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Pre-Analysis Steps

In order to conduct our analysis we first needed to clean the data set. To start, we will drop all rows where a student answered ‘no’ for an undergraduate. Then we will drop all rows where there was no response for whether or not a hotdog is a sandwich. After this, we will scan both columns for the letter ‘y’ or ‘n’, replacing them with either ‘yes’ or ‘no’ to ensure answers are documented uniformly across the dataset. After cleaning the dataset we will then move into the analysis portion.

- 64 → remove responses that are not UVa undergraduates, or did not answer sandwich prompt
- Clean Data: organize the Yes/No responses to a binary system, remove irrelevant columns
- Conduct exploratory analysis by producing graphs to observe trends in variables of interest. Plot response by count by undergraduate year and whether or not they are a Virginia resident.
- Normalize dependent variable to frequency of responses by undergraduate year

Analysis Methods

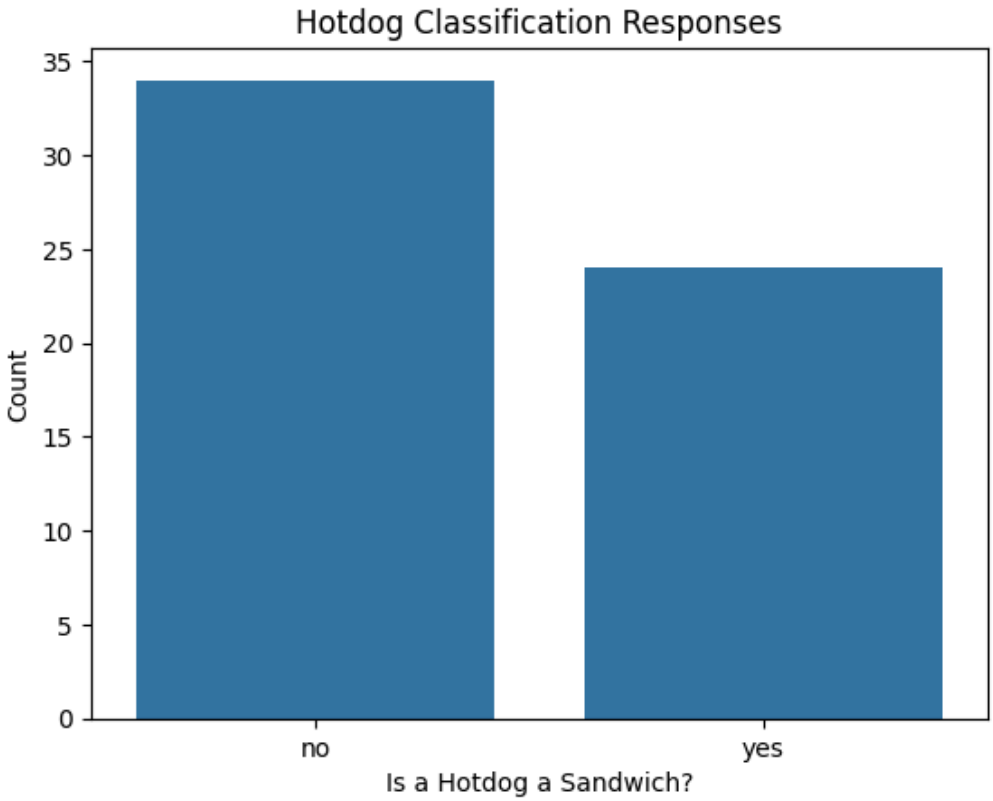
To conduct analysis, we began with exploratory plots to compare the proportion of survey respondents who either agreed or disagreed with the statement “A hot dog is a sandwich” with other variables in the data, such as year in school and major. We decided to sort the data by year in school in order to control for the respondents’ age/education level while assessing their responses.

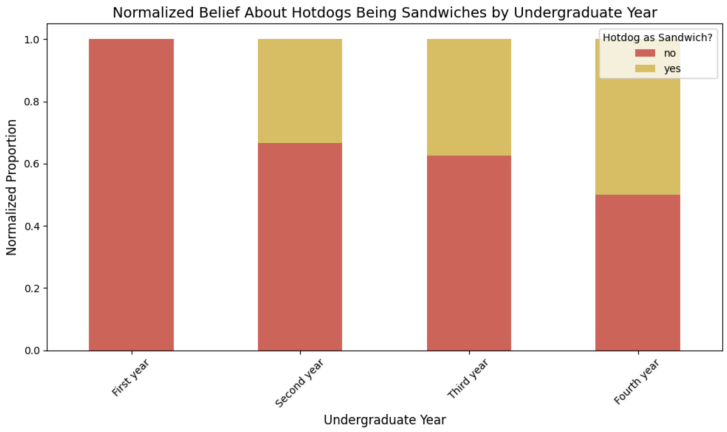
To find proportions, we would conduct a chi-squared distribution test and compare the results by the respondents’ year in school and reported gender.

