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	*one and* the same
a total of 68 participants	in *close* proximity
four *different* groups saw	*completely* unanimous
instructions, which were *exactly* the same as those used	*just* exactly
absolutely essential	*very* close to significance
has been *previously* found	*period of* time
small *in size*	summarize *briefly*
	the reason is *because*

The term *Asian* or *Asian American* is preferred to the ... generally useful to specify the name of the Asian subgroup: Chinese, Vietnamese, Korean, Pakistani, and so on. People of Middle Eastern descent may also be identified by nation of origin: Iraqi, Lebanese, and so forth.

3.15 Disabilities

The overall principle for "nonhandicapping" language is to maintain the integrity (worth) of all individuals as human beings. Avoid language that objectifies a person by her or his condition (e.g., *autistic, neurotic*), that uses pictorial metaphors (e.g., *wheelchair bound* or *confined to a wheelchair*), that uses excessive and negative labels (e.g., *AIDS victim, brain damaged*), or that can be regarded as a slur (e.g., *cripple, invalid*). Use people-first language, and do not focus on the individual's disabling or chronic condition (e.g., *person with paraplegia, youth with autism*). Also use people-first language to describe groups of people with disabilities. For instance, say *people with intellectual disabilities* in contrast to *the retarded* (University of Kansas, Research and Training Center on Independent Living, 2008).

Avoid euphemisms that are condescending when describing individuals with disabilities (e.g., *special, physically challenged, handi-capable*). Some people with disabilities consider these terms patronizing and offensive. When writing about populations with disabilities or participants, emphasize both capabilities and concerns to avoid reducing them to a "bundle of deficiencies" (Rappaport, 1977). Do not refer to individuals with disabilities as *patients* or *cases* unless the context is within a hospital or clinical setting.

3.16 Age

Age should be reported as part of the description of participants in the Method section. Be specific in providing age ranges; avoid open-ended definitions such as "under 18 years" or "over 65 years." *Girl* and *boy* are correct terms for referring to individuals under the age of 12 years. *Young man* and *young woman* and *female adolescent* and *male adolescent* may be used for individuals aged 13 to 17 years. For persons 18 years and older, use *women* and *men*. The terms *elderly* and *senior* are not acceptable as nouns; some may consider their use as adjectives pejorative. Generational descriptors such as *boomer* or *baby boomer* should not be used unless they are related to a study on this topic. The term *older adults* is preferred. Age groups may also be described with adjectives. Gerontologists may prefer to use combination terms for older age groups (*young-old, old-old, very old, oldest old,* and *centenarians*); provide the specific ages of these groups and use them only as adjectives. Use *dementia* instead of *senility;* specify the type of dementia when known (e.g., *dementia of the Alzheimer's type*). For more references relating to age, see *Guidelines for the Evaluation of Dementia and Age-Related Cognitive Decline* (APA Presidential Task Force on the Assessment of Age-Consistent Memory Decline and Dementia, 1998) and "Guidelines for Psychological Practice With Older Adults" (APA, 2004; see also www.apastyle.org).

3.17 Historical and Interpretive Inaccuracies

Authors are encouraged to avoid perpetuating demeaning attitudes and biased assumptions about people in their writing. At the same time, authors need to avoid historical

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:

...luded in the experiment were complex.

used to mean "I hope" or "it is hoped." full of hope"; *hopefully* should not be

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