledgeable about studies on lie detection—and gibberish to a reader unfamiliar with such studies. Possible ways to untangle the string are as follows:

- a control-question technique that is commonly used to expand issues in investigations
- an expanded-issue control-question technique that is commonly used in investigations
- a common technique of using control questions to investigate expanded issues
- a common investigative technique of using expanded issues in control questions

One approach to untangling noun strings is to move the last word to the beginning of the string and fill in with verbs and prepositions. For example, *early childhood thought disorder misdiagnosis* might be rearranged to read *misdiagnosis of thought disorders in early childhood.*

Many writers strive to achieve smooth expression by using synonyms or near-synonyms to avoid repeating a term. The intention is commendable, but by using synonyms you may unintentionally suggest a subtle difference. Therefore, choose synonyms with care. The discreet use of pronouns can often relieve the monotonous repetition of a term without introducing ambiguity.

3.07 Tone

Although scientific writing differs in form from literary writing, it need not lack style or be dull. In describing your research, present the ideas and findings directly but aim for an interesting and compelling style and a tone that reflects your involvement with the problem.

Scientific writing often contrasts the positions of different researchers. Differences should be presented in a professional, noncombative manner. For example, "Fong and Nisbett did not address . . ." is acceptable, whereas "Fong and Nisbett completely overlooked . . ." is not.

One effective way to achieve the right tone is to imagine a specific reader you are intending to reach and to write in a way that will educate and persuade that individual. Envisioning a person familiar to you may make this technique more effective. You may wish to write, for example, to a researcher in a related field who is trying to keep abreast of the literature but is not familiar with jargon or insider perspectives. What would facilitate his or her understanding of and appreciation for the importance of your work?

3.08 Economy of Expression

Say only what needs to be said. The author who is frugal with words not only writes a more readable manuscript but also increases the chances that the manuscript will be accepted for publication. The number of printed pages a journal can publish is limited, and editors therefore often request that authors shorten submitted papers. You can tighten long papers by eliminating redundancy, wordiness, jargon, evasiveness, overuse of the passive voice, circumlocution, and clumsy prose. Weed out overly detailed descriptions of apparatus, participants, or procedures (beyond those called for in the reporting standards; see Chapter 2); elaborations of the obvious; and irrelevant observations or asides. Materials such as these may be placed, when appropriate, in an online supplemental archive (see sections 2.13 and 8.03 for further details).

Short words and short sentences are easier to comprehend than are long ones. A long technical term, however, may be more precise than several short words, and technical terms are inseparable from scientific reporting. Yet the technical terminology in a paper should be readily understood by individuals throughout each discipline. An article that depends on terminology familiar to only a few specialists does not sufficiently contribute to the literature.

Wordiness. Wordiness can also impede the ready grasp of ideas. Change *based on the fact that* to *because, at the present time* to *now,* and *for the purpose of* to simply *for* or *to*. Use *this study* instead of *the present study* when the context is clear. Change *there were several students who completed* to *several students completed.* Unconstrained wordiness lapses into embellishment and flowery writing, which are clearly inappropriate in scientific style.

Redundancy. Writers often use redundant language in an effort to be emphatic. Use no more words than are necessary to convey your meaning.

In the following examples, the italicized words are redundant and should be omitted:

they were *both* alike

a total of 68 participants

four *different* groups saw

instructions, which were *exactly* the same as those used

absolutely essential

has been *previously* found

small *in size*

one and the same

in *close* proximity

completely unanimous

just exactly

very close to significance

period of time

summarize *briefly*

the reason is *because*

Unit length. Although writing only in short, simple sentences produces choppy and boring prose, writing exclusively in long, involved sentences results in difficult, sometimes incomprehensible material. Varied sentence length helps readers maintain interest and comprehension. When involved concepts require long sentences, the components should proceed logically. Direct, declarative sentences with simple, common words are usually best.

Similar cautions apply to paragraph length. Single-sentence paragraphs are abrupt. Paragraphs that are too long are likely to lose the reader's attention. A new paragraph provides a pause for the reader—a chance to assimilate one step in the conceptual development before beginning another. If a paragraph runs longer than one double-spaced manuscript page, you may lose your readers. Look for a logical place to break a long paragraph, or reorganize the material.

3.09 Precision and Clarity

Word choice. Make certain that every word means exactly what you intend it to mean. In informal style, for example, *feel* broadly substitutes for *think* or *believe*, but in scientific style such latitude is not acceptable. A similar example is that *like* is often used when *such as* is meant:

Correct:

Articles by psychologists such as Skinner and Watson. . . .

Correct:

Like Watson, Skinner believed. . . .

Incorrect:

Articles by psychologists like Skinner and Watson. . . .

