# Response to Multiple Choice Question

## Question

When asked questions concerning personal hygiene, people commonly lie. This is an example of:

(A) sampling bias

(B) confounding

(C) non-response bias

(D) response bias

## Answer: (D) response bias

## Explanation

This is a clear example of response bias, which occurs when respondents systematically provide inaccurate or untruthful answers to questions. In this case, people are misrepresenting their personal hygiene practices by lying about them.

Response bias specifically refers to the tendency of participants to distort their responses based on various factors, including:

- Social desirability (wanting to appear more hygienic than they actually are)

- Embarrassment about sensitive topics (personal hygiene being a socially sensitive subject)

- The desire to provide answers they believe the researcher wants to hear

To distinguish from the other options:

- Sampling bias (A) refers to a systematic error in the selection of participants, not in how they respond

- Confounding (B) occurs when an unmeasured variable affects both the independent and dependent variables, creating a spurious association

- Non-response bias (C) happens when people choose not to participate in the study altogether, rather than participating but providing dishonest answers

In statistical research design, recognizing response bias in sensitive topics like personal hygiene is important for developing appropriate data collection methods that might mitigate this bias, such as anonymous surveys or indirect questioning techniques.