**SPPS 208 – Winter 2024**

**Data Analysis Project Report Template**

Instructions: Prepare a 5-page report using this template. Font is Times New Roman with size 11. Margins will be 0.5 inch. Provide the following information in the report:

Title:

Dataset:

Team number:

Team members:

**Research Question**

Each dataset will be associated with a research question. You will need to list the research question here using the PICOTS framework.

**Hypotheses**

State the null and alternative hypothesis for each of the research questions.

**Statistical Analysis Plan**

Describe your statistical analysis steps in detail.

Describe how you will summarize the baseline demographics of your sample.

Describe what statistical test for your associated hypotheses.

Describe the variables that you will be using (e.g., primary end point, second end point, predictor of interest, etc)

A picture containing text, newspaper, screenshot

Description automatically generatedHere is an example of a statistical analysis plan from a [published study](https://pubmed.ncbi.nlm.nih.gov/25059703/):

A close-up of a document

Description automatically generated with medium confidence

**Results**

Must include a table of the sample characteristics (Table 1).

Summary the significant findings from the sample characteristics.

Must include a table or figure of your primary end point.

Summarize the findings from your primary end point.

If needed, include a table or figure of your secondary end point(s).

Summarize the findings from your secondary end point(s).

Each figure must have a legend and a detailed caption. Figures should be labeled according to the order they are presented (Figure 1, Figure 2, etc).

[Example](https://pubmed.ncbi.nlm.nih.gov/31866383/) of a demographics table (Table 1):

Table

Description automatically generated

[Example](https://pubmed.ncbi.nlm.nih.gov/31866383/) of figure with legend and detailed caption:

Chart, scatter chart

Description automatically generated

Note: This figure could be improved. Information about the statistical test could have been provided either in the caption or annotated onto the figure. Additionally, information about the fitted lines would help readers understand what the researchers have done. For instance, the study used linear regression models to evaluate the association between FTEE groups and naloxone prescribing. The scatter plots represent the actual data, and the line plots represent the predictions from the linear regression models. The slopes between the two lines were statistically significantly different.

**Limitations**

Describe the limitations of your analysis.

Limitations include any threats to the internal validity and external validity of the study and its findings.

Limitations can include missing data, measurement errors, study design, etc.

[Example](https://pubmed.ncbi.nlm.nih.gov/31866383/) of a limitations section:

A screenshot of a computer

Description automatically generated with low confidence A screenshot of a computer

Description automatically generated with medium confidence

**Conclusions**

Provide a summary of the overall findings and their significance and implications.

**Appendix (not part of the 5-page limit)**

Attach your R code in the Appendix.

R code must be annotated so that another student in the class can follow along. Annotations should be easy to read and interpret.

Here are some useful R style guides:

<https://irudnyts.github.io//r-coding-style-guide/>

<http://adv-r.had.co.nz/Style.html>

<https://www.staringatr.com/4-formatting-your-code/4_annotations/>