

8.1 - Potential Problems with Collecting Data

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12:15 PM

Math 9

Name: _____

8.1 - Potential Problems with Collecting Data

Date: _____

When we collect data for a survey, the data itself can be affected by bias or the way that it is presented or recorded.

There are several factors that can lead to problems with data collection.

Bias

The wording of the question influences a response in favour of, or against, the topic of the data collection.

Example: "Don't you think the price of a movie ticket is too high?"
influence
biased wording.

Use of Language

The use of particular language in the question may lead people to a certain answer.

Example: may lead ppl. to answer "yes".

Better question: "What do you think about the price of movie tickets. Too low, too high, or fair?"

Timing

When the data is collected could lead to biased results.

Example:

- ① Asking if you like an athlete right after they win an award.
- ② Asking about importance of winter hires in Dec. or August.

Privacy

If the question is too personal, a person may not want to participate or may give a false answer.

Example:

① "How often do you brush teeth."

② "How much do you weigh?"

An anonymous survey would be better!

Cultural Sensitivity

Cultural Sensitivity means that you are aware of other cultures/beliefs. Avoid being offensive or asking questions that do not apply to that culture.

Example:

"What is your fav. way to cook ham?"

⇒ Assuming all ppl. eat ham.

Better: "If you eat ham, how do you prefer it to be cooked?"

Ethics

Collected data must not be used for purposes other than those told to the participants.

Example:

must not take advantage of data collected.

e.g. "Ask friends about fav. snacks to help plan your party, but you use the data to sell them their fav. snacks."

Cost

How expensive is it to collect the data? Is it worth it?

Time

How long will it take to collect and sort the data?

In the following examples, discuss potential problems and how they may be corrected.

1. A survey is conducted to find out if citizens think that the local government should provide more money for youth activities.

The questions asked was: "**Would you support an increase in taxes to create more skate parks?**"

Bras! mentions taxes would incr.

+

only mentions skate parks + not other youth activities.

⇒ most ppl. would say "No"!

better q: "Should gov. provide more money for youth activities?"

2. A survey is conducted to find the level of school spirit. Students are polled about their level of school spirit after the Basketball team wins the Provincial Championships.

Problem: timing! ⇒ would be higher school spirit than normal.

Solution: Ask survey question a month later/earlier when no school event is occurring.

3. A local Inuit group is planning to open a store in Vancouver that would sell traditional Inuit Crafts. To ensure that Vancouver is the best place for their business, the group wants to survey all households to find out how popular Inuit Crafts are. Explain why this is problematic.

Time: There are too many houses to visit!

+
Cost: High: mailing costs stamps, envelopes, flyers.
Sorting data.

4. Judy wants to find out if there is a relationship between household income and how much people spend on Christmas presents.

Cultural bias: Not everyone celebrates Christmas.

Privacy: ppl. may not want to reveal their income.

Better: "If you celebrate Christmas, is the amount spent on presents:
> weekly income?

< " " ?"
or = " " ?"

Assign: p. 435: # 3-10