Colloquial expressions. Avoid colloquial expressions (e.g., *write up* for *report*), which diffuse meaning. Approximations of quantity (e.g., *quite a large part, practically all,* or *very few*) are interpreted differently by different readers or in different contexts. Approximations weaken statements, especially those describing empirical observations.

Jargon. *Jargon* is the continuous use of a technical vocabulary, even in places where that vocabulary is not relevant. Jargon is also the substitution of a euphemistic phrase for a familiar term (e.g., *monetarily felt scarcity* for *poverty*), and you should scrupulously avoid using such jargon. Federal bureaucratic jargon has had the greatest publicity, but scientific jargon also grates on the reader, encumbers the communication of information, and wastes space.

Pronouns. Pronouns confuse readers unless the referent for each pronoun is obvious; readers should not have to search previous text to determine the meaning of the term. Pronouns such as *this, that, these,* and *those* can be troublesome when they refer to something or someone in a previous sentence. Eliminate ambiguity by writing, for example, *this test, that trial, these participants,* and *those reports* (see also section 3.20).

Comparisons. Ambiguous or illogical comparisons result from omission of key verbs or from nonparallel structure. Consider, for example, "Ten-year-olds were more likely to play with age peers than 8-year-olds." Does this sentence mean that 10-year-olds were more likely than 8-year-olds to play with age peers? Or does it mean that 10-

year-olds were more likely to play with age peers and less likely to play with 8-year-olds? An illogical comparison occurs when parallelism is overlooked for the sake of brevity, as in "Her salary was lower than a convenience store clerk." Thoughtful attention to good sentence structure and word choice reduces the chance of this kind of ambiguity.

Attribution. Inappropriately or illogically attributing action in an effort to be objective can be misleading. Examples of undesirable attribution include use of the third person, anthropomorphism, and use of the editorial *we*.

Third person. To avoid ambiguity, use a personal pronoun rather than the third person when describing steps taken in your experiment.

Correct:

We reviewed the literature.

Incorrect:

The authors reviewed the literature.

Anthropomorphism. Do not attribute human characteristics to animals or to inanimate sources.

Correct:

Pairs of rats (cage mates) were allowed to forage together.

Incorrect:

Rat couples (cage mates) were allowed to forage together.

Correct:

The staff for the community program was persuaded to allow five of the observers to become tutors.

Incorrect:

The community program was persuaded to allow five of the observers to become tutors.

An experiment cannot *attempt to demonstrate, control unwanted variables,* or *interpret findings,* nor can tables or figures *compare* (all of these can, however, *show* or *indicate*). Use a pronoun or an appropriate noun as the subject of these verbs. *I* or *we* (meaning the author or authors) can replace *the experiment.*

***Editorial* we.** For clarity, restrict your use of *we* to refer only to yourself and your coauthors (use *I* if you are the sole author of the paper). Broader uses of *we* may leave your readers wondering to whom you are referring; instead, substitute an appropriate noun or clarify your usage:

Correct:

Researchers usually classify birdsong on the basis of frequency and temporal structure of the elements.

Incorrect:

We usually classify birdsong on the basis of frequency and temporal structure of the elements.

Some alternatives to *we* to consider are *people, humans, researchers, psychologists, nurses,* and so on. *We* is an appropriate and useful referent:

Correct:

As behaviorists, we tend to dispute . . .

Incorrect:

We tend to dispute . . .

3.10 Linguistic Devices

Devices that attract attention to words, sounds, or other embellishments instead of to ideas are inappropriate in scientific writing. Avoid heavy alliteration, rhyming, poetic expressions, and clichés. Use metaphors sparingly; although they can help simplify complicated ideas, metaphors can be distracting. Avoid mixed metaphors (e.g., *a theory representing one branch of a growing body of evidence*) and words with surplus or unintended meaning (e.g., *cop* for *police officer*), which may distract if not actually mislead the reader. Use figurative expressions with restraint and colorful expressions with care; these expressions can sound strained or forced.

3.11 Strategies to Improve Writing Style

Authors use various strategies in putting their thoughts on paper. The fit between author and strategy is more important than the particular strategy used. Three approaches to achieving professional and effective communication are (a) writing from an outline; (b) putting aside the first draft, then rereading it later; and (c) asking a colleague to review and critique the draft for you.

Writing from an outline helps preserve the logic of the research itself. An outline identifies main ideas, defines subordinate ideas, helps you discipline your writing and avoid tangential excursions, and helps you notice omissions. In an outline, you can also identify the subheadings that will be used in the article itself.

