

Maths

Design questionnaires avoiding bias

Miss Parnham



Design questionnaires avoiding bias

1. Identify two errors in each of these sets of question and responses.

How frequently do you download films?

☐ 1 - 2 times ☐ 3 - 4 times ☐ 5 + times

How often do you go to the cinema?

☐ Never ☐ Sometimes ☐ Always

How much time, per week, do you spend watching films?

☐ 1 - 3 hours ☐ 4 - 5 hours ☐ >6 hours

2. Mo wants to find out how much time students spend exercising.

a) Design a suitable question with response boxes.

b) Mo decides to ask the football team to complete his questionnaire. Why might this not be a wise choice?



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3. Identify the leading questions.

Do you agree that children don't eat enough vegetables?

How many portions of fruit and vegetables do you usually eat per day?

How many take-away meals do you typically eat each month?

Fast food is unhealthy, how many times a week do you eat fast food?

Do you agree that sugary drinks should be banned?

4. Jack is planning to open a street food stall and wants to know what sort of food he should serve.

He asks his friends “Do you agree that a plant-based diet is healthier than eating meat?”

What two mistakes has Jack made that may bias his results?



Answers



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1. Identify two errors in each of these sets of question and responses.

How frequently do you download films?
☐ 1 - 2 times ☐ 3 - 4 times ☐ 5 + times

No time frame and no option for 0

How often do you go to the cinema?
☐ Never ☐ Sometimes ☐ Always

No time frame and ambiguous descriptions.

How much time, per week, do you spend watching films?
☐ 1 - 3 hours ☐ 4 - 5 hours ☐ >6 hours

No option for 0 and gaps between categories.

2. Mo wants to find out how much time students spend exercising.

a) Design a suitable question with response boxes.

How many hours, per week, do you spend exercising?

☐ 0 ☐ up to 1 hour ☐ 1 - 3 hours ☐ > 3 hours

b) Mo decides to ask the football team to complete his questionnaire.

Why might this not be a wise choice?

Small sample size and a biased sample of people who are more inclined towards playing sport.



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3. Identify the leading questions.

Do you agree that children don't eat enough vegetables?

How many portions of fruit and vegetables do you usually eat per day?

How many take-away meals do you typically eat each month?

Fast food is unhealthy, how many times a week do you eat fast food?

Do you agree that sugary drinks should be banned?

4. Jack is planning to open a street food stall and wants to know what sort of food he should serve.

Asked a small group of people who may not be representative of the population.

He asks his friends "Do you agree that a plant-based diet is healthier than eating meat?"

Asked a leading question that may influence the response.

What two mistakes has Jack made that may bias his results?

