

Day 2: Bias

What is Bias?

Bias occurs when a sample systematically favors one outcome

1. Questions Wording Bias
 2. Undercoverage Bias
 3. Response Bias
 4. Non Response Bias
 5. Voluntary Response Bias
-

Question Wording Bias

Question Wording Bias:

- When the wording of the question affects the way someone respond.
 - This can be intentional as well as unintentional.

Example: In a survey about America's interest in soccer, those attending a soccer game were asked “How interested are you in the world’s most popular sport, soccer?”

Undercoverage Bias

Undercoverage Bias:

- Occurs when the sample is not representative of the population.
- This frequently happens with convenience sampling when we are not as intentional in how we select groups.

Response Bias

Response Bias:

- Occurs when survey respondents lie or misrepresent themselves
- Respondents feel pressured to give answers that are socially acceptable.
 - If your teachers ask you if you cheated on your test.
 - If someone asked you if you are using illegal drugs.

Nonresponse Bias

Nonresponse Bias:

- Occurs when an individual is chosen to participate, but refuses.
 - This is a common problem with mail surveys, where response rates are low.

Voluntary Response Bias

Voluntary Response Bias:

- When people are asked to call or mail in their opinions.
- Only those who feel strongly are those to respond. This often results in extreme responses for the good or bad.

Name that Bias!

On the twelfth anniversary of the death of Elvis Presley, a Dallas record company sponsored a national call-in survey. Listeners of over 1000 radio stations were asked to call a 1-900 number (at a charge of \$2.50) to voice an opinion concerning whether or not Elvis was really dead. It turned out that 56% of the callers felt Elvis was alive.

Name that Bias!

In 1936, Literary Digest magazine conducted the most extensive public opinion poll in history to date. They mailed out questionnaires to over 10 million people whose addresses they obtained from telephone books and vehicle registration lists. More than 2.4 million people responded, with 57% indicating that they would vote for Republican Alf Landon in the upcoming Presidential election. However, Democrat Franklin Roosevelt won the election, carrying 63% of the popular vote.

Why is this question biased?

Do you think the city should risk an increase in pollution by allowing expansion of the Northern Industrial Park?

Can you rephrase it to remove the bias?

Why is this question biased?

If you found a wallet with \$100 in it on the street, would you do the honest thing and return it to the person or would you keep it?

Can you rephrase it to remove the bias?