

Exercise walk-through

3.4

Potential Problems with Sampling

AP Statistics

Random sampling

Let **chance**, not the researcher, choose – four random designs:

SRS : every group
of n equally likely

Stratified : SRS within sim-
ilar **strata**

Cluster : pick whole **clus-**
ters

Systematic : every k -th
individual



Sampling bias crowd

Random selection lets us **generalize** the sample
result to the whole population.

Exercises 2.1-2.3

2.1 Define undercoverage.

[1]

2.2 Define nonresponse bias.

[1]

2.3 State one source of bias that comes from how a question is asked.

[1]

Exercises 2.1-2.3

2.1 Define undercoverage. [1]

2.1

- when part of the population is left out of the sampling process
-

2.2 Define nonresponse bias. [1]

2.2

- when selected individuals do not respond, distorting the results
-

2.3 State one source of bias that comes from how a question is asked. [1]

2.3

- question wording bias (a leading or confusing question)

Exercises 3.1-3.2

3.1 A survey in which people choose whether to respond suffers from

[1]

☐

A undercoverage

B voluntary response bias

C randomization

D replication

3.2 When selected people cannot be reached or refuse to answer, it is

[1]

☐

A nonresponse

B a placebo

C blocking

D an SRS

Exercises 3.1-3.2

3.1 A survey in which people choose whether to respond suffers from

[1]

☐

- A undercoverage
- B voluntary response bias
- C randomization
- D replication

3.1 B

- voluntary response bias.

3.2 When selected people cannot be reached or refuse to answer, it is

[1]

☐

- A nonresponse
- B a placebo
- C blocking
- D an SRS

3.2 A

- nonresponse.

Exercise 3.3 (a)

3.3 A survey uses a leading question that pushes people toward one answer.

(a) Name this type of bias.

[1]

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3.3 A survey uses a leading question that pushes people toward one answer.

(a) Name this type of bias.

[1]

(a)

- question wording bias

Exercise 3.3 (b)

3.3 A survey uses a leading question that pushes people toward one answer.

(b) Name a bias caused by leaving out part of the population.

[1]

Exercise 3.3 (b)

3.3 A survey uses a leading question that pushes people toward one answer.

(b) Name a bias caused by leaving out part of the population.

[1]

(b)

- undercoverage

Exercise 3.3 (c)

3.3 A survey uses a leading question that pushes people toward one answer.

(c) Name a bias when only volunteers reply.

[1]

Exercise 3.3 (c)

3.3 A survey uses a leading question that pushes people toward one answer.

(c) Name a bias when only volunteers reply.

[1]

(c)

- voluntary response bias