

Discussion Sections

A *Discussion section* is the final portion of an APA-style manuscript. It can be one of the most challenging parts of the paper to write. But fortunately, there is a formula you can follow that can guide the vast majority of your writing.

What is the purpose of a Discussion section?

A Discussion section serves several important functions.

1. It should summarize your study in easy-to-understand terms. Even non-experts (e.g., journalists) who might have trouble reading your Results section should be able to easily follow your Discussion.
2. It should integrate your study into the existing literature. In some ways, a Discussion section contains elements similar to an “after-the-fact” literature review (e.g., a literature review might say, “Based on existing theory and research X, we might expect to find Y,” whereas a Discussion might say, “We found X, which is consistent with theory and research Y”).
3. It should clearly describe the strengths and limitations of your study. A good Discussion section should remind you of everything you’ve learned in PSYC 3301: It should talk about the internal and external validity of the study, and mention any flaws, confounds, or shortcomings.
4. It should propose future research directions. It should summarize what we still don’t know about the topics at hand, pose any new questions raised by the present study, and detail what you think are the most important steps moving forward.
5. It should give your readers a strong take-home point.

Stylistic Issues

When writing a Discussion section, there are a few important stylistic rules to keep in mind.

1. As in your Results narrative, *always* describe your current study’s findings in the past tense. Remember, your study shows what *was* true in your sample, not necessarily what *is* true about the population. You *can* talk about theories and implications in the present-tense, though (e.g., “In our study, men **were** more avoidant than women, which is consistent with the idea that men **have** more avoidant attachment styles than women”).
2. Studies never “prove,” “disprove,” or “confirm” anything. Science is *always* tentative (and your study’s results could be due to sampling error, methodological flaws, etc.). So, when discussing theories, hypotheses, and ideas, use *tentative* language, such as “our findings are *consistent with* our hypotheses,” “our results *support* our hypotheses,” or “our data *seems to refute* our ideas.”
 - If many studies have found the same thing as your study, it’s okay to convey confidence in the findings. But you should still do so tentatively. Good examples: “A large body of

research suggests X;” “Across more than 200 studies, there is nearly universal support for X;” “Our study adds to the empirical consensus that X;” “All available evidence seems to support X.”

3. Although your Discussion section should certainly comment on things like construct validity, internal validity, and external validity, it should not read like a checklist (e.g., BAD EXAMPLE: “Our internal validity was high because of X, Y, and Z. Our construct validity was high because of A, B, and C. And our external validity as high because of D, E, and F”). Rather, your Discussion should read like a natural conversation about your study (e.g., VERY BRIEF GOOD EXAMPLE: “We found that X was positively related to Y. Because we used an experimental design, we are relatively confident that X causes Y. Some implications of this finding are Z, Q, and R. That being said, because we used a college student sample, it is not clear whether X would also cause Y among more diverse samples [e.g., older adults, non-students, etc.]”).
4. Do not go beyond your data. Although it’s good to speculate on why you found what you found, make it clear what is based in data (e.g., “We found X”) and what is speculation (e.g., “which speculatively might mean Y”). When writing your Discussion section, think about things like construct validity and external validity. For example, don’t draw strong conclusions about *humans* if your sample was *SMU students*.

Formula for Discussion sections

The following formula can help you write a Discussion section. Please note that the formula is very loose and fluid. You might “blend” the various parts together depending on what feels natural and allows you to best discuss the implications of your findings.

1. Summarize your findings

Summarize your hypotheses and findings in plain English. A non-expert in psychology (e.g., a journalist or undergraduate student) should be able to read your Discussion and know what you found. Typically, you do not include numbers in a Discussion section like you do in a Results section. However, it is perfectly acceptable—and even good—to comment on the size of the effects found in your study (e.g., “We found that men were a half standard deviation more avoidant than women”).

2. Integrate your findings into the existing literature

This part of your Discussion will oftentimes mix together with your findings summary. You can think of this section of your Discussion as being very similar to a “reverse literature review.” You can say things, like, “We found X, which supports the idea that Y (citations).” This section might be a little bit redundant with your literature review—but it should not be nearly as long as your literature review was.

