

1. A statistical unit is one member among the set of entities being studied.

3 / 3 points

True

False

2. Suppose that researchers would like to predict whether a patient's cancer will return based on several features of the patient, including the age, gender, and weight of the patient, and on characteristics of the patient's original tumor, including, its radius, perimeter, smoothness, and symmetry.

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In this modeling scenario, the statistical unit is:

Each individual researcher

Each individual variable, e.g., radius, perimeter, etc.

Each individual tumor

Each individual patient

3. Suppose that researchers would like to predict whether a patient's cancer will return based on several features of the patient, including the age, gender, and weight of the patient, and on characteristics of the patient's original tumor, including, its radius, perimeter, smoothness, and symmetry.

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In this modeling scenario, the "output" variable is:

A tumor's radius

Whether or not a patient will develop another tumor

The length of a tumor's perimeter

A tumor's smoothness

8. Researchers should decide which interpretation of a concept would be most reasonable for their purposes only after collecting data to analyze.

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True

False

4. Suppose that researchers would like to predict whether a patient's cancer will return based on several features of the patient, including the age, gender, and weight of the patient, and on characteristics of the patient's original tumor, including, its radius, perimeter, smoothness, and symmetry.

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Which of the following is most plausibly the population for this modeling scenario?

The collection of all tumors

The collection of all patients that might visit the hospital being observed

The collection of all researchers at the hospital being observed

The collection of all cancer patients that might visit the hospital being observed

5. To *operationalize* a concept means to derive a set of steps that would allow one to measure the concept.

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True

False

6. Consider a study meant to predict whether an individual will default on a mortgage loan based on the individual's socioeconomic status. Researchers identify socioeconomic status with income.

3 / 3 points

In this study:

socioeconomic status has been operationalized using income

income has been operationalized using socioeconomic status

No operationalization has been given

7. Suppose that researchers at a given hospital measure the severity of each patient's condition, along with how satisfied each patient is with their own care. Researchers hypothesize that the more severe the condition, the lower the care satisfaction score.

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A valid measure of the satisfaction of a patient's care:

Can easily be extracted from any dataset of patient records

Should be carefully operationalized using relevant research on satisfaction scores.