

**9SP1.1 Describe the effect of bias, use of language, ethics, cost, time and timing, privacy, and cultural sensitivity on the collection of data.**

# Factors that can Influence Data Collection

Data collection can be negatively affected by factors such as bias, use of language, ethics, cost, time and timing, privacy issues, and cultural sensitivity.

Potential Problem	What It Means	Example
Bias	The question influences responses in favour of, or against the topic of the data collection.	Suppose a person asks: <b>Don't you think the price of a movie ticket is too high?</b> This person has a bias against the current ticket price, and the bias influences how the survey question is written.
Use of Language	The use of language in a question could lead people to give a particular answer.	If you ask: <b>Don't you think the price of a movie ticket is too high?</b> , the question may lead people to answer yes. A better question would be: <b>Do you think the price of a movie ticket is too high, too low, or fair?</b>
Timing	When the data are collected could lead to particular results.	A survey is conducted to find opinions on the need for a vehicle to have winter tires. The results may be different if the survey is conducted in August instead of February.
Privacy	If the topic of the data collection is personal, a person may not want to participate or may give an untrue answer on purpose. Anonymous surveys may help.	People may not want to participate in a study on weight if it means stepping on a scale in front of other people.
Cultural Sensitivity	Cultural sensitivity means that you are aware of other cultures. You must avoid being offensive and asking questions that do not apply to that culture.	Suppose you wanted to know the favourite method of cooking ham, and you asked: <b>Please circle your favourite method:</b> <b>BBQ          Bake          Fry</b> This question does not apply to everyone because many people do not eat ham. A better question would be: <b>If you eat ham, name your favourite method of cooking it.</b>
Ethics	Ethics dictate that collected data must not be used for purposes other than those told to the participants. Otherwise, your actions are considered unethical.	Suppose you tell your classmates that you want to know their favourite snacks to help you plan your birthday party. If you then use the information to try to sell your classmates their favourite snacks between classes, your actions would be unethical.
Cost	The cost of collecting data must be taken into account.	If you need to pay for printing the questionnaires, or to pay people to collect the data, the cost may be more than you can afford.
Time	The time needed for collecting the data must be considered.	A survey that takes an hour to complete may be too long for most people. This would limit the number of people willing to participate.

## Example

Pransh wants to write an article for the newspaper on sport-related injuries. He believes that there is a correlation between contact sports and sports-related injuries. One day, he asks members of a football team the following question: “How many sports-related injuries have you had during your years of playing football?”

Identify the influencing factors in this survey question.

## Solution

There are two factors that could influence this survey question: time and bias.

In order to get an accurate reflection on sports-related injuries, Pranesh needs to ask more people who participate in a variety of sports, and this may take a few days or a few weeks.

Also, since football is a contact sport, the chances of football players suffering from sports-related injuries will be quite high. This may mean they experience more sports-related injuries than someone who participates in non-contact sport such as tennis. This bias will negatively affect the data he collects, causing it to be misleading. Pranesh needs to balance out his research by also surveying athletes who participate in non-contact sports.

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## Example

In the month of January, a city planner administers a survey in a community to identify the need for a new outdoor park. The following survey question is asked: “How many times per week do you and your family visit outdoor parks?”

Identify any influencing factors in this survey question.

## Solution

The influencing factor in this question is timing. The surveyor is gathering data in the month of January when people are not likely to use outdoor parks. Because of the timing of the survey, the data will not be accurate.

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## Example

Students in a Grade 9 physical education class are asked to complete a survey related to overall physical health. One of the questions on the survey is “What is your current body weight?”

Identify the influencing factor in the survey.

## Solution

The influencing factor in this survey question is privacy. The topic of weight can be very sensitive and private issue for students. Therefore, there may be some students who do not wish to discuss this information. To protect their own privacy, students may not disclose a truthful answer.

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