

Discuss how responses to the following might be effected by bias such as undercoverage, nonresponse bias, response bias, or wording of questions.

1. A large syndicated newspaper column asked: "If you had it to do over again, would you have children?" Out of nearly 10,000 respondents, 70% said they would NOT. Do you believe 70% of American parents regret having children?

Wording of Question - negatively phrased

Undercoverage - not everyone subscribes to paper

Nonresponse Bias - only strong opinioned people respond

2. Two wordings of a question - which would get a higher proportion of "yes" answers?
 - a) "Do you believe guns should be banned, given the fact that, last year, 1,134 people in America-- many of them children -- were killed accidentally or unintentionally by firearms?"
 - b) "Do you believe guns should be banned, given the fact that Americans use firearms to prevent crimes approximately 1 to 1.5 million times per year?"

a) "many of them children" → would elicit higher proportion wanting guns banned

b) "prevent crimes" → would elicit lower proportion wanting guns banned

3. What percentage of households in a city still bakes bread at home the old fashioned way? To answer this question, we make random phone calls between 9am and 5pm.

Undercoverage - people who work out of the home would not be available between 9am and 5pm

Nonresponse - people often screen their calls before answering them

4. The Italian National Statistical Institute looked into a government survey of households in Italy during the periods January 1 to Easter and July 1 to August 31. All calls were made between 7 and 10 pm, but 21.4% gave "ring-no-answer" in on period versus 41.5% "ring-no-answer" in the other period. Which period do you think had the higher rate of no answers and why? What type(s) of bias affected this survey?

July 1 to Aug 31 had higher "ring-no-answer" because this is time of year many families are away from home on vacation,

Answer the question(s) following each problem.

5. Suppose a sample of households in a community is selected at random from an internet provider to participate in a survey. What type(s) of bias could affect this survey?

Undercoverage - not everyone has computer access at home

Voluntary Response - just because you are selected, doesn't mean you'll complete the survey

6. Here are two wordings for the same question:

- A. Should laws be passed to eliminate all possibilities of special interest giving huge sums of money to candidates?
- B. Should laws be passed to prohibit interest groups from contributing to campaigns, or do groups have a right to contribute to the candidates they support?

One of these questions drew 40% favoring banning contributions; the other drew 80% with this opinion. Which question produced the 40% and which got 80%? Explain why the results were so different.

a) "special interest giving huge sums..." → 80% would favor laws

b) "right to contribute..." → 40% would favor ban

7. You want to conduct a survey concerning students' sexual habits, including questions such as number of partners had, age when you first had sex, etc. How could each of the following influence student's responses?

- the interviewer's age-
- the interviewer's gender-
- the location of the interview-

All of these would result in response bias, "social desirability"

* Answers can vary as to how each would impact students' response