Rereading your own copy after setting it aside for a few days permits a fresh approach. Reading the paper aloud enables you not only to see faults that you overlooked on the previous reading but also to hear them. When these problems are corrected, give a polished copy to a colleague—preferably a person who has published in a related field but who is not familiar with your own work—for a critical review. Even better, get critiques from two colleagues, and you will have a trial run of a journal's review process.

These strategies, particularly the latter, may require you to invest more time in a manuscript than you had anticipated. The results of these strategies, however, may be greater accuracy and thoroughness and clearer communication.

Reducing Bias in Language

Scientific writing must be free of implied or irrelevant evaluation of the group or groups being studied. As an organization, APA is committed both to science and to the fair treatment of individuals and groups, and this policy requires that authors who write for APA publications avoid perpetuating demeaning attitudes and biased

and interpretive inaccuracies. Historians and scholars writing literature reviews must be careful not to misrepresent ideas of the past in an effort to avoid language bias. Changes in nouns and pronouns may result in serious misrepresentation of the original author's ideas and give a false interpretation of that author's beliefs and intentions. In such writing, it is best to retain the original language and to comment on it in the discussion. Quotations should not be changed to accommodate current sensibilities (see sections 4.08 and 6.06).

Contemporary authors may indicate a historical author's original term by following it with an asterisk the first time it appears and by providing historical context directly following the quotation. Below is an example of historically appropriate use of a term that is considered biased by today's standards.

> In forming the elite scientific society called the Experimentalists, Titchener "wanted above all to have free, informal interchange between older and younger men* in the area of experimental psychology, with the goal of socializing the next generation into the profession" (Furumoto, 1988, p. 105).

*In this example, the term *men* seems to convey Titchener's intention to exclude women from the society. Substituting a more gender-neutral or inclusive term may be historically inaccurate.

Grammar and Usage

Incorrect grammar and careless construction of sentences distract the reader, introduce ambiguity, and generally obstruct communication. The examples in this section represent problems of grammar and usage that occur frequently in manuscripts received by journal editors.

3.18 Verbs

Verbs are vigorous, direct communicators. Use the active rather than the passive voice, and select tense or mood carefully.

Prefer the active voice.

Preferred:

We conducted the survey in a controlled setting.

Nonpreferred:

The survey was conducted in a controlled setting.

The passive voice is acceptable in expository writing and when you want to focus on the object or recipient of the action rather than on the actor. For example, "The speakers were attached to either side of the chair" emphasizes the placement of speakers, not who placed them—the more appropriate focus in the Method section. "The President was shot" emphasizes the importance of the person shot.

Select tense carefully. Use the past tense to express an action or a condition that occurred at a specific, definite time in the past, as when discussing another researcher's work and when reporting your results.

Correct:

Sanchez (2000) presented similar results.

Incorrect:

Sanchez (2000) presents similar results.

Use the present perfect tense to express a past action or condition that did not occur at a specific, definite time or to describe an action beginning in the past and continuing to the present.

Correct:

Since that time, several investigators have used this method.

Incorrect:

Since that time, several investigators used this method.

Select the appropriate mood. Use the subjunctive only to describe conditions that are contrary to fact or improbable; do not use the subjunctive to describe simple conditions or contingencies.

Correct:

If the experiment were not designed this way, the results could not be interpreted properly.

Incorrect:

If the experiment was not designed this way, the results could not be interpreted properly.

Use *would* with care. *Would* can correctly be used to mean *habitually,* as "The child would walk about the classroom," or to express a conditional action, as "We would sign the letter if we could." Do not use *would* to hedge; for example, change *it would appear that* to *it appears that.*

3.19 Agreement of Subject and Verb

A verb must agree in number (i.e., singular or plural) with its subject, regardless of intervening phrases that begin with such words as *together with, including, plus,* and *as well as.*

Correct:

The percentage of correct responses as well as the speed of the responses increases with practice.

Incorrect:

The percentage of correct responses as well as the speed of the responses increase with practice.

The plural form of some nouns of foreign origin, particularly those that end in the letter *a*, may appear to be singular and can cause authors to select a verb that does not agree in number with the noun.

Correct:

The data indicate that Terrence was correct.

Incorrect:

The data indicates that Terrence was correct.

Correct:

The phenomena occur every 100 years.

Incorrect:

The phenomena occurs every 100 years.

Consult a dictionary (APA prefers *Merriam-Webster's Collegiate Dictionary,* 2005) when in doubt about the plural form of nouns of foreign origin. For examples of agreement of subject and verb with collective nouns, see the APA Style website (www.apastyle.org).

3.20 Pronouns

Pronouns replace nouns. Each pronoun should refer clearly to its antecedent and should agree with the antecedent in number and gender.

A pronoun must agree in number (i.e., singular or plural) with the noun it replaces.