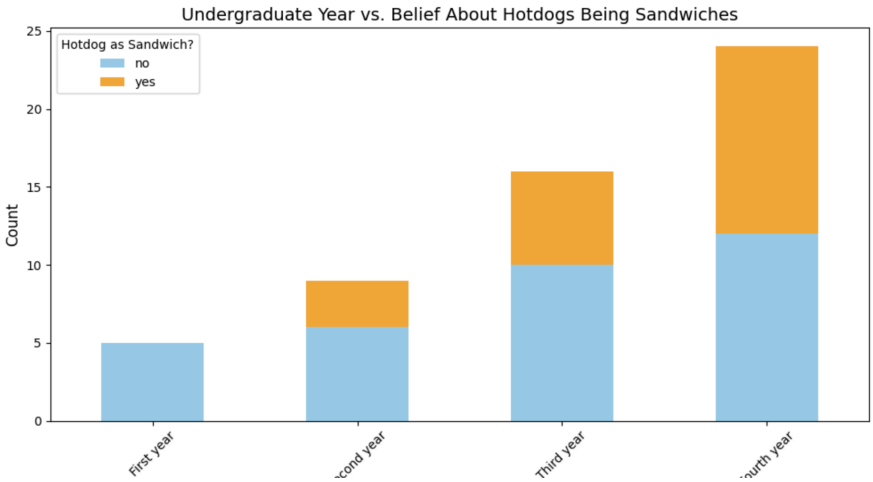
Evaluation of Success

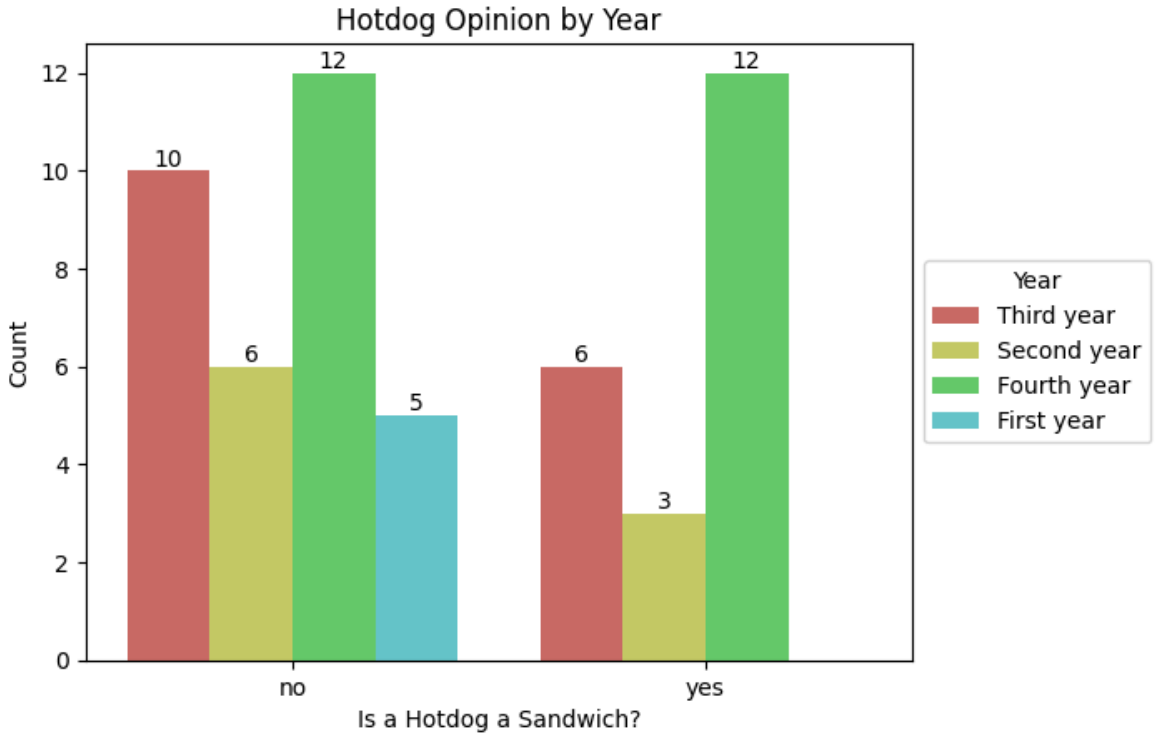
To evaluate success of our exploratory analysis, we would look for correlation in our graphs. If there’s a strong correlation, that would indicate a potential relationship between the two variables.
To assess the success of our chi-squared distribution test, we would compare the result with a one-sample proportion z test to find whether or not there was a significant difference between proportions.

