7.17 Project Lab: Discussion and Conclusion

What is the Purpose of a Discussion Section?

- **Summarize findings** presented in the results section
- **Place your findings** in relation to the research literature.
- **Explain discrepancies** between your findings and previous reports.
- Point out **shortcomings** of your work and define unsettled points.
- Discuss **theoretical and practical implications** of your work.
- **Indicate** your work’s importance.
Questions You Will Address in a Discussion Section:

1. What did you expect to find, and why?
2. How did your results compare with those expected?
3. How might you explain any unexpected results?
4. How might you test these potential explanations?

Tips for Writing a Discussion Section

“This is the place to interpret your results against a background of existing knowledge. Explain what is new in your work, and why it matters. Discuss both the limitations and the implications of your results, and relate observations to other relevant studies. State new hypotheses when warranted, clearly labeled as such. Include recommendations, when appropriate.”
The macrostructure of a research article has an hourglass shape.

- **Introduction** provides general field or context.
- **Methods** follows a particularized path.
- **Discussion** moves from specific findings to wider implications.

![Diagram of hourglass shape with labels: Introduction, Procedure, Discussion]

*Figure 7: Overall organization of the research paper (Full et al., 1982)*

More Tips from the UW-Madison Writing Center

<table>
<thead>
<tr>
<th>Questions to address:</th>
<th>How to address them:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>What do your observations mean?</em></td>
<td>• <strong>Summarize</strong> the most important findings at the beginning.</td>
</tr>
</tbody>
</table>
| *What conclusions can you draw?* | For each major result:  
  • **Describe** the patterns, principles, relationships your results show  
  • **Explain** how your results relate to expectations and to literature cited in your Introduction.  
  • **Explain** plausibly any arguments, contradictions, or exceptions.  
  • **Describe** what additional research might resolve contradictions or explain exceptions. |
| *How do your results fit into a broader context?* | • **Suggest** the theoretical implications of your results.  
  • **Suggest** practical applications of your results.  
  • **Extend** your findings to other situations or other species.  
  • **Give** the big picture: do your findings help us understand a broader topic? |
Eight Common Components of a Discussion Section

1. Background information
2. Statement of results
3. (Un)expected outcome
4. Reference to previous research
5. Explanation
6. Exemplification
7. Deduction and Hypothesis
8. Recommendation

What is the Purpose of a Conclusion?

“Besides presenting an analysis of the key results in the conclusion sections, you also give a future perspective on the work. In some documents that future perspective might be recommendations. In other documents that future perspective might be a nod to the direction in which your research will head. A third kind of future perspective is to mirror the scope and limitations that you presented in the beginning of the document.”
What are the Pitfalls of a Discussion/Conclusion Section?

- Including **too much information** (wordy arguments, not focused, meandering, etc.).
- **Failure to follow** arguments set up in the **introduction**.
- **Failure to** focus on the **current results**.
- **Speculating** too much or not enough.
- **Improper tense** (Discussion largely in present tense).
- **Hedging** excessively.

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**Excessive Hedging**

“The cause of the degenerative changes is unknown but *possibly* one cause *may* be infection by a *presumed* parasite.”

**Rule of thumb**: One hedge word per sentence!
## Common Hedging Words

<table>
<thead>
<tr>
<th>nouns</th>
<th>adverbs</th>
<th>verbs</th>
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</thead>
<tbody>
<tr>
<td>supposition</td>
<td>presumably</td>
<td>appear</td>
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<tr>
<td>idea</td>
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<td>postulate</td>
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<td>possibly</td>
<td>suggest</td>
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<td>apparently</td>
<td>seem</td>
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<tr>
<td>possibility</td>
<td>not unlikely</td>
<td>may be</td>
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<tr>
<td>inference</td>
<td>seemingly</td>
<td>speculate</td>
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