Correct:

Neither the highest scorer nor the lowest scorer in the group had any doubt about his or her competence.

Incorrect:

Neither the highest scorer nor the lowest scorer in the group had any doubt about their competence.

A pronoun must agree in gender (i.e., masculine, feminine, or neuter) with the noun it replaces. This rule extends to relative pronouns (pronouns that link subordinate clauses to nouns). Use *who* for human beings; use *that* or *which* for nonhuman animals and for things.

Correct:

The students who completed the task successfully were rewarded.

Correct:

The instructions that were included in the experiment were complex.

Incorrect:

The students that completed the task successfully were rewarded.

Use neuter pronouns to refer to animals (e.g., "the dog . . . it") unless the animals have been named:

The chimps were tested daily. . . . Sheba was tested unrestrained in an open testing area, which was her usual context for training and testing.

Pronouns can be subjects or objects of verbs or prepositions. Use *who* as the subject of a verb and *whom* as the object of a verb or a preposition. You can determine whether a relative pronoun is the subject or object of a verb by turning the subordinate clause around and substituting a personal pronoun. If you can substitute *he* or *she, who* is correct; if you can substitute *him* or *her, whom* is correct.

Correct:

Name the participant who you found achieved scores above the median. [You found *he* or *she* achieved scores above the median.]

Incorrect:

Name the participant whom you found achieved scores above the median. [You found *him* or *her* achieved scores above the median.]

Correct:

The participant whom I identified as the youngest dropped out. [I identified *him* or *her* as the youngest.]

Incorrect:

The participant who I identified as the youngest dropped out. [I identified *he* or *she* as the youngest.]

In a phrase consisting of a pronoun or noun plus a present participle (e.g., *running, flying*) that is used as an object of a preposition, the participle can be either a noun or a modifier of a noun, depending on the intended meaning. When you use a participle as a noun, make the other pronoun or noun possessive.

Correct:

We had nothing to do with their being the winners.

Incorrect:

We had nothing to do with them being the winners.

Correct:

The result is questionable because of one participant's performing at very high speed. [The result is questionable because of the performance, not because of the participant.]

Incorrect:

The result is questionable because of one participant performing at very high speed.

3.21 Misplaced and Dangling Modifiers and Use of Adverbs

An adjective or an adverb, whether a single word or a phrase, must clearly refer to the word it modifies.

Misplaced modifiers. Because of their placement in a sentence, misplaced modifiers ambiguously or illogically modify a word. You can eliminate misplaced modifiers by placing an adjective or an adverb as close as possible to the word it modifies.

Correct:

Using this procedure, the investigator tested the participants.

Correct:

The investigator tested the participants who were using the procedure.

Incorrect:

The investigator tested the participants using this procedure. [The sentence is unclear about whether the investigator or the participants used this procedure.]

Correct:

On the basis of this assumption, we developed a model. . . .

Correct:

Based on this assumption, the model. . . .

Incorrect:

Based on this assumption, we developed a model. . . . [This construction says, "we are based on an assumption."]

Many writers have trouble with the word *only.* Place *only* next to the word or phrase it modifies.

Correct:

These data provide only a partial answer.

Incorrect:

These data only provide a partial answer.

Dangling modifiers. Dangling modifiers have no referent in the sentence. Many of these result from the use of the passive voice. By writing in the active voice, you can avoid many dangling modifiers.

Correct:

Using this procedure, I tested the participants. [I, not the participants, used the procedure.]

Incorrect:

The participants were tested using this procedure.

Correct:

Mulholland and Williams (2000) found that this group performed better, a result that is congruent with those of other studies. [The result, not Mulholland and Williams, is congruent.]

Incorrect:

Congruent with other studies, Mulholland and Williams (2000) found that this group performed better.

Adverbs. Adverbs can be used as introductory or transitional words. Adverbs modify verbs, adjectives, and other adverbs and express manner or quality. Some adverbs, however—such as *fortunately, similarly, certainly, consequently, conversely,* and *regrettably*—can also be used as introductory or transitional words as long as the sense is confined to, for example, "it is fortunate that" or "in a similar manner." Use adverbs judiciously as introductory or transitional words. Ask yourself whether the introduction or transition is needed and whether the adverb is being used correctly.

Some of the more common introductory adverbial phrases are *importantly, more importantly, interestingly,* and *firstly.* Although *importantly* is used widely, whether its adverbial usage is proper is debatable. Both *importantly* and *interestingly* can often be recast to enhance the message of a sentence or simply be omitted without a loss of meaning.

Correct:

More important, the total amount of available long-term memory activation, and not the rate of spreading activation, drives the rate and probability of retrieval.

