Pre-Analysis Steps

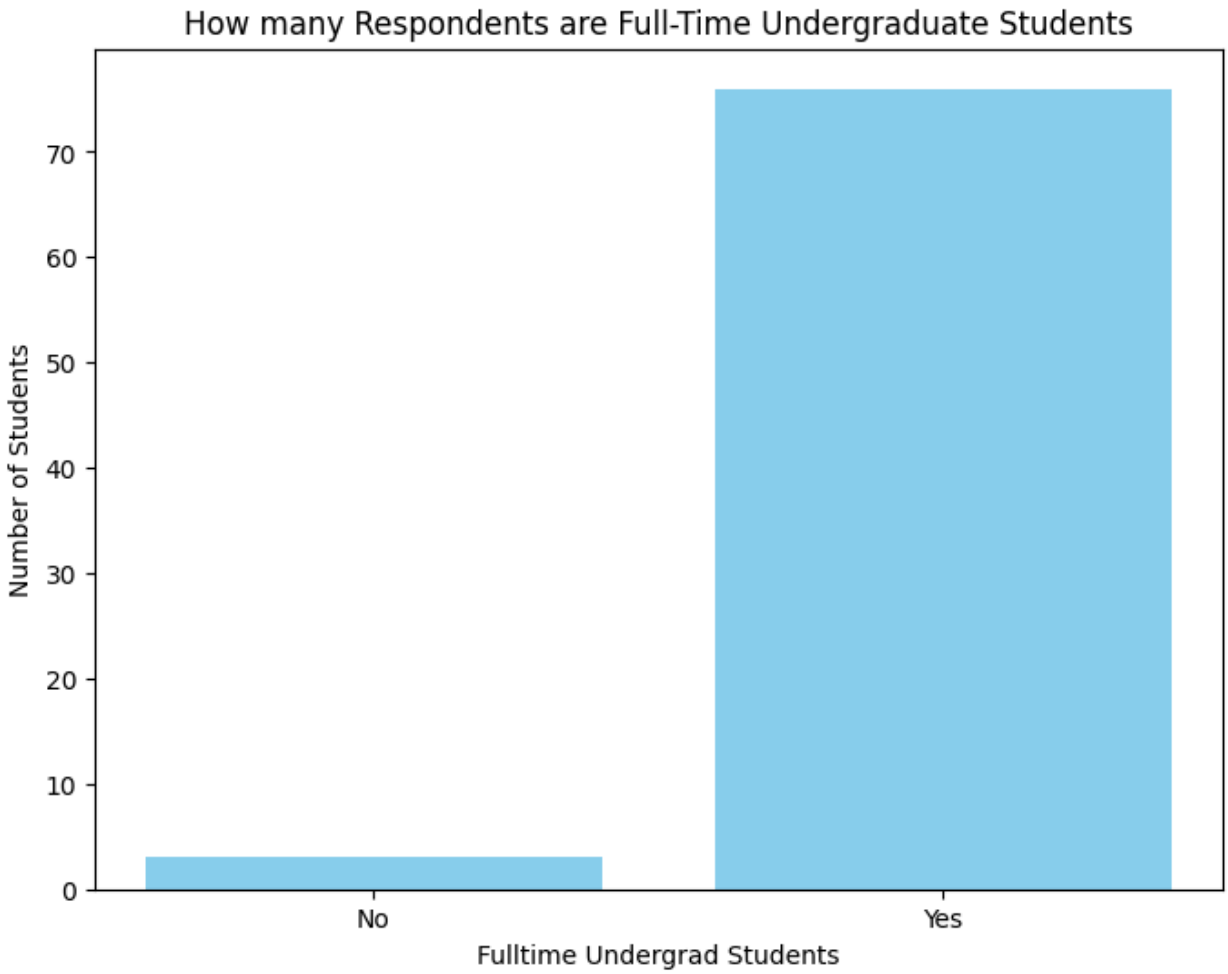
We began by downloading the raw data from a Google Sheet and downloading it into an Excel file. We began by importing our data and retained all the original data for our plots. We then renamed our columns, replacing `'Are you a full-time undergraduate UVA student?'` with `'UVA_FT_UG_Student'`,`'What year are you?` With `'Year'`, and `'Do you believe a hotdog is a sandwich?'` with `'Hotdog_is_Sandwich'`. We did not use "graduate" students in our analysis. Finally, we converted the data into a CSV file to facilitate our analysis.