3. Speculate on what your findings mean

This part of your Discussion will oftentimes blend together and be intermixed with the previous two sections. You should speculate on *why* you found what you did. If you found null results that did not support your hypotheses, speculate on why (citing prior sources).

If your hypotheses were supported, you can speculate on the *mechanisms* that might explain your results (but make sure to cite sources; e.g., “Replicating previous research [e.g., Fraley et al., 2012], we found that men were more avoidant than women. There are a variety why men might be more avoidant than women. For one, cultural norms indicate that men should focus on their careers rather than relationships [e.g., Cohen et al., 1996]”).

In this part of your Discussion, you can be far more speculative than you were in your literature review. You can draw analogies between other areas of psychology and your own study (e.g., “Research suggests that men tend to be more competitive with colleagues than do women [cites]. In a similar fashion, men’s competitive drive may lead them to insert more distance into their romantic relationships—which might manifest as increased avoidance. Of course, this explanation is speculative and we did not test it in our study. Future research should test it”).

You can also speculate on future research directions. For example, you could say things similar to, “We found that men were more avoidant than women. Research suggests that avoidant people tend to have more interpersonal difficulties at work (CITES). So, our findings that men are more avoidant than women might have downstream consequences for their workplace interactions. Future research could test this idea.”

4. Discuss the implications, strengths, limitations, and future directions for your research

Implications. Tell what your study means and/or what its implications are (e.g., “The single biggest implication of our study is that men are more avoidant than women”). When talking about the implications of your research **do not go beyond your data**. For example, do not conclude you’ve found universal truths about *humans* if your sample was only *college students*. Although it’s okay to *speculate* on mechanisms (e.g., why are people happier with friends than while alone?), don’t convey that you’ve explicitly tested mechanisms that you have not.

Strengths and limitations. Discuss the strengths and limitations of your study. This is where you can bring up all the concepts we talk about in introductory research methods courses. For example, does your study have adequate construct validity (e.g., good, validated measures)? Does it have good statistical conclusion validity (e.g., sample size)? What about internal validity (e.g., random assignment, confounds)? What about external validity (e.g., sampling strategies; who might your findings generalize to or not)?

Future directions. Mention what future researchers should do.

I personally think it's easiest to pair implications with strengths, limitations, and future directions. A good rule of thumb is to come up with three implications of your study, and then mention all the limitations relevant to those implications. Suggest that future research fix the limitations. As one example:

“The single biggest implication of our study is that men appear to be more avoidant than women. That being said, although we collected a large sample size, we relied almost exclusively upon convenience sampling on a college campus. Thus, it is not clear whether our results might generalize to other populations, such as older adults. Future research should test whether age, culture, or other important demographic variables moderate our findings.

“ Relatedly, our data were exclusively self-reported and correlational in nature. Thus, it is possible that cultural norms may have influenced people's responses. For example, there may be no real differences in men and women's avoidance, but men may feel pressured by cultural norms to report higher avoidance. Future research could address this limitation by collecting observer reports of people's avoidance.

“In a similar vein, the correlational nature of our data does not allow us to strongly infer that gender causes people to be more avoidant. Although it would seem to be difficult to manipulate gender, it may be possible for future research to identify some of the mechanisms that putatively link gender to avoidance (e.g., testosterone) and directly manipulate those mechanisms in the laboratory.”

Because this is a research methods course where your goal is to demonstrate your knowledge, you should list as many limitations of your study as you can possibly think of in your final research report. (Oftentimes in “real” journal articles, you limit yourself to listing about 3 limitations. But in your report, you should list as many as you can think of.)

5. Other limitations

If you can't tie limitations directly to implications, you can also just a new section listing ad hoc limitations in a separate section (e.g., “There are at least five other limitations of our study that are worth mentioning....”).

6. Conclusion

Wrap up your paper with a conclusion paragraph (no more than 3-4 sentences). The conclusion should give readers a strong take-home point.