Correct:

Expressive behavior and autonomic nervous system activity also have figured importantly. . .

Incorrect:

More importantly, the total amount of available long-term memory activation, and not the rate of spreading activation, drives the rate and probability of retrieval.

Correct:

We were surprised to learn that the total. . . .

We find it interesting that the total. . . .

An interesting finding was that. . . .

Incorrect:

Interestingly, the total amount of available long-term memory activation, and not the rate of spreading activation, drives the rate and probability of retrieval.

Correct:

First, we hypothesized that the quality of the therapeutic alliance would be rated higher. . . .

Incorrect:

> Firstly, we hypothesized that the quality of the therapeutic alliance would be rated higher. . . .

Another adverb often misused as an introductory or transitional word is *hopefully*. *Hopefully* means "in a hopeful manner" or "full of hope"; *hopefully* should not be used to mean "I hope" or "it is hoped."

Correct:

> I hope this is not the case.

Incorrect:

> Hopefully, this is not the case.

3.22 Relative Pronouns and Subordinate Conjunctions

Relative pronouns (*who, whom, that, which*) and subordinate conjunctions (e.g., *since, while, although*) introduce an element that is subordinate to the main clause of the sentence and reflect the relationship of the subordinate element to the main clause. Therefore, select these pronouns and conjunctions with care; interchanging them may reduce the precision of your meaning.

Relative pronouns.

That *versus* which. *That* clauses (called *restrictive*) are essential to the meaning of the sentence:

> The materials that worked well in the first experiment were used in the second experiment.

Which clauses can merely add further information (nonrestrictive) or can be essential to the meaning (restrictive) of the sentence. APA prefers to reserve *which* for nonrestrictive clauses and use *that* in restrictive clauses.

Restrictive:

> The cards that worked well in the first experiment were not useful in the second experiment. [Only those cards that worked well in the first experiment were not useful in the second; prefer *that*.]

Nonrestrictive:

> The cards, which worked well in the first experiment, were not useful in the second experiment. [The second experiment was not appropriate for the cards.]

Consistent use of *that* for restrictive clauses and *which* for nonrestrictive clauses, which are set off with commas, will help make your writing clear and precise.

Subordinate conjunctions.

While *and* since. Some style authorities accept the use of *while* and *since* when they do not refer strictly to time; however, words like these, with more than one meaning, can cause confusion. Because precision and clarity are the standards in scientific writ-

ing, restricting your use of *while* and *since* to their temporal meanings is helpful. The following examples illustrate the temporal meanings of these terms:

> Bragg (1965) found that participants performed well while listening to music.
>
> Several versions of the test have been developed since the test was first introduced.

While *versus* although, and, or but. Use *while* to link events occurring simultaneously; otherwise, use *although, and,* or *but* in place of *while.*

Precise:

> Although these findings are unusual, they are not unique.

Imprecise:

> While these findings are unusual, they are not unique.

Precise:

> The argument is purely philosophical, but the conclusion can also yield an empirical hypothesis, amenable to empirical investigation.

Imprecise:

> While the argument is purely philosophical, the conclusion can also yield an empirical hypothesis, amenable to empirical investigation.

Since *versus* because. *Since* is more precise when it is used to refer only to time (to mean "after that"); otherwise, replace it with *because.*

Precise:

> Data for two participants were incomplete because these participants did not report for follow-up testing.

Imprecise:

> Data for two participants were incomplete since these participants did not report for follow-up testing.

3.23 Parallel Construction

To enhance the reader's understanding, present parallel ideas in parallel or coordinate form. Make certain that all elements of the parallelism are present before and after the coordinating conjunction (i.e., *and, but, or, nor*).

Correct:

> The results show that such changes could be made without affecting error rate and that latencies continued to decrease over time.

Incorrect:

> The results show that such changes could be made without affecting error rate and latencies continued to decrease over time.

With coordinating conjunctions used in pairs (*between . . . and, both . . . and, neither . . . nor, either . . . or, not only . . . but also*), place the first conjunction immediately before the first part of the parallelism.

Between* and *and.

Correct:

We recorded the difference between the performance of subjects who completed the first task and the performance of those who completed the second task. [The difference is between the subjects' performances, not between the performance and the task.]

Incorrect:

We recorded the difference between the performance of subjects who completed the first task and the second task.

Correct:

between 2.5 and 4.0 years of age

Incorrect:

between 2.5–4.0 years of age

Both* and *and.

Correct:

The names were difficult both to pronounce and to spell.

Incorrect:

The names were both difficult to pronounce and spell.

Never use *both* with *as well as*: The resulting construction is redundant.

Correct:

The names were difficult to pronounce as well as to spell.