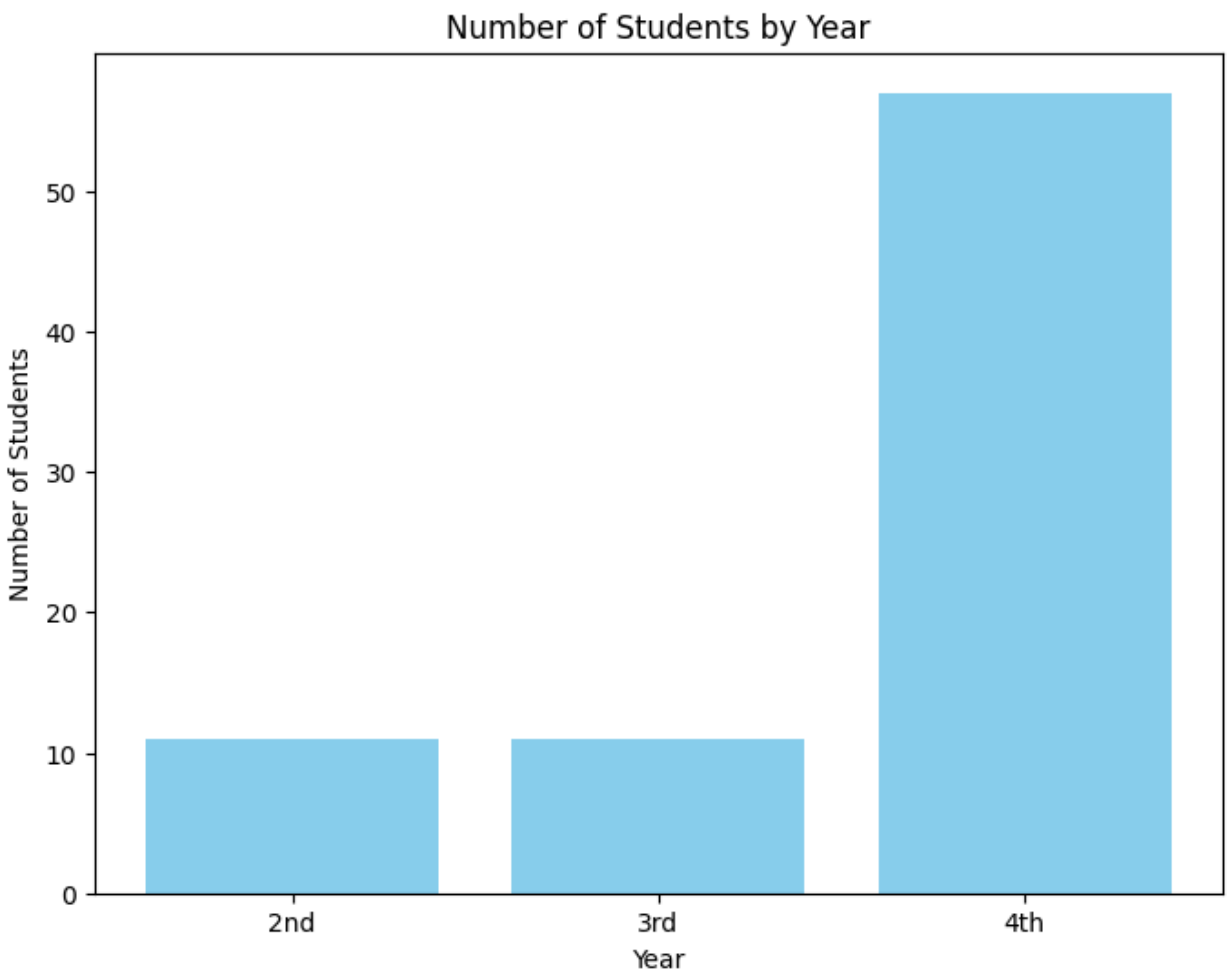
Analysis Methods

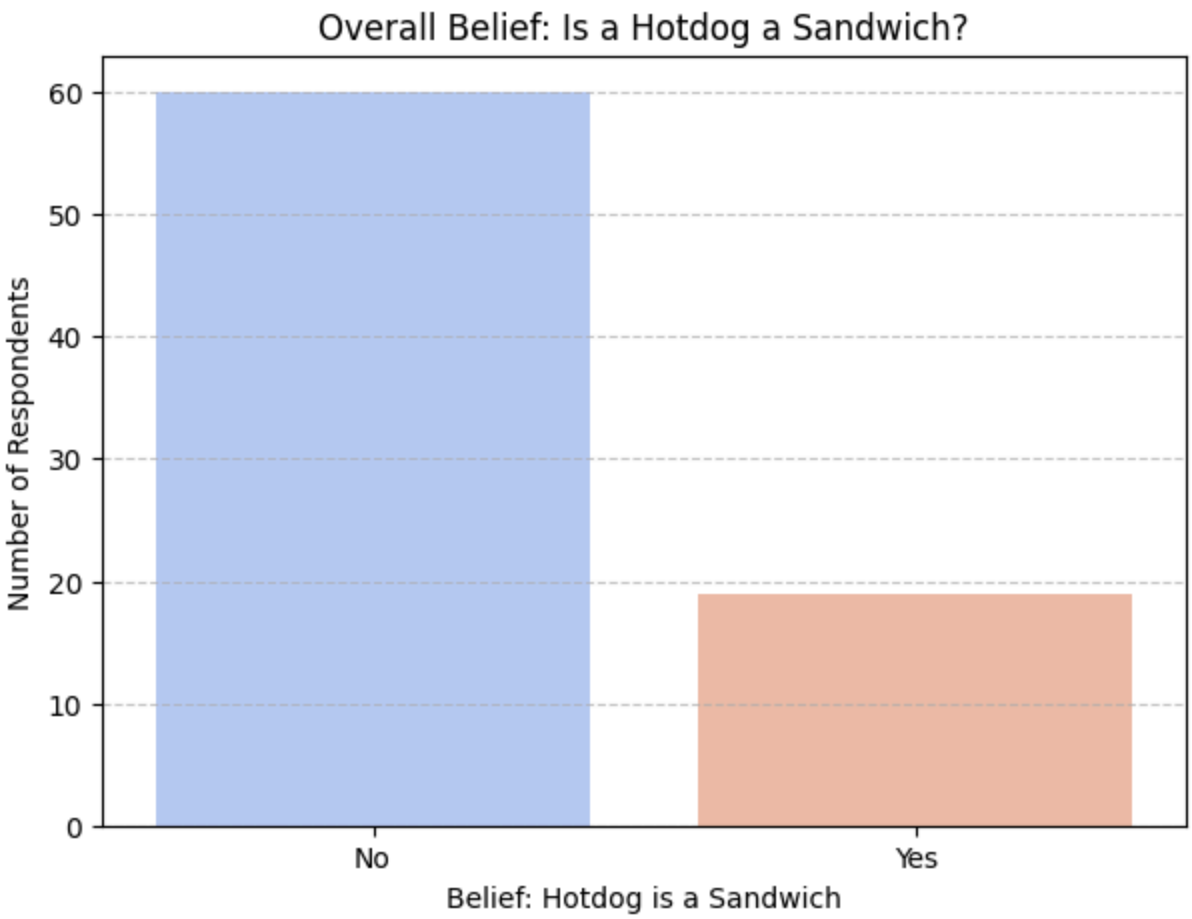
We began with an exploratory data analysis in order to visualize different plots using the data. First, we plotted the amount of students who answered "Yes" to being a full-time undergraduate student versus those who responded "No." Next, we visualized the number of students by each year and found that a vast majority of responses came from fourth year undergraduates.
Then, we created a plot depicting the number of students who responded "Yes" versus "No" to a hot dog being a sandwich. Finally, we looked at what proportion of each year believe that a hot dog is a sandwich, to understand how the distribution of graduation years will affect the results of the survey.

