

Potential Problems with Sampling Quiz

1. A school nutritionist was interested in how students at a certain school would feel after taking a nutritional supplement. The nutritionist selected a random sample of twenty students from the school to participate in the study. Participants were asked to keep a journal on how well they felt after taking the supplement each day. What possible source of bias is present in the method of data collection?
 - (A) Bias from a sampling method that only uses volunteers
 - (B) Undercoverage bias
 - (C) Nonresponse bias
 - (D) Response bias where responses are self-reported
 - (E) Response bias where the question wording is leading or confusing
2. A city has designed a survey to collect information about residents' opinions about city services. Which of the following describes a scenario in which nonresponse bias is likely present?
 - (A) Surveys were mailed to 500 people, and 200 of the surveys were completed and returned.
 - (B) Surveys were mailed to one-half of the neighborhoods in the city and all surveys were returned
 - (C) Surveys were completed by the first 500 residents who listened to a radio show
 - (D) Surveys were completed by 500 residents selected at random
 - (E) Surveys were given to all residents in one neighborhood of the city and all surveys were returned
3. Which of the following does not describe a sampling method that has a potential source of voluntary response bias for the administration of a survey about college athletics at a university?
 - (A) Giving the survey to 30 students selected at random from each of the eight dorms on campus
 - (B) Giving the survey to the first 50 students who call the university radio station after the broadcaster announces the survey on air
 - (C) Giving the survey to any student who stops at a table set up in the student union after the survey is advertised
 - (D) Giving the survey to all students who respond to an advertisement in the student newspaper
 - (E) Giving the survey to physical education majors who receive extra credit for completing the survey