

How Would You Analyze Census Data?

Problems

Client wanted to identify meaningful relationships from an attempted census survey

- No statistical tests
- No accepted effect sizes

Solution

Sample from attempted census data, allowing for performing statistical testing on samples

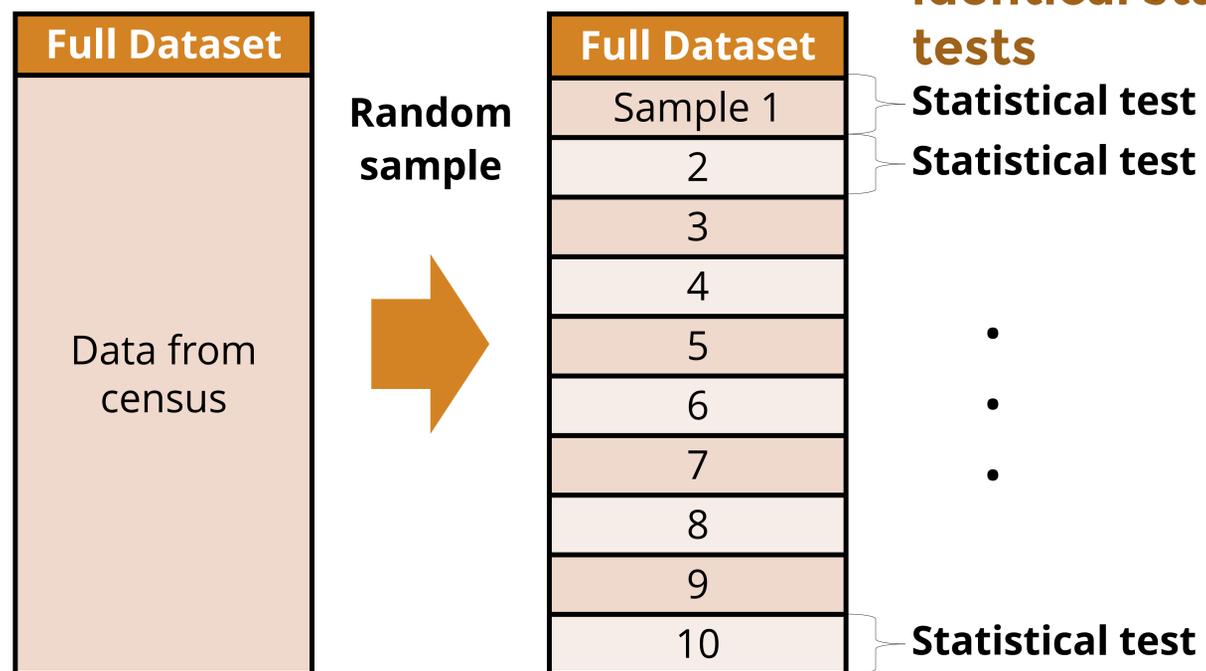
- SRS without replacement
- Analyze the samples
- Count how many relationships are statistically significant and in the same direction
- Identify meaningful relationships

Lessons & Tips

- You can sample from your census data
- Consult with statistician to operationalize meaningful, determine number of samples
- With this approach, your census data becomes a sampling frame
- Use syntax for reproducibility of testing
- Automate comparisons of statistical test results

Solution Explained

We got 10 samples



10 test results

- <4 sig. results** = **No meaningful relationship**
- 4+ sig. & similar results** = **There is meaningful relationship**
Concluding there was a meaningful relationship

We actually used a binomial distribution with $n=10$ and $p=0.05$ to determine the magic number 4+.

**When a relationship was meaningful,
We reported estimates using the full census data**