

Epilogue: Writing a Title, Abstract, and Method Section

OUTLINE

The Title

Abstract

Method

An Illustrative Manuscript

Lessons 5 through 7 focused on the three parts of a manuscript—Introduction, Results, and Discussion—that determine how readers evaluate your work. Based on what you say in these sections, reviewers may recommend that your manuscript be accepted for publication or rejected. In contrast, the title, abstract, and Method section have relatively little impact on the fate of your manuscript in scientific review. Reviewers sometimes may ask authors to clarify methods or suggest another title, but I can't recall a reviewer *ever* writing, "This paper should be rejected because it has a lousy title" or "This paper should be accepted because the Method section is written so well."

Most books that introduce students to APA style have basic information about how to write a title, abstract, and Method section; frankly, there's not much left to say. So what follows are a few suggestions for writing these elements of your manuscript, along with a manuscript that illustrates many of the tips described in Lessons 1–7.

THE TITLE

A title matters. It is the first part of your article a reader sees, and it's how articles are retrieved by Internet search engines. So, it's worth spending time to create a title that conveys your work accurately. I suggest you avoid several genres of titles:

- *Titles that are too cute or too clever:* Authors sometimes include the names of songs, television programs, or events from popular culture in their titles, usually followed by a more scientific-sounding phrase.

The problem with this approach is that popular culture varies across geography and time. What may be a great example of popular culture in one country may be meaningless in another country and meaningless everywhere in a decade or so.¹ If you want to engage the reader with a nonscientific phrase, proverbs (e.g., *A bird in the hand is better than two in the bush*) represent a better choice because they have, by definition, proven the test of time and, in many cases, are common across cultures.

- *Titles that include “preliminary”*: Some authors apparently think that adding “preliminary” may convince editors and reviewers to use a lower bar for evaluating a manuscript. I’m skeptical that this works. If a study is really preliminary (e.g., the sample is too small), use the findings to design a study that actually addresses the issue at hand, but don’t try to publish the preliminary findings.
- *Titles of the form “the effects of the independent variable on the dependent variable”*: Undergraduates (at least in the United States) often use this kind of title for their research, so it tends to make your work seem unsophisticated. More important, psychological scientists typically are not interested in variables per se; instead, they’re interested in the insights variables can provide on behavior, cognition, and affect.

Instead of these kinds of titles, I encourage titles that describe the results of your work. Here are two examples, both from my work: “Longitudinal evidence that increases in processing speed and working memory enhance children’s reasoning” and “Processing time decreases globally at an exponential rate during childhood and adolescence.” Both titles are succinct summaries of the main findings reported in the article.

Of course, sometimes a study’s key results are too complex to be summarized neatly in a single, concise sentence. In this case, I suggest a title that mentions the key constructs from the study. Examples include “Linking emotions, social support, and health” or “The role of the medial temporal lobe in memory aging.”

You don’t need to spend hours perfecting a title (e.g., trying to find the ideal proverb), but it should be more than an afterthought. A good title will appeal to readers and search engines alike, increasing the impact of the work you report.

¹Here’s one of my titles that shows the problem: “Different Slopes for Different Folks: Process Analysis of Spatial Aptitude.” The “Different Slopes for Different Folks” was based on a song by Sly and the Family Stone (“Everyday People,” No. 1 on the pop charts for a week in 1969) that included the lyric “different strokes for different folks.” It referred to the fact that in our research we calculated the slope of a function for each participant and then looked at how these slopes differed across participants. Understanding our title presumed familiarity with the song, which was not known universally when we published our paper and is known even less today. Bad choice—I’ve never done it again.

ABSTRACT

A good title grabs your reader's attention; a well-written abstract sustains it. Abstracts written in APA style usually consist of a single paragraph that includes one to two sentences about the background (or problem), hypotheses, methods, results, and conclusions. In writing the abstract,

- write two to three sentences for each of the components of the abstract (e.g., background, methods) and then use the tips in Lesson 3 to pare it down to the specified number of words;
- be sure the writing is clear and nontechnical, particularly regarding the reasons why your results represent a substantial advance in scientific understanding; and
- write it after the rest of the manuscript is finished, so you know what the paper actually says!