Incorrect:

The names were difficult both to pronounce as well as to spell.

Neither* and *nor; either* and *or.

Correct:

Neither the responses to the auditory stimuli nor the responses to the tactile stimuli were repeated.

Incorrect:

Neither the responses to the auditory stimuli nor to the tactile stimuli were repeated.

Correct:

The respondents either gave the worst answer or gave the best answer.

or

The respondents gave either the worst answer or the best answer.

Incorrect:

The respondents either gave the worst answer or the best answer.

Not only* and *but also.

Correct:

It is surprising not only that pencil-and-paper scores predicted this result but also that all other predictors were less accurate.

Incorrect:

It is not only surprising that pencil-and-paper scores predicted this result but also that all other predictors were less accurate.

Elements in a series should also be parallel in form.

Correct:

The participants were told to make themselves comfortable, to read the instructions, and to ask about anything they did not understand.

Incorrect:

The participants were told to make themselves comfortable, to read the instructions, and that they should ask about anything they did not understand.

Take care to use parallel structure in lists and in table stubs (see sections 3.04 and 5.13).

The Mechanics of Style

When editors refer to *style,* they mean the rules or guidelines a publisher observes to ensure clear, consistent presentation in scholarly articles. Authors writing for a publication must follow the style rules established by the publisher to avoid inconsistencies among journal articles or book chapters. For example, without rules of style, three different manuscripts might use *sub-test, subtest,* and *Subtest* in one issue of a journal or in one book. Although the meaning of the word is the same and the choice of one style over the other may seem arbitrary (in this case, *subtest* is APA Style), such variations in style may distract or confuse the reader.

This chapter describes the style for APA journals regarding the most basic tools for conveying meaning—punctuation, spelling, capitalization, italics, abbreviations, numbers, metrication, and statistics. It omits general rules explained in widely available style manuals and examples of usage with little relevance to APA journals. Style manuals agree more often than they disagree; where they disagree, the *Publication Manual* takes precedence for APA publications.

Punctuation

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

4.01 Spacing After Punctuation Marks

Insert one space after

- commas, colons, and semicolons;
- periods that separate parts of a reference citation; and

- periods of the initials in personal names (e.g., J. R. Zhang).

Exception: Do not insert a space after internal periods in abbreviations (e.g., a.m., i.e., U.S.), including identity-concealing labels for study participants (F.I.M.), or around colons in ratios. Space twice after punctuation marks at the end of a sentence.

4.02 Period

Use a period to end a complete sentence. Periods are used with abbreviations as follows:

Use periods with

- initials of names (J. R. Smith).
- abbreviation for United States when it is used as an adjective (U.S. Navy).
- identity-concealing labels for study participants (F.I.M.). (See section 4.01 on spacing.)
- Latin abbreviations (a.m., cf., i.e., vs.).
- reference abbreviations (Vol. 1, 2nd ed., p. 6, F. Supp.).

Do not use periods with

- abbreviations of state names (NY; OH; Washington, DC) in reference list entries or in vendor locations (e.g., for drugs and apparatus described in the Method section).
- capital letter abbreviations and acronyms (APA, NDA, NIMH, IQ).
- abbreviations for routes of administration (icv, im, ip, iv, sc).
- web addresses in text or in the reference list (http://www.apa.org). In text, include these in parentheses when possible or revise the sentence to avoid ending a sentence with a URL and no punctuation.
- metric and nonmetric measurement abbreviations (cd, cm, ft, hr, kg, lb, min, ml, s).

Exception: The abbreviation for inch (in.) takes a period because without the period it could be misread.

4.03 Comma

Use a comma

- between elements (including before *and* and *or*) in a series of three or more items.

  Correct:

  the height, width, or depth

  in a study by Stacy, Newcomb, and Bentler (1991)

  Incorrect:

  in a study by Stacy, Newcomb and Bentler (1991)

- to set off a nonessential or nonrestrictive clause, that is, a clause that embellishes a sentence but if removed would leave the grammatical structure and meaning of the sentence intact.

  Switch A, which was on a panel, controlled the recording device.

Statistically significant differences were found for both ratings of controllability by self, $F(3, 132) = 19.58$, $p < .001$, est $\eta^2 = .31$, 95% CI [.17, .43], and ratings of controllability by others, $F(3, 96) = 3.21$, $p = .026$, est $\eta^2 = .09$, [.00, .20].

- to separate two independent clauses joined by a conjunction.

  Cedar shavings covered the floor, and paper was available for shredding and nest building.

- to set off the year in exact dates.

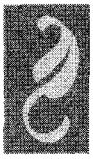
  April 18, 1992, was the correct date.

  but

  April 1992 was the correct month.