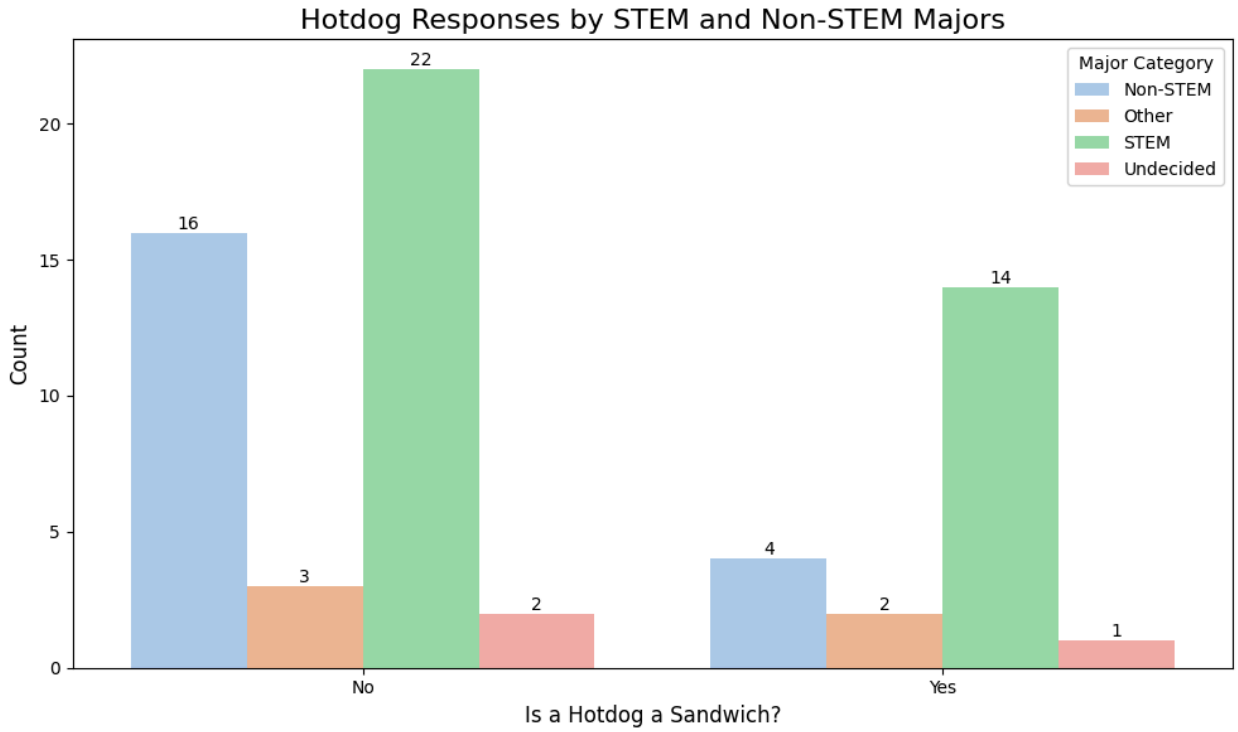
Associated Graphs






Undergraduate Year vs. Belief About Hotdogs Being Sandwiches
Hotdog as Sandwich?
no
yes
Count
25
20
15
10
5
0
First year
Third year


Hotdog Opinion by Year
Count
12
10
8
6
4
2
0
10
6
12
5
6
3
12
no
yes
Is a Hotdog a Sandwich?
Year
Third year
Second year
Fourth year
First year


Hotdog Responses by STEM and Non-STEM Majors
Major Category
Non-STEM
Other
STEM
Undecided
Count
0
5
10
15
20
16
3
22
2
4
2
14
1
No
Yes
Is a Hotdog a Sandwich?