METHOD

A Method section describes how you conducted the study, in sufficient detail such that others could replicate your work. Writing a Method section is straightforward and all about details, with little room for creativity or the rhetorical devices described earlier in this book. For that reason, I usually turn to the Method section when I'm having difficulty writing a more important part of the manuscript. As you write this section, I urge you to

- use subheadings freely, starting with the mandatory *Participants* and *Procedure* but adding others as necessary;
- avoid abbreviations and instead use descriptive terms for experimental conditions and names of variables;
- provide as much information as possible about the participants in your study (e.g., "We tested 36 college students" won't do!);
- describe what participants in the study actually did, not what they were asked to do (e.g., not "Participants were then asked to complete a questionnaire . . ." but "Participants then completed a questionnaire . . ."); and
- upload copies of all materials (e.g., stimuli, questionnaires) to the journal's website as supplementary material to be published online only.

AN ILLUSTRATIVE MANUSCRIPT

Figure 7 depicts the Introduction, Results, and Discussion sections for a hypothetical study, along with my comments explaining some of the techniques used in writing and revising.

FIGURE 7

In 2016, a teenage driver in Florida texted her boyfriend, "I can't wait to see you this weekend!" Moments later she was killed when the car she was driving left the road and struck a tree. Unfortunately, this story is all too common: Adolescent drivers often use their smartphones to call, e-mail, or text, actions that can lead to disaster. Nearly half of adolescent drivers report using cell phones while driving, and this age group has the greatest proportion of fatal crashes linked to distracted driving (National Center for Statistics and Analysis, 2017).

To reduce distracted driving, many U.S. states have banned texting while driving and others have implemented public service announcements (via radio, television, and billboards) that remind drivers of the hazards of distracted driving. However, neither approach reduces distracted driving (Harding, 2013; Lennon, Rentfro, & O'Leary, 2010). Another approach is using applications for smartphones that prevent texting while driving. Such apps have promise, but some are expensive and some can be disabled by drivers (Jolly, 2016).

Yet another approach involves using stickers placed in a car's windshield to remind drivers to pay attention. Brief reminders of this sort have sometimes succeeded in helping people to be immunized and to drink liquids to avoid dehydration (Bhatti, Ash, Gokani, & Singh, 2017; Crawford, Barfield, Hunt, Pitcher, & Buttery, 2014). In addition, stickers placed on a car's windshield reminding drivers and passengers to "buckle up" doubled use of seat belts (Thyer & Geller, 1987).

The article begins with an anecdote to hook the reader. [p 70-71]

In the first draft of the manuscript, this paragraph began with "In order to" but that phrase could be replaced with the word "To." [p 34]

The original version of the sentence included the phrase "prevent drivers from texting while driving." In the revision, "drivers from" was dropped because readers can infer that drivers are doing the texting. [p 32]

The original version of the sentence included the phrase "some are not cheap" but the negative ("not cheap") was replaced with the affirmative ("expensive"). [p 31]

In this paragraph, the topic sentence introduces the idea of stickers to remind drivers; the next two sentences provide supporting details, describing instances in which stickers have been successful reminders. [p 50-51]

"Reminder" is a nominalization that allows the sentence to begin with a familiar idea (i.e., it refers to the "stickers placed in a car's windshield to remind drivers to pay attention"). [p 56-57]

In this sentence "sometimes" is a hedge, indicating that reminders can work but not always. [p 18-20]

The original version of the sentence included the phrase "to receive immunizations." In the revision, the nominalization "immunizations" was replaced by the verb "immunized." [p 3-4]

Taking this approach, Eriksson and Metcalf (2016) found that a sticker reminding young adult drivers to pay attention resulted in less texting while driving. On the one hand, the finding is encouraging in suggesting a simple, inexpensive method for discouraging texting while driving. On the other hand, the finding is limited because the study did not include adolescent drivers, relied on self-reports of distracted driving, and did not evaluate the extended impact of reminders. Thus, the results suggest that reminder stickers have promise but more thorough evaluation is needed.