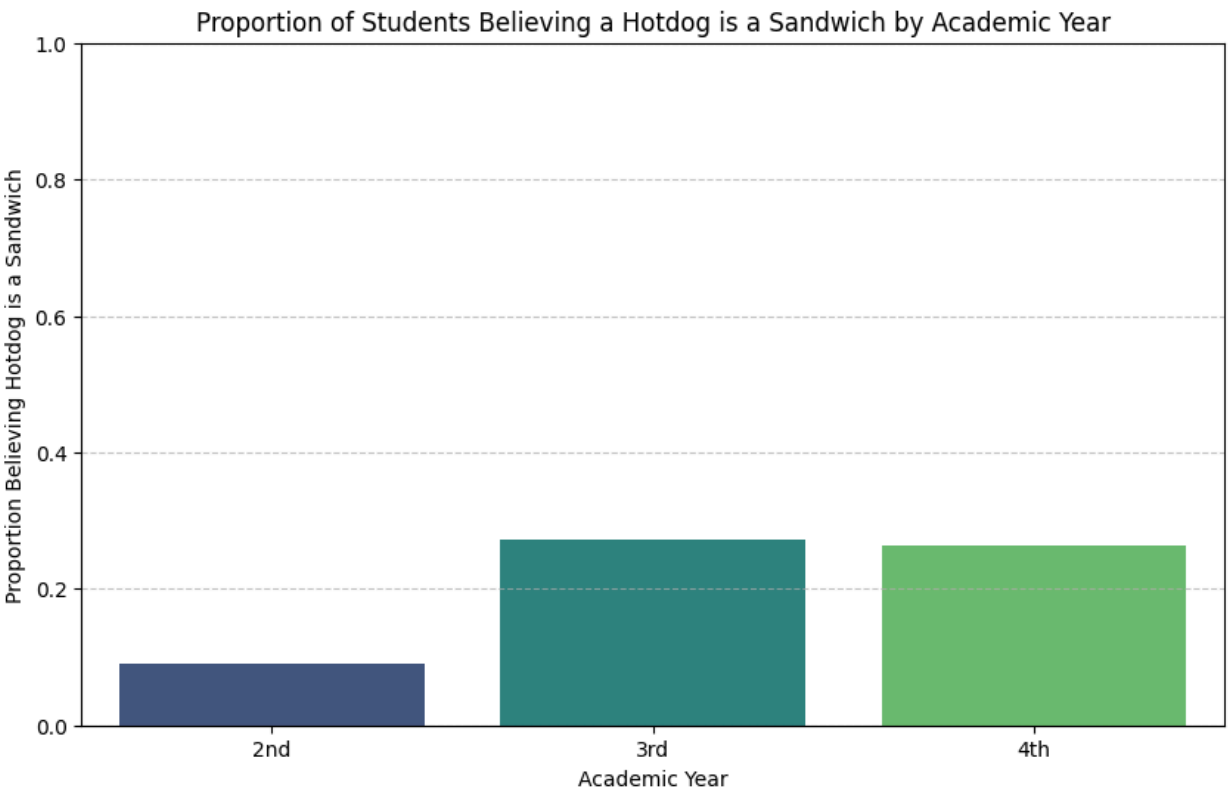
Evaluation of Success

In order to evaluate our analysis, we looked at the distribution between "yes" and "no" responses among undergraduate students. We wanted to test our original hypothesis that less than 50% of full-time undergraduate students would believe that a hot dog is a sandwich. To determine if the calculated proportion of students who believe a hotdog is a sandwich is significantly less than 50%, we performed a one-sample proportion z-test. This statistical test will compare our sample proportion to a hypothesized population proportion (0.50) and provide a p-value to assess the significance of the difference with the results of the survey, which had 24.1% of the population believing that a hotdog was a sandwich. After running the z-test, the p-value was a 0.00, meaning that we can **reject the null hypothesis** that the proportion of students who believe a hotdog is a sandwich is greater than or equal to 50%.


How many Respondents are Full-Time Undergraduate Students
Number of Students
0
10
20
30
40
50
60
70
No
Yes
Fulltime Undergrad Students


Number of Students by Year
Number of Students
0
10
20
30
40
50
2nd
3rd
4th
Year


Overall Belief: Is a Hotdog a Sandwich?
Number of Respondents
0
10
20
30
40
50
60
No
Yes
Belief: Hotdog is a Sandwich


Proportion of Students Believing a Hotdog is a Sandwich by Academic Year
Proportion Believing Hotdog is a Sandwich
1.0
0.8
0.6
0.4
0.2
0.0
2nd
3rd
4th
Academic Year