Guidelines for a Data Analysis Report

An effective data analysis report has the following components

1. **Question** within its context: Start this section with any requisite background so that the reader appreciates the significance of the question and is familiarized with any specific definitions. Then state the question being addressed. Sometimes this is in the form of an hypothesis or null hypothesis. If there are multiple parts to a question, it is helpful to state the general version and then to give the specifics.

2. **Overview of the statistical analysis plan** (SAP). Tell the reader what you are going to do with the data to address the question. This is the overview of your approach. Present a figure or table that familiarizes the reader with the patterns in the data. If possible, choose a display to which you can add the analysis results so the reader can observe the findings in contrast to the data.

3. **Translation of question into statistical model terms.** Here you identify the target of the question with the specific model parameters/outputs that can be estimated from the data.

4. **Results –** present the results in displays – graphs and tables

5. **Interpretation** – tell the reader what the model results mean in their scientific terms. Explain the strength of the evidence about the answer to the question (estimates of the target parameters with measures of uncertainty).

6. **Discussion of limitations** – here, put your findings into context by addressing questions like: how compelling the evidence is; are there caveats that need to be emphasized; how robust the findings are to assumptions; what else needs to be done?