How to Write the Data/Methods/Results Sections of a Research Paper

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1 Data and Variables

- What is the source of your primary data? Be clear and precise.
  - If publicly available, provide url in footnote
  - If original, describe how the data was collected
  - Certain details are essential: time frame, N, unit of analysis, number of groups (if nested data).
- How the data was limited or manipulated? Were some years or cases excluded from the original data? If so, provide a rationale for why.
- List all variables.
  - Generally start with the DV.
  - Generally spend one paragraph talking about each variable. If introducing new or complex variable, this may require more than a paragraph. For common, simple measures — such as those from a "canned dataset" often only a sentence is necessary.
  - Be clear and concise. Use plain English as much as possible. Leave technical specifics, when necessary, to footnotes and appendices.
  - Give variables clear, meaningful names. You are writing for a human reader not a software package.
  - With dummy variables use the value coded as "1" for the name. For example, name the variable *Female* not *Gender*.
  - It is helpful to include a table of summary statistics. Often this can go in an appendix.
  - If creating a new variable, provide as much detail as necessary for replication. Talk about why it is theoretically valid and fits with the concept.

- What are your expectations? In other words, what would you need to find in order to provide support for your hypotheses.
- Remember the focus is on replicability. Others should be able to recreate your dataset based on your discussion of your data and variables. *If someone cannot replicate the data you used for your analysis based solely on your description of your data and variables, you have not done it correctly.*

2 Methods

- Clearly state the methodological techniques used in clear, concise terms.
  - When using a common methodological approach, keep this simple (e.g. "Due to the dichotomous nature of my dependent variable, I estimate a series of logit models.")
  - If using a new or complex technique, explain it as much as possible in plain English. If needed, include an appendix with more technical details.
- If you are estimating multiple models, provide an explanation. What does each model represent? Ideal, there is a theoretical reason why you are doing this and that should be the focus of your explanation.
- Again, replicability is the goal, so you must simultaneously be specific while remaining clear and concise. *If someone cannot replicate the your results based solely on your description of methods used, you have not done it correctly.*

3 Results

- Present your results in clear, aesthetically pleasing tables and graphs (always the latter whenever possible).
  - All tables and graphs such be sequentially numbered (separately) and should be titled.
  - All tables and graphs should be able to "stand alone." You should always provide sufficient information in the table/graph so that your reader can understand it with little or no reference to the text.
  - *However, never include a table or a graph that you do not plan to discuss.*
- Provide a meaningful interpretation of results using clear, intuitive language over technical language to the greatest extent possible.

  - Keep the interpretation of the raw estimates to a minimum. We do not need to read our tables/graphs to the reader, but for some reason this is the norm in our discipline. You cannot skip this altogether (unfortunately) but it is not necessary to go on for several pages. Bottom line, you have to do it, but do not waste too much time or space on it.

- Move beyond a simple discussion of the raw results from your analysis — for most empirical models this is largely uninformative anyway — and put your primary focus on the implications of your results.

  - Focus on substantive results. Just because something is statistically significant, does not mean it is substantively significant. The former is much less important than it usually receives credit for.
  - *Always connect your results back to your theory.* Remember you are writing a single paper, it needs to read that way.