The aim of the present study was to address some of the limits of the Eriksson and Metcalf (2016) study, thereby providing additional evidence concerning the effectiveness of stickers in reducing distracted driving. For 6 weeks, 16- to 18-year-olds drove cars fitted with dashboard cameras that recorded the drivers' behavior. At the beginning of the study, half the drivers were reminded of the dangers of distracted driving and watched as an auto instructor installed a "Drive Safely—Pay Attention" sticker in the windshield; half were reminded of the importance of regular auto maintenance as the instructor installed a "Check Oil and Water Regularly" sticker.

Every two weeks, drivers completed a questionnaire assessing their beliefs on the dangers of distracted driving, and the video recordings from the dashboard cameras were downloaded. We expected drivers who were reminded to pay attention would text less often while driving and would rate such behavior as more dangerous.

Method

 Results

The results are reported in two sections: The first describes results of analyses of observations of drivers' texting, and the second describes results of analyses of drivers' ratings of the risks of texting. These

In this sentence and the next sentence, the studies are in the background but the key ideas are in the foreground. [p 74]

This paragraph has a contrastive structure and uses "On the one hand" with "on the other hand" to highlight the contrast between the study's contribution and what's left unknown. [p 51-52]

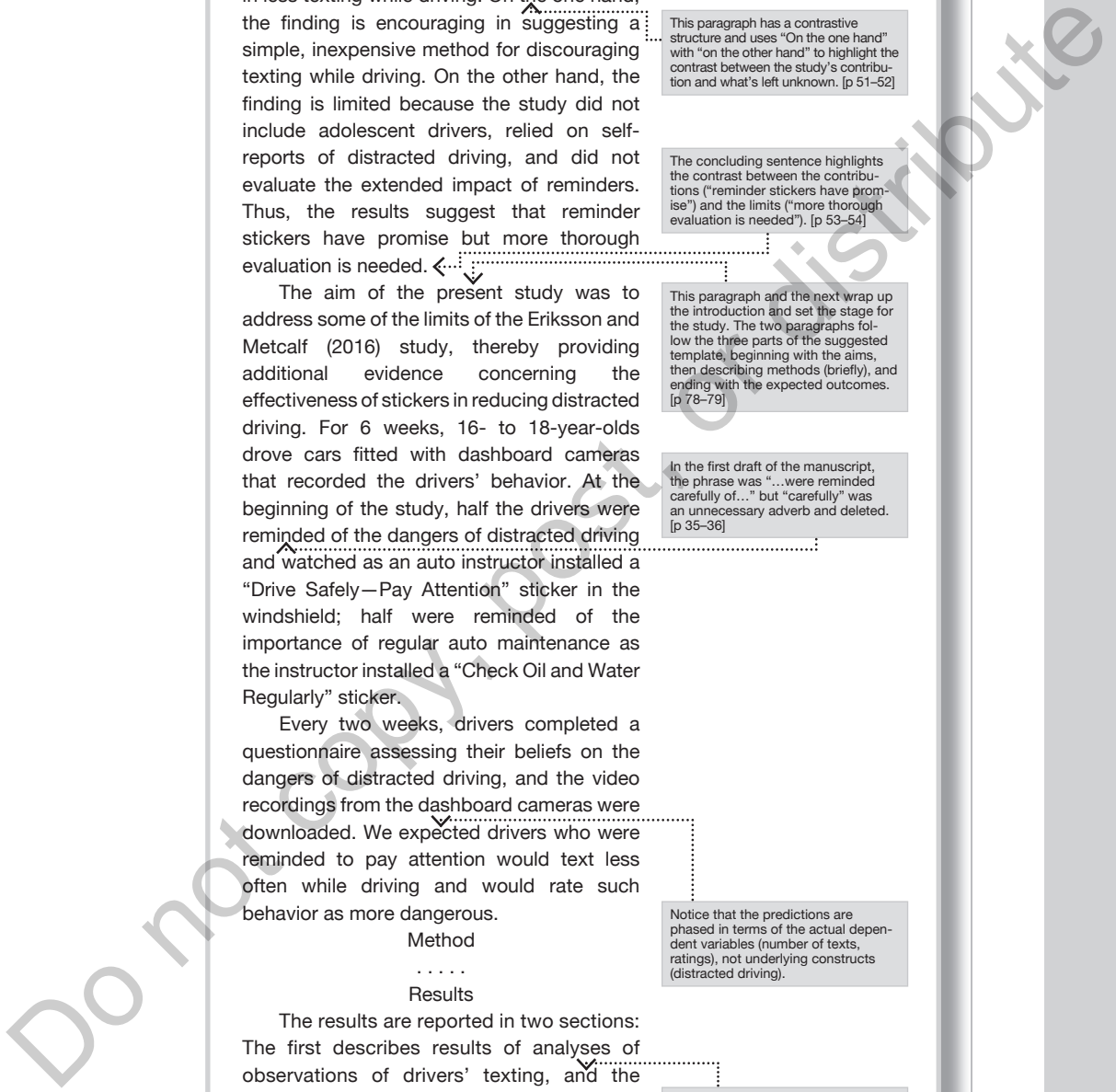
The concluding sentence highlights the contrast between the contributions ("reminder stickers have promise") and the limits ("more thorough evaluation is needed"). [p 53-54]

