Lab 2 Work

BSTA 512/612

2024-02-08

Directions

Please turn in your `.html` file on Sakai. Please let me know if you greatly prefer to submit a physical copy. We can work out another way for you to turn in homework.

The rest of this lab's instructions are embedded into the lab activities.

Purpose

The main purpose of this lab is to introduce our dataset, codebook, and variables. We will continue to think about the context of our research question, but our main focus is to become familiar with the data.

Grading

This lab is graded out of 12 points. Nicky will use the following rubric to assign grades.

Rubric

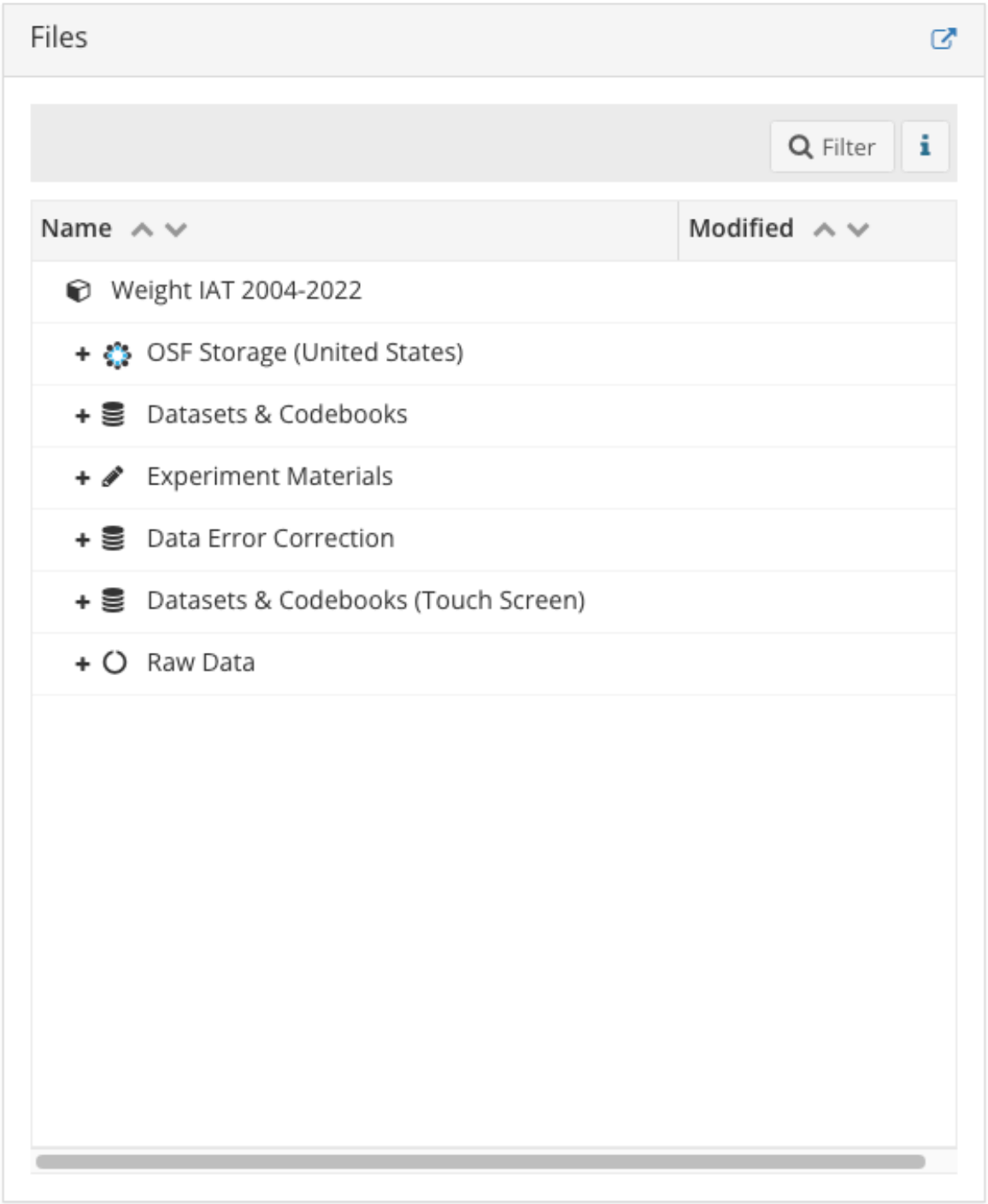
	4 points	3 points	2 points	1 point	0 points
Answers	Answers demonstrate completion and understanding of the needed activity*. Answers are thoughtful and can be easily integrated into the final report.	Answers demonstrate completion and understanding of the needed activity*. Answers are thoughtful, but lack the clarity needed to easily integrate into the final report.	Answers demonstrate completion and minimal understanding of the needed activity*. Answers are fairly thoughtful, but lack connection to the research.	Answers demonstrate completion of needed activities*, although evidently rushed through. Answers seem rushed and with minimal thought.	It is evident that the needed activities* were not completed. Answers seem rushed and without thought.
Formatting	Lab submitted on Sakai with `.html` file. Answers are written in complete sentences with no major grammatical nor spelling errors. With little editing, the answer can be incorporated into the project report.	Lab submitted on Sakai with `.html` file. Answers are written in complete sentences with grammatical or spelling errors. With editing, the answer can be incorporated into the project report.	Lab submitted on Sakai with `.html` file. Answers are written in complete sentences with major grammatical or spelling errors. With major editing, the answer can be incorporated into the project report.	Lab submitted on Sakai with `.html` file. Answers are bulletted or do not use complete sentences.	Lab *not* submitted on Sakai with `.html` file.
Code Reasoning					

