

The FRI Public Health Playbook for Data Analysis

Promoting wellbeing, preventing disease, and protecting health

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Preface

The most successful sports teams rely on well-designed plays to navigate complex game situations, the FRI Public Health research stream uses strategic data analysis “plays” to tackle the multifaceted challenges of promoting wellbeing, preventing disease, and protecting health. Our research stream explores the intricate biopsychosocial factors affecting human physical and mental health by collecting physiological data through wearables like MUSE S and Fitbits, psychological insights via survey questionnaires and interviews, and behavioral patterns through online experiments. Like a coach calling the right play at the crucial moment, this playbook equips you and your research teams with proven strategies for importing, tidying, transforming, visualizing, modeling, and communicating the mixed-methods data that helps us connect the dots between social, political, commercial, and economic determinants of health behavior, outcomes, and inequities. Each “play” in this guide has been field-tested by research teams who have successfully used quantitative and qualitative approaches to answer pressing questions about physical and mental health. Whether you’re facing a complex dataset for the first time or looking to refine your analytical strategy, this playbook offers guidance for you to turn data into information, information into knowledge, and knowledge into wisdom in order to improve public health outcomes.

To learn more about the FRI Public Health stream, visit us at: <https://fripublichealth.quarto.pub>.

Part I.

Introduction to the Playbook

Chapter 1

Introduction

This is a book created from markdown and executable code.

See Knuth (1984) for additional discussion of literate programming.

Part II.

Mixed-Methods Research

Chapter 2

Mixed Methods Research

Part III.

Analyzing Quantitative Data

Chapter 3

Import

```
# Install required packages
install.packages("NHANES")
install.packages("tidyverse")
install.packages("GGally")
install.packages("iris")
```

```
# Load the packages
library(NHANES)
library(tidyverse)
library(GGally)
```

Now, you will view the structure of the NHANES data

```
# Load the data and view its structure
str(iris)
```

Part IV.

Analyzing Qualitative Data

Chapter 4

NVivo

In summary, this book has no content whatsoever.

References

Knuth, D. E. (1984). Literate programming. *Comput. J.*, 27(2), 97–111. <https://doi.org/10.1093/comjnl/27.2.97>