This paragraph and the next wrap up the introduction and set the stage for the study. The two paragraphs follow the three parts of the suggested template, beginning with the aims, then describing methods (briefly), and ending with the expected outcomes. [p 78-79]

In the first draft of the manuscript, the phrase was "...were reminded carefully of..." but "carefully" was an unnecessary adverb and deleted. [p 35-36]

Notice that the predictions are phased in terms of the actual dependent variables (number of texts, ratings), not underlying constructs (distracted driving).

This sentence provides an overview of the rest of the Results section. [p 99]



analyses are described briefly here; all details of the analyses are available in a supplementary document available online. Unless noted to the contrary, for all effects described as significant, $p < .01$.

Analyses of Observations of Texting While Driving

The mean number of days (out of 14) on which drivers were observed texting in each of the three 2-week periods is shown in Figure 1, separately for the two groups of drivers. As hypothesized, participants driving cars with safety-oriented stickers texted less than participants driving cars with maintenance-oriented stickers, $F(1, 38) = 8.09$, $\eta^2 = .16$. During the first 2-week period, participants with safety-oriented stickers texted half as frequently as those with maintenance-oriented stickers, but this difference dropped by the third 2-week period, $F(2, 76) = 6.32$, $\eta^2 = .14$.

Analyses of Ratings of Danger of Texting While Driving

Participants' ratings of the danger of texting for each of the three 2-week periods are shown in Figure 2, separately for the two groups of drivers. As expected, participants

This sentence establishes the significance level used throughout the section so that individual p values need not be reported. [p 99]

This heading (and the one below it) corresponds directly to the phrasing used in describing the organization of the Results section. [p 99]

Notice that the structure of the ANOVA—2 groups \times 3 2-week periods—is not mentioned. [p 89]

This phrase reminds the reader that participants driving cars with safety-related stickers were expected to text less often. [p 89]

The finding is described in terms of what participants did, *not* in terms of conditions ("people in the safety sticker condition texted less than those in the maintenance sticker condition") or in terms of main effects ("there was a main effect of condition. . ."). [p 89]

The analysis of variance revealed a significant main effect of weeks (more days with texting in week 3 than in week 1) but it's not reported here because (a) it's an artifact of the interaction between group and week, (b) it's unrelated to the hypotheses that motivated the study, and (c) it's described in the supplementary document. [p 99]