Lab activities

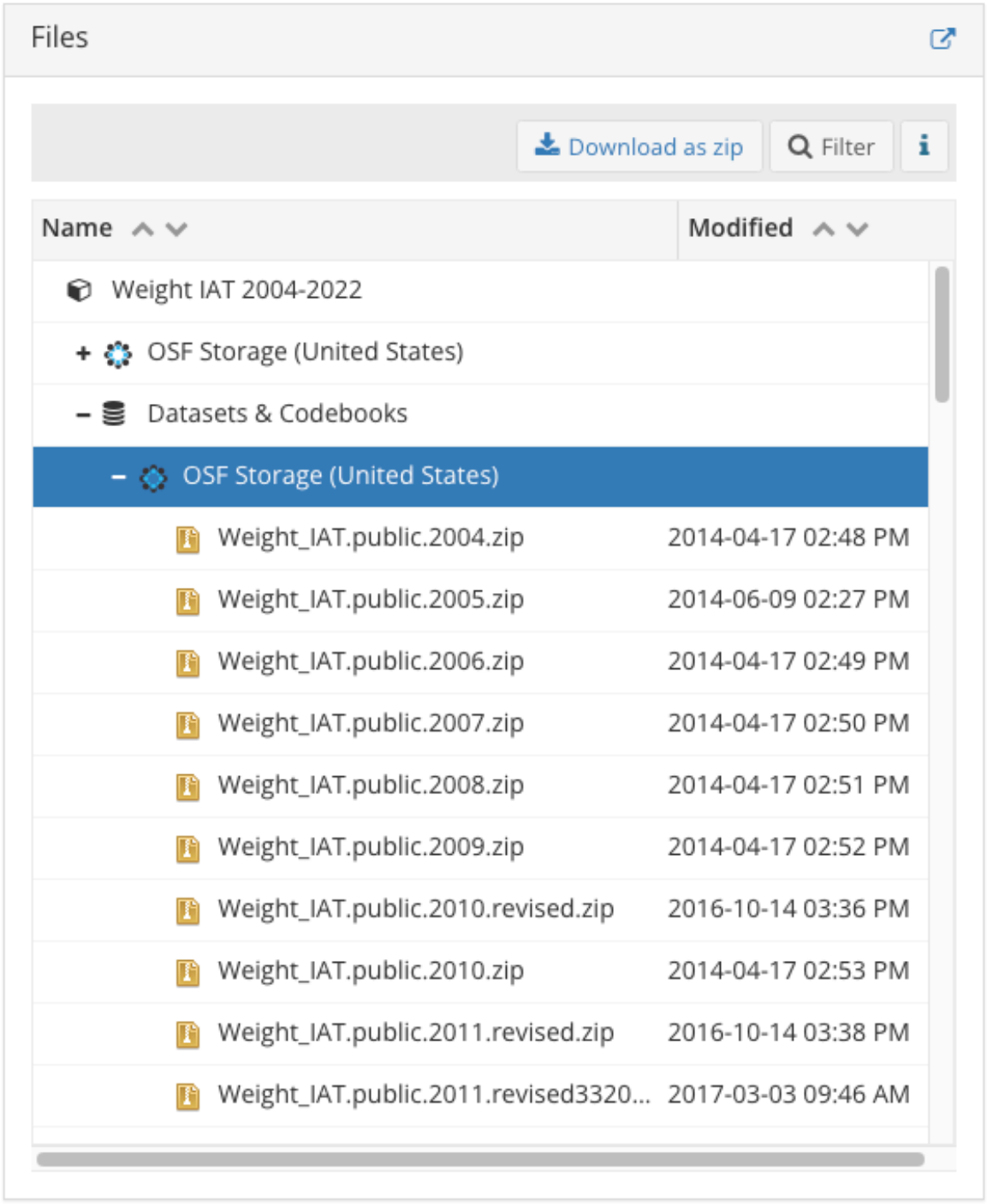
1. Access and download the data

This serves as good practice for accessing data that is online or needs to be downloaded from a collaborator.

Data can be accessed here. Under "Weight IAT 2004-2022" there are several drop down menus:



I opened the first "Datasets & Codebooks," then selected "OSF Storage (United States)." Once selected, the "Download as zip" option pops up in the top right part of the Files section.



You can download any year's dataset. All my material is drawn from the 2021 dataset. CSV and SAV (SPSS) files are available. You will need to unzip the folder and files before use.

Please see my teaching materials for how I accessed the files within R.

2. Load data and needed packages

3. Data wrangling

3.1 Restrict your analysis to 1 outcome and 10 possible covariates/predictors

3.1 Manipulating variables that are coded as numeric variables

3.2 Converting categorical variables to continuous variables

3.3 Make a new dataset with only complete cases

Quickly make sure that we are not introducing bias by using complete cases

4. Some exploratory data analysis

4.1 Peek at your outcome

This serves as a check to make sure we are all looking at the correct outcome: IAT score. Please plot a histogram of the IAT scores.

4.1 Univariate exploratory data analysis

4.2 Bivariate exploratory data analysis

4.3 Multivariate exploratory data analysis

5. Revisit your research question

Please restate the research question that you proposed in Lab 1. What are your thoughts on the research question now that we looked at the data?

5. Make a Table 1