- to set off the year in parenthetical reference citations.

  (Patrick, 1993)
  (Kelsey, 1993, discovered . . .)



- to separate groups of three digits in most numbers of 1,000 or more (see section 4.37 for exceptions).

Do not use a comma

- before an essential or restrictive clause, that is, a clause that limits or defines the material it modifies. Removal of such a clause from the sentence would alter the intended meaning.

  The switch that stops the recording device also controls the light.

- between the two parts of a compound predicate.

  Correct:

  All subjects completed the first phase of the experiment and returned the following week for Phase 2.

  Incorrect:

  All subjects completed the first phase of the experiment, and returned the following week for Phase 2.

- to separate parts of measurement.

  8 years 2 months 3 min 40 s

4.04 Semicolon

Use a semicolon

- to separate two independent clauses that are not joined by a conjunction.

The participants in the first study were paid; those in the second were unpaid.

- to separate elements in a series that already contain commas. (See section 3.04 for the use of semicolons in numbered or lettered series.)

The color order was red, yellow, blue; blue, yellow, red; or yellow, red, blue.

(Davis & Hueter, 1994; Pettigrew, 1993)

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];

4.05 Colon

Use a colon

- between a grammatically complete introductory clause (one that could stand as a sentence) and a final phrase or clause that illustrates, extends, or amplifies the preceding thought. If the clause following the colon is a complete sentence, it begins with a capital letter.

For example, Freud (1930/1961) wrote of two urges: an urge toward union with others and an egoistic urge toward happiness.

They have agreed on the outcome: Informed participants perform better than do uninformed participants.

- in ratios and proportions.

The proportion (saltwater) was 1:8.

- in references between place of publication and publisher.

New York: Wiley. St. Louis, MO: Mosby.

Do not use a colon

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

The formula is $r_i = a_i + e$.

The instructions for the task were

> Your group's task is to rank the 15 items in terms of their importance for the crew's survival.

4.06 Dash

Use a dash to indicate only a sudden interruption in the continuity of a sentence. Overuse weakens the flow of material. (See also section 4.15 for capitalization following dashes in titles.)

These two participants—one from the first group and one from the second—were tested separately.

4.07 Quotation Marks

Observe the following guidelines for uses of double quotation marks other than in material quoted directly from a source.

Use double quotation marks

- to introduce a word or phrase used as an ironic comment, as slang, or as an invented or coined expression. Use quotation marks the first time the word or phrase is used; thereafter, do not use quotation marks.

  Correct:

  considered "normal" behavior

  the "good-outcome" variable . . . the good-outcome variable [no quotation marks after the initial usage]

  Incorrect:

  considered 'normal' behavior

  the "good-outcome" variable . . . the "good-outcome" variable

- to set off the title of an article or chapter in a periodical or book when the title is mentioned in text.

  Riger's (1992) article, "Epistemological Debates, Feminist Voices: Science, Social Values, and the Study of Women"

- to reproduce material from a test item or verbatim instructions to participants.

  The first fill-in item was "could be expected to _____."

If instructions are long, set them off from text in a block format without quotation marks. (See sections 4.08 and 6.03 for discussion of block format.)

Do not use double quotation marks

- to identify the anchors of a scale. Instead, italicize them.

  We ranked the items on a scale ranging from 1 (*all of the time*) to 5 (*never*).

- to cite a letter, word, phrase, or sentence as a linguistic example. Instead, italicize the term.

  He clarified the distinction between *farther* and *further.*

- to introduce a technical or key term. Instead, italicize the term.

  The term *zero-base budgeting* appeared frequently in the speech.
  She compared it with *meta-analysis,* which is described in the next section.

- to hedge. Do not use any punctuation with such expressions.

Correct:

The teacher rewarded the class with tokens.

Incorrect:

The teacher "rewarded" the class with tokens.

4.08 Double or Single Quotation Marks

In text. Use double quotation marks to enclose quotations in text. Use single quotation marks within double quotation marks to set off material that in the original source was enclosed in double quotation marks.

Correct:

Miele (1993) found that "the 'placebo effect,' which had been verified in previous studies, disappeared when [only the first group's] behaviors were studied in this manner" (p. 276).

Incorrect:

Miele (1993) found that "the "placebo effect," which had been verified in previous studies, disappeared when [only the first group's] behaviors were studied in this manner" (p. 276).

In block quotations (any quotations of 40 or more words). Do not use quotation marks to enclose block quotations. Do use double quotation marks to enclose any quoted material within a block quotation.