FIGURE 1

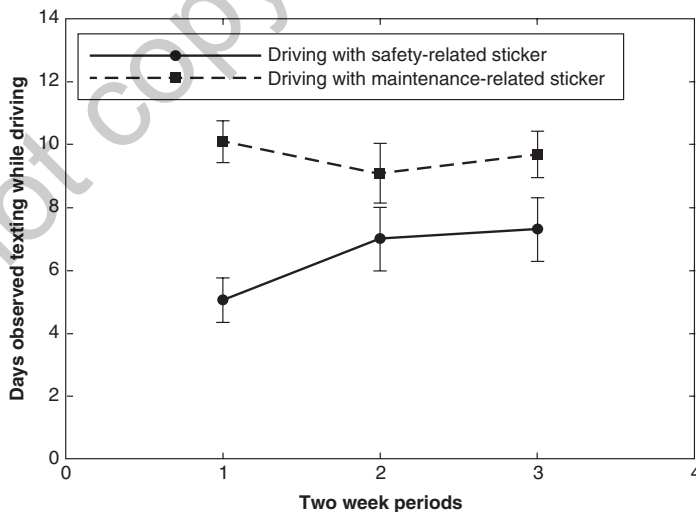
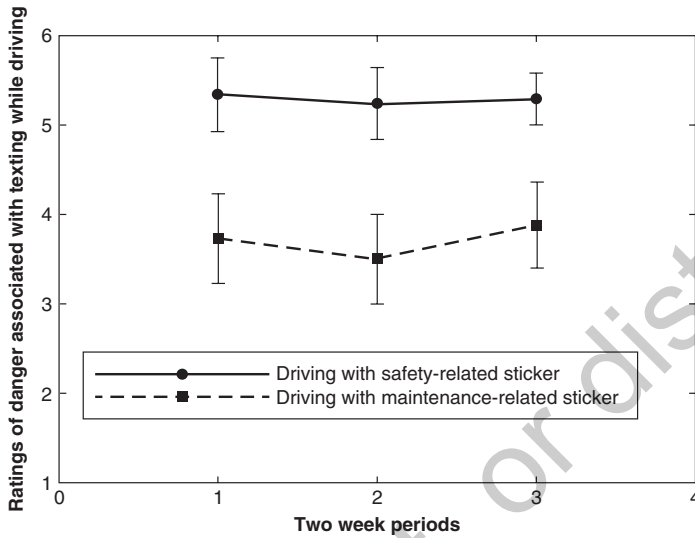


FIGURE 2



driving cars with safety-oriented stickers rated texting while driving as more dangerous than did participants driving cars with maintenance-oriented stickers, $F(1, 38) = 14.32, \eta^2 = .24$. This difference did not vary significantly over the three 2-week periods, $F < 1$.

This paragraph tells a story about the findings, with the inferential statistics relegated to the background (i.e., the inferential statistics document the story but are not the story). [p 87]

When $F < 1$, there's no need to provide the exact value. [p 101]

This paragraph has two parts: the first two sentences review the findings and the third sentence provides an overview of the rest of the discussion section. [p 105–106]

Discussion

Compared with participants driving cars with maintenance stickers, participants driving cars with safety stickers texted less often and rated texting while driving as more dangerous. However, over the 6 weeks of the study, participants driving cars with safety stickers gradually texted more often. In the remainder of this Discussion, I consider some limiting conditions on the findings, address the gradual decline in the effectiveness of safety-related stickers, and examine the challenges of scaling up such a program to a large population.

This sentence begins with a relatively long dependent clause, but I wanted to establish the reference point (participants driving cars with maintenance stickers) in a dependent clause so the independent clause could focus on the findings for participants driving cars with safety stickers. [p 22–23]

Limiting Conditions

The study includes two features that limit the conclusions that can be drawn. First, the

study observed drivers for only 6 weeks, a feature that limits the ability to evaluate the long-term impact of safety-related stickers.

This is potentially worrisome because stickers seemed to have less impact on texting toward the end of the study. Second, the sample included a relatively small number of adolescents—too few to determine whether the impact of safety stickers was the same for adolescents who had just learned to drive and those who were relatively more experienced. In addition, the study did not include young adults, an age group that texts more often than any other. Thus, conclusions from the present findings are limited to the relatively short-term impact of stickers on a broad range of adolescent drivers.

