

# 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

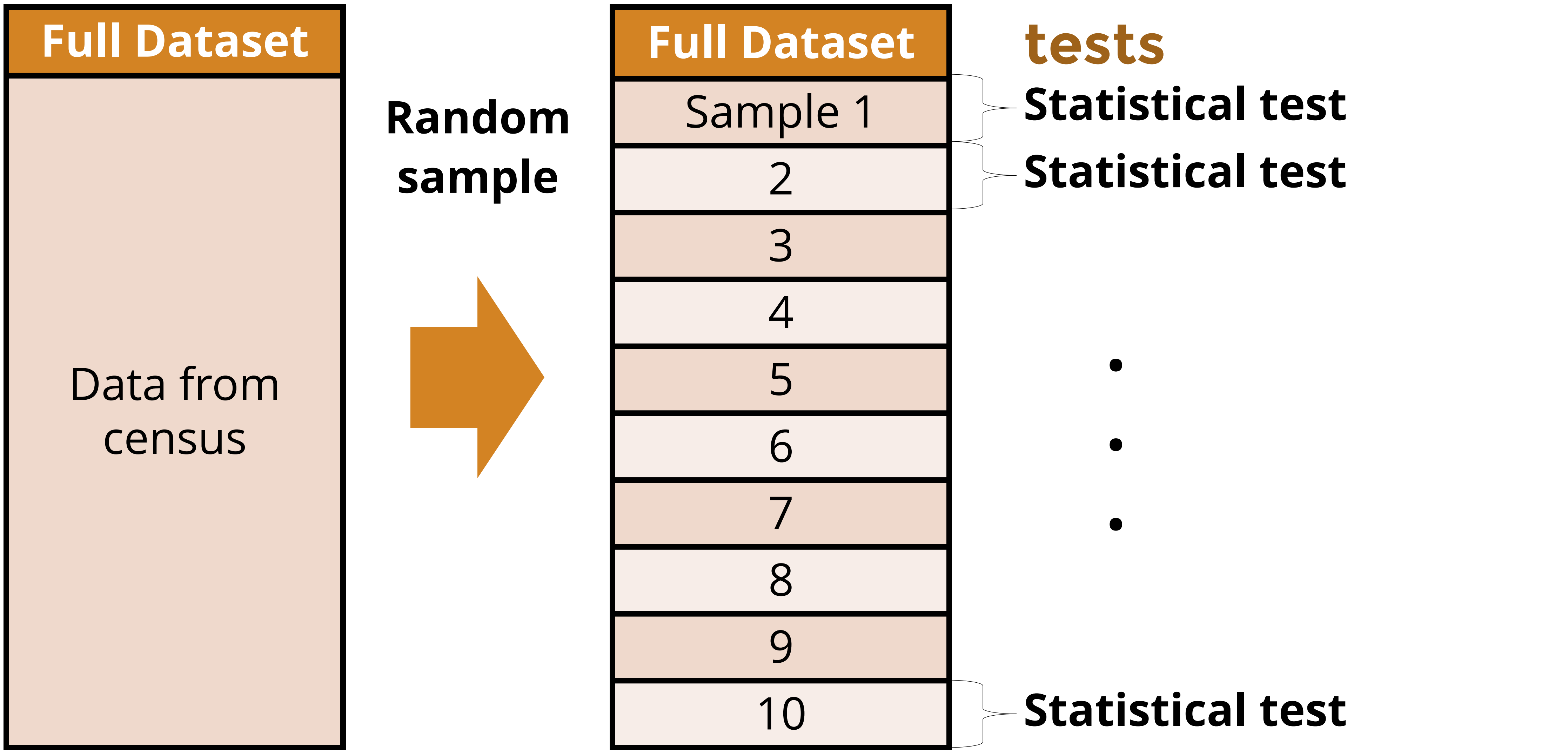
- SRS without replacement
- Analyze the samples
- Count how many relationships are statistically significant and in the same direction
- Identify meaningful relationships

## 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**



Wyoming Survey & Analysis Center  
UNIVERSITY OF WYOMING

[www.uwyo.edu/wysac](http://www.uwyo.edu/wysac)



Muneyuki Kato [shinze@uwyo.edu](mailto:shinze@uwyo.edu)  
Eric Canen  
Laran Despain

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