

# Intro to Probability and Data with R

## Data Analysis Project Checklist

This checklist is intended to help you critically evaluate your Data Analysis Project. Remember that the more thoroughly you evaluate your project, the more useful this exercise will be to you and will set you up for success in future research projects.

### Format

Did you use the R Markdown to complete your project? ☐

### Data

Generalizability: Describe how the observations in the sample are collected, and the implications of this data collection method on generalizability.

Did you describe the sampling method, mentioning that a random sample was used? ☐

Did you decide that the results can be generalized to the US population? ☐

If you discussed potential sources of bias, think about how these affected your conclusions. ☐

Causality: Describe how the observations in the sample are collected, and the implications of this data collection method on causality.

Did you decide that no random assignment was used, and hence causality cannot be inferred? ☐

### Research Question One

Is the research question phrased in a non-causal way? ☐

Is the research question well defined / not vague? ☐

**Note:** "Well defined" means it is obvious from the research questions which variables will be involved in the analysis.

Is it clear why this research question is of interest to you and/or the reader? ☐

## Research Question Two

Is the research question phrased in a non-causal way?

☐

Is the research question well defined / not vague?

☐

**Note:** "Well defined" means it is obvious from the research questions which variables will be involved in the analysis.

Is it clear why this research question is of interest to you and/or the reader?

☐

## Research Question Three

Is the research question phrased in a non-causal way?

☐

Is the research question well defined / not vague?

☐

**Note:** "Well defined" means it is obvious from the research questions which variables will be involved in the analysis.

Is it clear why this research question is of interest to you and/or the reader?

☐

## Research Questions

Do **at least two** of the research questions involve three variables?

☐

## Exploratory Data Analysis (Research Question One)

### Plots

Do the plots address the research questions?

☐

Are the plots properly constructed?

☐

Are the plots formatted well? (Size not too large, not too small, etc.)

☐

## Summary Statistics

Do the summary statistics address the research question? ☐

Are the summary statistics calculated correctly? ☐

Are the summary statistics formatted well? (Not taking up pages and pages, etc.) ☐

## Narrative

Is each plot and R output accompanied by a narrative? ☐

Does the narrative interpret the visuals and summary statistics correctly? ☐

Does the narrative address the research question? ☐

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## Overall Project Details: Organization/Readability

The document follows the organization of parts outlined in the template.

☐

The narrative uses correct grammar and clearly and succinctly addresses the research question.

☐

The code is clear, readable, well organized, and uses syntax and packages taught in the course.

☐