Addressing the Decline in the Effectiveness of Safety-Related Stickers

Although texting was consistently rated as dangerous, safety-related reminders became less effective over the study. Such a relapse is common in programs designed to change behavior. For example, programs that aim to stop smoking or encourage exercising are often effective in the short term (e.g., many smokers quit) but not in the long-term (e.g., smokers resume smoking). Some methods seem to be more effective in changing behavior initially, but others are effective in maintaining changed behaviors (Glanz & Bishop, 2010). For instance, programs for losing weight focus on strategies to achieve a desirable state (e.g., limiting number of calories consumed) and health care professionals monitor progress toward that state; programs for maintaining weight loss focus on strategies to keep from returning to an undesirable state (e.g., avoiding restaurants that emphasize entrees high in calories), and participants monitor their success in maintaining their weight loss (Voils et al., 2014). Such findings suggest that different methods may be needed to avoid a relapse in texting.

The original dependent clause began, "... which limits..." I replaced that with "... a feature that..." giving the sentence more direction. [p 9–10]

"Seemed to have" illustrates a hedge. [p 18]

The concluding sentence briefly mentions the two features cited in the paragraph (short-term impact only, heterogeneous adolescent drivers) in the order they appeared in the paragraph. [p 53–54]

The first version of this sentence was "Over the course of the study, drivers in cars with safety-related reminders gradually texted more often, despite believing that texting is dangerous." But the rest of the paragraph emphasizes concepts (e.g., relapse, methods, programs), not people, so the sentence was revised as this: "Over the course of the study, safety-related reminders became less effective, even though texting continued to be rated as dangerous." But that sentence ended with the data on ratings, a structure that put the emphasis on the secondary finding. In the final version of the sentence, the finding from ratings was put in an introductory clause so the sentence could end with the main finding (i.e., that safety-related reminders became less effective). [p. 22–23, 59–61]

The original version included "behavioral patterns," a phrase that conveyed nothing beyond "behavior." [p 33–34]

"Often" illustrates use of a hedge. [p 18]

The first version of this sentence was extraordinarily long: "For instance, programs for losing weight focus on strategies to achieve a desirable state (e.g., limiting number of calories consumed) and health-care professionals monitor progress toward that state but programs for maintaining weight loss focus on strategies to keep from returning to an undesirable state (e.g., avoiding restaurants that emphasize entrees high in calories) and participants monitor their weight loss." In revising, I dropped the "but" and created two sentences: "For instance, programs for losing weight..." and "Programs for maintaining weight loss..." To highlight the link between the sentences, the final version links the sentences with a semicolon and uses parallel structure (i.e., "programs for A focus on strategies to B and C monitor their D"). [p 11–12]

Challenges of Scaling Up an Intervention

Efforts to scale up public-health interventions often encounter challenges (Richardson, 2012). For example, programs to discourage adolescents from smoking are sometimes seen as expensive and may threaten special interests (e.g., the tobacco industry). In scaling up a sticker-based safety intervention, one obvious obstacle is determining how stickers would be distributed.

➤ Some possibilities would be to have stickers distributed by primary-care physicians in conjunction with an adolescent's physical exam, by insurance agencies in conjunction with bills for insurance, or by government agencies in conjunction with issuing drivers' licenses.

None of these approaches is perfect. For example, many physicians are unenthusiastic about providing such public-health information during a brief appointment (Rubio-Valera et al., 2014), and many adolescents do not have regular physical exams. In addition, none of these approaches guarantees that drivers would actually install stickers.

Addressing these (and other) challenges to implementation is paramount because safety stickers are potentially not only an effective but an inexpensive way to prevent the distracted driving that leads to tragedies like the one described earlier that killed the Florida teenager.

This sentence uses parallel structure to avoid sprawl. Each phrase has the structure "...by X in conjunction with Y..." where X is an actor (physicians, insurance agencies, government agencies) and Y is when stickers would be distributed (e.g., when issuing a drivers' licenses) [p. 11].

The original version of the sentence included the phrase "... stickers in their car's windshield." At this point in the paper, readers know where stickers go, so that phrase was deleted. [p 32-33]

This sentence includes the "not only X but Y" construction to convey emphasis. [p 25]

The manuscript ends by connecting the findings to the anecdote used to hook the reader in the Introduction. [p 110-111]