



Hot Dog Analysis

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This presentation is dedicated to Joey Chestnut and all other hot dog heroes everywhere





Motivation

- What do UVA students think about hot dogs as sandwiches?
 - Does this opinion change over time?

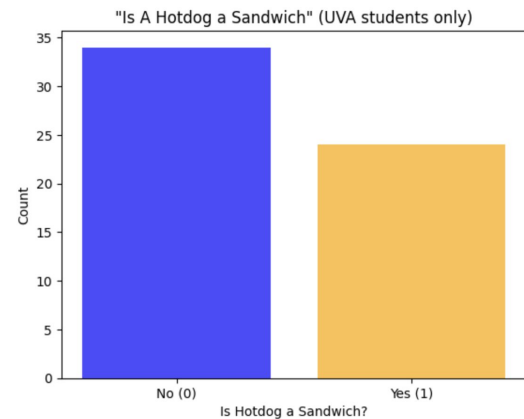
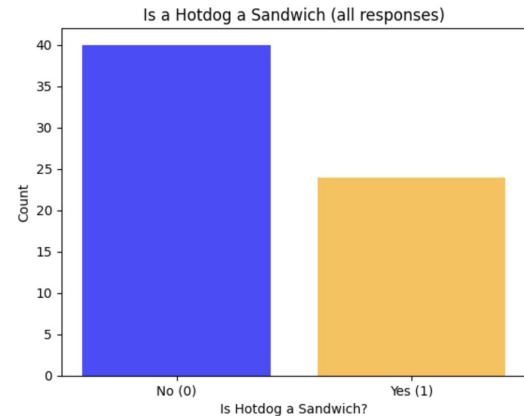
Hypothesis

- 50% of UVA undergraduates think hot dogs are sandies!
 - Impossible to disprove... right?



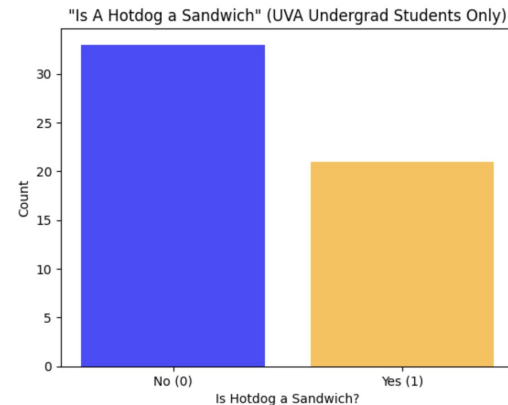
Exploratory Data Analysis

Overall, more students at UVA believe hot dogs are not sandwiches than the other way around. However, it appears that the proportion of people who do believe that hot dogs are sandwiches increases from 1st years to 4th years.

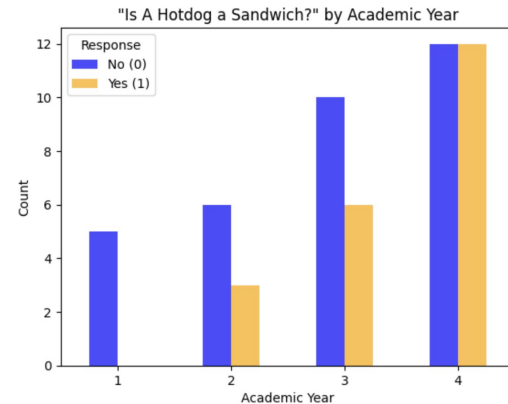


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Analysis Plan

- Conduct a one-sample z-test for proportions
- Compare the proportion of students in our sample who believe a hot dog is a sandwich to the hypothesized population proportion of 50%.
- Calculate the test statistic using the formula $Z = (\hat{p} - p_0) / \sqrt{(p_0 * (1 - p_0)) / n}$
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Results/Findings

Sample proportion (p-hat): 0.3888888888888889
Hypothesized proportion (p_0): 0.5
Sample size (n): 54
Z-test statistic: -1.632993161855452
P-value: 0.10247043485974938
Fail to reject the null hypothesis: There is no evidence to suggest that the proportion differs from 50%.

	is_hotdog_sandwich	undergrad_or_grad	birthplace	academic_year	gender	gender_self_description
0	0	1	VA, USA	3.0	Woman	Not Specified
1	0	1	Virginia, United States of America	2.0	Woman	Not Specified
2	0	1	virginia	3.0	Woman	Not Specified
3	1	1	Virginia	4.0	Woman	Not Specified
4	0	1	Virginia	2.0	Woman	Not Specified
...
59	0	0	Illinois	Not Specified	Man	Not Specified
60	0	0	Illinois	Not Specified	Woman	Not Specified
61	0	1	Virginia, USA	4.0	Woman	Not Specified
62	0	1	Illinois	Not Specified	Man	Not Specified



Next Steps

- What do UVA students think about hot dogs as sandwiches?
 - Try and analyze the reasons why students think/don't think hot dogs are sandwiches