Correct:

Miele (1993) found the following:

> The "placebo effect," which had been verified in previous studies, disappeared when behaviors were studied in this manner. Furthermore, the behaviors *were never exhibited again* [emphasis added], even when reel [*sic*] drugs were administered. Earlier studies (e.g., Abdullah, 1984; Fox, 1979) were clearly premature in attributing the results to a placebo effect. (p. 276)

Incorrect:

Miele (1993) found the following:

> "The 'placebo effect,' which had been verified in previous studies, disappeared when behaviors were studied in this manner. Furthermore, the behaviors *were never exhibited again* [emphasis added], even when reel [*sic*] drugs were administered. Earlier studies (e.g., Abdullah, 1984; Fox, 1979) were clearly premature in attributing the results to a placebo effect (p. 276)."

With other punctuation. Place periods and commas within closing single or double quotation marks. Place other punctuation marks inside quotation marks only when they are part of the quoted material.

4.09 Parentheses

Use parentheses

- to set off structurally independent elements.

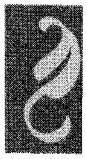
  The patterns were statistically significant (see Figure 5).

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

- to set off reference citations in text (see sections 6.09–6.19 and Appendix 7.1 for further discussion of reference citations in text).

  Dumas and Dore (1991) reported

  is fully described elsewhere (Hong & O'Neil, 1992) in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM–IV–TR;* American Psychiatric Association, 2000)



- to introduce an abbreviation.

  effect on the galvanic skin response (GSR)

- to set off letters that identify items in a series within a sentence or paragraph (see also section 3.04 on seriation).

  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 4.10 and 4.47).

  $(k - 1)/(g - 2)$

- to enclose the citation or page number of a direct quotation (see also section 6.03).

  The author stated, "The effect disappeared within minutes" (Lopez, 1993, p. 311), but she did not say which effect.

  Lopez (1993) found that "the effect disappeared within minutes" (p. 311), but she did not say which effect.

- to enclose numbers that identify displayed formulas and equations.

  $$M_j = \alpha M_{j-1} + f_j + g_j * g_j \qquad (1)$$

- to enclose statistical values.

  was statistically significant ($p = .031$)

- to enclose degrees of freedom.

  $t(75) = 2.19$
  $F(2, 116) = 3.71$

Do not use parentheses

- to enclose material within other parentheses.

  (the Beck Depression Inventory [BDI]) [Use brackets to avoid nested parentheses.] were statistically different, $F(4, 132) = 13.62$, $p < .001$. [Use a comma before the statistics to avoid nested parentheses.]

- back to back.

Correct:

(e.g., defensive pessimism; Norem & Cantor, 1986)

Incorrect:

(e.g., defensive pessimism) (Norem & Cantor, 1986)

4.10 Brackets

Use brackets

- to enclose the values that are the limits of a confidence interval.

  95% CIs [−7.2, 4.3], [9.2, 12.4], and [−1.2, −0.5]

- to enclose material inserted in a quotation by some person other than the original writer.

  "when [his own and others'] behaviors were studied" (Hanisch, 1992, p. 24)

- to enclose parenthetical material that is already within parentheses.

  (The results for the control group [$n = 8$] are also presented in Figure 2.)

Exception 1: Do not use brackets if the material can be set off easily with commas without confounding meaning.

(as Imai, 1990, later concluded)

not

(as Imai [1990] later concluded)

Exception 2: In mathematical material, the placement of brackets and parentheses is reversed; that is, parentheses appear within brackets. (See section 4.47 for further discussion of brackets in equations.)

Do not use brackets

- to set off statistics that already include parentheses.

Correct:

was statistically significant, $F(1, 32) = 4.37$, $p = .045$.

Incorrect:

was statistically significant ($F[1, 32] = 4.37$, $p = .045$).

Incorrect:

was statistically significant [$F(1, 32) = 4.37$, $p = .045$].

4.11 Slash

Use a slash (also called a *virgule*, *solidus*, or *shill*)

- to clarify a relationship in which a hyphenated compound is used.

the classification/similarity-judgment condition
hits/false-alarms comparison

- to separate numerator from denominator.

X/Y

- to indicate *per* to separate units of measurement accompanied by a numerical value (see section 4.27).

0.5 deg/s 7.4 mg/kg

but

luminance is measured in candelas per square meter

- to set off English phonemes.

/o/

- to cite a republished work in text.

Freud (1923/1961)

Do not use a slash

- when a phrase would be clearer.

Each child handed the ball to her mother or guardian.

not

Each child handed the ball to her mother/guardian.

- for simple comparisons. Use a hyphen or short dash (en dash) instead.

  test–retest reliability

  not

  test/retest reliability

- more than once to express compound units. Use centered dots and parentheses as needed to prevent ambiguity.

  nmol • hr^{-1} • mg^{-1}

  not

  nmol/hr/mg