Do You Prefer Your Snacks to be Sweet ? or Salty ?

I hoped to discover whether the percent of people that preferred sweet snacks was greater than those that preferred salty snacks.

Population 1: people that prefer sweet snacks
Population 2: people that prefer salty snacks

Ho: p1 = p2 There is no difference between preferences for sweet vs salty snacks.
Ha: p1 > p2 More people prefer sweet snacks to salty snacks,: there is a difference

(claim)

Data Collection Methods:

- **Census** of Math 140 Students : 26 responses
  - Census is a good sampling method
  - Not enough quantity to meet assumptions
- **Convenience Sample** by email survey of friends and family: 38 more responses
  - Convenience Sample with voluntary response is a poor sampling method
  - Bias will be present in sampling method

Checking Assumptions:

Random sample	No, some convenience sampling
≥ 10 successes	Yes, both groups had more than 10 "yes" answers
≥ 10 failures	Yes, both groups had more than 10 "no" answers
Independent	there is no relationship between the variables

Because of possible bias resulting from a convenience sample, I will not be able to say that my data applies to the population.

Z = 1.767767

Sample percent is 1.77 standard errors above the population percentage.

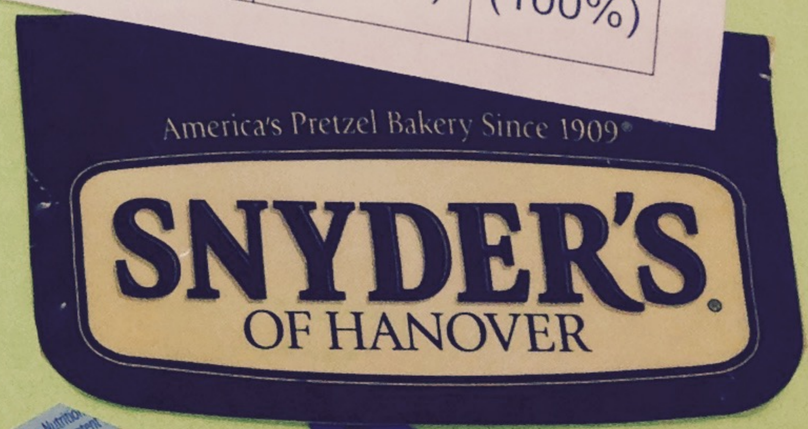
NOT SIGNIFICANT compared to sample percentage

P-value: 0.0385

If the null is true and the percent of individuals that prefer sweet to salty snacks is less than or equal to the percentage of those who prefer salty snacks to sweet ones, then there is a 3.85% chance of getting the sample data or more extreme.

NOT LIKELY to affected by random chance!

Sweet	Salty	Total
37 (57.8%)	27 (42.2%)	64 (100%)



P-value: 0.0385 < α: ~~0.005~~ 0.05 -> Reject Ho

Conclusion:

There is significant sample evidence to support the claim that the percentage of people that prefer sweet snacks is greater than those who prefer salty snacks.

Are you sure?

We are 90% confident that the percentage of people that prefer sweet snacks to salty snacks is between 1.27% and 2.3% greater than those that prefer salty snacks to sweet snacks.

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