

# STA247-HW1

Alex Zhang

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## 3

Target population: all people's review on that bookseller

Sampling frame: all reviews that people rate online

Sampling unit: a review of a book

Observation unit: a review

I think this may cause undercoverage because not all readers will submit the reviews after they bought the books. The sampling frame only count people who review online.

## 8

Target population: all boarding homes in Washington State

Sampling frame: all 184 licensed homes in Washington State

Sampling unit: a single licensed home

Observation unit: a boarding home

It is possible to have a nonresponsive bias because only about 23 percent of homes responded and the number is only 43 which I think is low.

## 17

Target population: all statisticians

Sampling frame: 12053 e-mail addresses of statisticians

Sampling unit: an e-mail address

Observation unit: a statistician

One possible measurement error will be that some statisticians may not answer honestly. They may prefer some journals and dislike others. This will increase or decrease some journals' importance and usefulness which not showing the actual results.

## 30

Target population: all residents and visitors in Little Rock

Sampling frame: residents or visitors who view city's website and social medias

Sampling unit: person who did the survey

Observation unit: a resident or a visitor

I think this is a self-selected sample because the questionnaire was posted on websites and social media which I think only people who care about waste-reduction will respond.

## **supplemental question**

Target population: all students in his dorm

Sampling frame: 5 suites he chose

Sampling unit: a suite

Observation unit: a student

It is possible to have a convenience sample because I think only 20 students in total cannot really represent the average GPA in his dorm where contains 400 students. Choosing five suites and record the GPA is easy but not representative.

Worked with