

How to Write a Discussion Section

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Steve Gregorich

How to Write a Discussion Section: Overview

- . The goals of the discussion section
- . Discussion Dos and Don'ts
- . Discussion section structure

Authors have a lot of leeway in how the Discussion section is structured.

What follows are my opinions about one way to structure the Discussion to make it as concise and impactful as possible.

How to Write a Discussion Section: The Goals

Discussion is a framing section, like the Introduction, but w/ diff. structure
Introduction='inverted pyramid' whereas Discussion='upright pyramid'

- . Introduction begins broadly & narrows to hypotheses/research questions
- . Discussion begins w/ main results and contextualizes them to the field

Fundamental Discussion goals

Review study findings

in context of the existing literature and

draw conclusions from the data

*The Discussion situates & contextualizes the current study results
with those in the literature*

How to Write a Discussion Section: Dos and Don'ts

Summarizing the Results

Don't introduce results for the first time in the Discussion

Don't restate results, i.e., don't include data, statistics, figures

"Table 3 showed that white patients had two-fold higher odds of colorectal cancer screening compared to Asians ($p < .05$)."

Do use the Discussion to offer interpretation of the results

"We found that higher colorectal screening rates among whites versus Asians was partly explained by PCP recommendations."

Do summarize main findings in Discussion in context of the literature

"Our finding of higher colorectal screening rates among whites versus Asians is consistent with the report of Bramley et al."

Description of effect sizes OK

How to Write a Discussion Section: Dos and Don'ts

Proper Length

When the discussion section is too long, your reader may

- . lose interest and
- . lose sight of the take-home message.

Don't include an all-out review of the literature

The literature review belongs in the Introduction

Don't introduce topics for the first time in the Discussion

Do discuss the study findings as they relate to the literature.

This is the role of the extant literature within the Discussion

More on length later on when I address Discussion structure

How to Write a Discussion Section: Dos and Don'ts

Discussing limitations

Don't neglect to discuss limitations

Don't use an apologetic tone when addressing limitations

Do discuss limitations in a way that justifies why they're acceptable (if possible), e.g.,

If practical circumstances impacted study design, e.g.,

- . Small N of patients with rare disease
- . using an RCT design would be unethical

If limitations are real, but not of major concern, e.g.,

- . Numerous, but not all possible, confounders considered
- . Missing data prevalent, but dealt with in a principled fashion

How to Write a Discussion Section: Dos and Don'ts

Discussing study significance

Don't understate the study's significance and implications

Many Discussion sections leave significance & implications unstated

- . Author cedes opportunity to guide interpretation of data
- . Reader may be unimpressed / Paper has less impact

Don't overstate the study's significance and implications

- . Don't extrapolate results/interpretation beyond the study scope
- . Don't offer 'wild' guess
- . Doing so can mislead or annoy the reader
- . Authors' scientific reputations are on the line

Don't (example)

"Our findings demonstrate that the XYZ scale is a valid and reliable measure of perceived racial discrimination."

How to Write a Discussion Section: Dos and Don'ts

Discussing study significance

Do: Keep in mind the distinctions between
what truly can be known from the results vs
what the results may suggest vs
the ultimate knowledge goal

Do (example)

"Our findings provide provisional evidence that the XYZ scale is a valid and reliable measure of perceived racial discrimination. Further research is needed to determine whether the current findings replicate as well as generalize to other population groups."

How to Write a Discussion Section: Dos and Don'ts

Don't use too much jargon

Make your paper accessible to the broadest possible audience

How to Write a Discussion Section: The Structure

Often, Discussion sections are long, rambling, insufficiently focused

Those qualities will reduce the impact of a paper

Adopting a structure will help you write Discussion sections that are concise and impactful

Generally, recommended structures include from 4 to 6 paragraphs

I focus on a four-paragraph structure including a 5-paragraph option

How to Write a Discussion Section: 4-Paragraph Structure

¶ #1 Interpret main findings and state main conclusion

- . Summarize main finding in a way that also describes the study's purpose and main methodological approach/design (1 sentence)

"The results of this RCT suggested that exposure to a Spanish-language motivational interviewing (MI) intervention increased smoking cessation among recent immigrants relative to controls."

- . Summarize additional & any unexpected findings (1-3 sentences)

"The study also found that the intervention was most effective among men."

- . State main conclusion (1 sentence)

"The findings suggest that MI can be an effective approach to..."

How to Write a Discussion Section: 4-Paragraph Structure

¶ #2 Summarize main findings relative to the extant literature

- . Novelty/Extension/Refinement. Literature gaps filled by the study
- . How the findings are in concert with previous findings
- . Discuss any contradictory findings between this and other studies
- . May require a separate paragraph for contradictory findings

Cite high quality, recent publications

How to Write a Discussion Section: 4-Paragraph Structure

¶ #3 discuss limitations and needed future research

- . Address 2-4 weaknesses in favorable light (if justifiable), e.g.,
 - Limited generalizability
 - Small sample size
 - High drop-out rates
 - Confounding
- . Contrast limitations with study strengths, e.g.,
 - Large N ; low attrition; for RCT: high adherence and fidelity
- . Limitations suggest future work, which can be highlighted here.
(short list, no more than 1-2 ideas)

Option: include 1 sentence on study strengths in ¶ #1 and omit here

If you do not list limitations, then journal reviewers will do it for you!

How to Write a Discussion Section: 4-Paragraph Structure

¶ #4 Conclusions

- . Summarize main findings (1-2 sentences)
- . Describe main conclusions (1 sentence)
 - What is the main contribution the study makes to the field?
I.e., what is the main take-home message?
- . Describe potential implications (1 sentence)
 - Do results support changes to research/clinical practice?

Paper impact will suffer if the conclusion paragraph is anti-climactic

How to Write a Discussion Section: Final Thoughts

Ultimately, you have a lot of leeway when choosing how to structure the Discussion

Regarding structure, I searched the internet and found many common themes, but also some subtle points of departure: often discipline-based

My goal was to meld the recommendations into what I considered to be the best intersection of thought that was compatible with clinical research

No matter which structure you choose, actively using a structure will help you to craft concise and impactful Discussions

How to Write a Discussion Section

END

Sources

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