

*A.S.10 Evaluate published reports and graphs that are based on data by considering: experimental design, appropriateness of the data analysis, and the soundness of the conclusions*

- 1 A research company wanted to obtain data on what is watched on television by community members who are 18 years old and older. The research company made random telephone calls to homes in the community. The telephone calls resulted in:

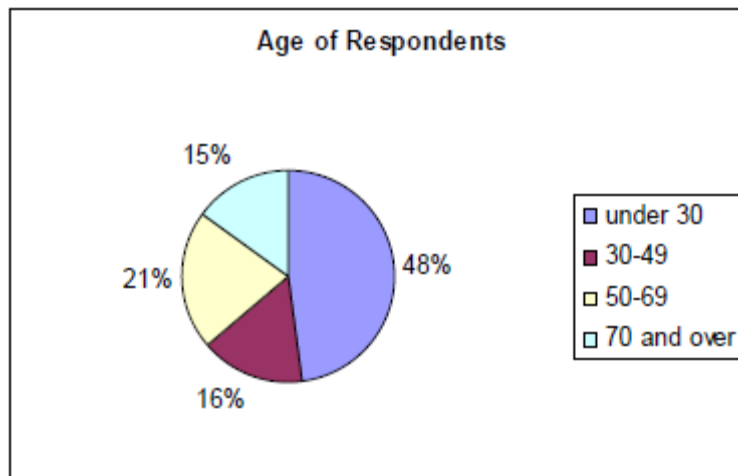
An inability to reach a person in 53% of the homes called.

The exclusion of non-telephone homes in the community.

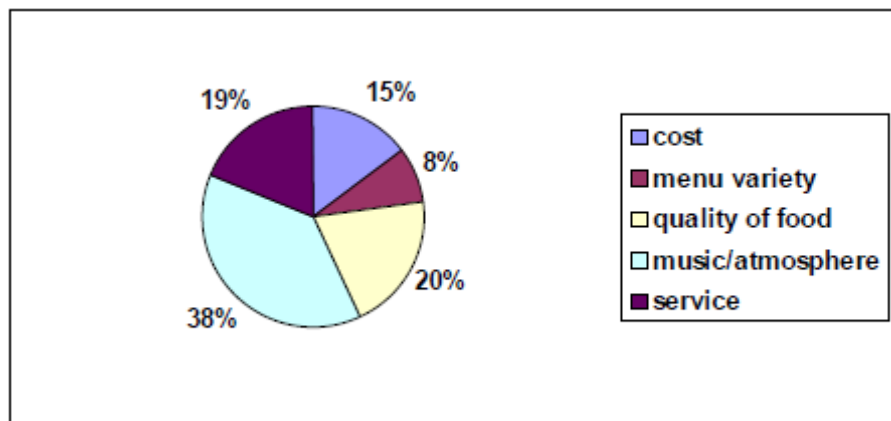
Those surveyed were 72% male and 28% female.

Explain how each of the three factors above could create a bias in the survey results.

- 2 A restaurant owner wanted to determine what her customers consider the most appealing quality of her restaurant. A brief survey card was placed on each table before customers were seated. A portion of the customers voluntarily completed the survey card. As an incentive, those who completed the survey card were entered in a random drawing for a new skateboard. The chart below displays the ages of those who completed the survey card. What biases might exist as a result of the design of this survey?



The results of the survey are summarized in the chart below:



What conclusions might the restaurant owner draw from this survey? What biases might exist in this data? Do you believe the results of this survey are valid? Explain your answer.