Writing the discussion section

The Discussion is the most important part of a scientific research paper or report and is often the longest section. It displays your ability to synthesise and evaluate the topic critically and develop an informed understanding of the research while also answering the research question(s), addressing the statement of aim, or confirming or disconfirming your hypothesis. It provides a crucial link between the Introduction, the Findings and the Conclusion of your paper.

Structure

Your Discussion should have a *specific to general* structure. Aim to:

- Remind the reader what your *aim* was (as stated in your Introduction);
- Remind the reader of the *main findings* from your Results/Analysis section and say whether and how they support/illuminate your aims, hypotheses or research question(s);
- *Explain* these findings or at least speculate about them (i.e., discuss the evidence from the data you collected and explain the extent to which this answers your research question/hypothesis);
- Outline the *limitations* of the study that may restrict any conclusions drawn from it;
- Restate the findings briefly and finish by speculating on further work that might be done in the field of research. This section might end the paper, or it might be followed by a Conclusion and/or (in the case of a Business report) a Recommendations section.

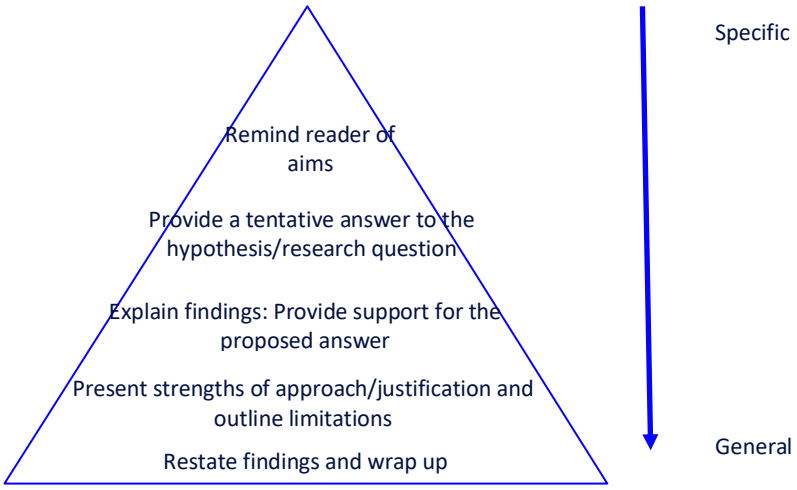
It is important to broaden out from your narrow **aim statement** to the **results** and their **explanations**, and then say why the study overall might have **limitations**. Variation could result in a confusing Discussion.

Aim statement: reminds the reader of the significance of you research question for scholarship in the field.

Answer to the research question or **hypothesis** posed in the Introduction: Did you find what you intended to find?

- Why?
- Why not?

Explanation of the findings: outlines exactly *why* and *how* the findings provide an answer to the research question or hypothesis posed in the Introduction.



Provide an outline of the **advantages and strengths** and/or **implications** of your approach to the topic (if, that is, the findings *support* your approach. If they don't, conjecture as to why this might be the case). How do your findings provide an improved understanding of the topic compared to analyses that use different approaches? Here you try to **justify** why your study is an improvement on other approaches, and how your work contributes to the literature. This might be done by addressing the findings of the study in terms of **themes** that arise from your treatment of the topic. There are many ways this can be done, e.g., Theme 1, sub-theme a, sub-theme b; Theme 2, sub-theme a, sub-theme b; sub-theme c; Theme 3, and so on.

The **limitations** section should be an honest appraisal about how to improve the study and what might have been done better. This is not meant to be self-criticism, rather, a balanced assessment of how future studies can learn from what yours did not do well or neglected to do.

Discussion 'language'

In the case of a scientific paper, the Discussion is written using both the **simple past tense** to summarise findings, and the **simple present tense** to interpret the results. This helps make them relevant or significant to readers now. **Hedging verbs** are used to express caution (*'appears that …', 'suggests that…' 'seems that'…*). This is done as few scientific papers are ever completely *certain* in terms of outcomes - further work is often needed.

Incorporate the following elements and language into your Discussion:

Reference to purpose/aim/hypothesis: *simple past tense*

- This paper **aimed** to investigate …
- The hypothesis for this paper **was** …
- In this paper we **proposed to** …

Answer research question: *past and present + hedging verbs*

- It was found that there **appeared to be** a rise in …
- Results **indicated** that there was a …
- The principle of … **was not followed** in conducting the research about X. We originally **assumed** that physical decrements **would** be more apparent in speed jobs than in skill jobs. However, we **saw** that … and that there **was** a …
- Leaf carbon and phenolic content **did not appear to** differ across sites **indicating** that the response of secondary plant chemicals **is** complex.

Review and explain important Findings: *simple past and present + hedging verbs*

- We **found** that… Results **showed** that participants **might be less inclined** to assist managers, if …
- This **seemed to indicate** that …
- It **seems that** microbial activity **caused** immobilisation of labial soil phosphorous, however it **is** unlikely that…
- Results **seem to indicate** that there was a …
- This **suggests** that …
- On the other hand, there **may be** a …
- This **can** possibly be explained by …

Justify and outline implications of Findings: *simple present tense + hedging verbs*

- Our Findings appear to contradict the views of Smith (2020) in that …
- We found there is a significant difference in how …
- This seems to offer a new way of looking at …
- In relation to [theme 1], there appeared to be a rise in the …
- This suggests that previous attempts to…
- In relation to [theme 2] however, the situation was less clear. Prior studies, e.g., by Johnston (2023) suggest that.. but this …

Limitations of study: *past and present tense*

- Our findings **are** not in line with … / A limitation of the study **was** that …
- The study **neglected to** consider …
- The study **was** not concerned with establishing …
- The aim **was** not to … but to …
- We **did** not **attempt** to … only to **look** at …

Related helpsheets

- Writing the Methods Section
- Report writing: Tenses in Science