# Response to Multiple Choice Question

The best interpretation is:

\*\*(A) We can not conclude whether earning more money causes more recycling among U.S. adults because this type of design does not allow us to infer causation\*\*

## Explanation:

This answer is correct because the researchers have only established a correlation between income level and recycling behavior, not causation. While the study found a statistically significant, strong positive correlation, correlation does not imply causation. This is a fundamental principle in statistics.

Option (B) is incorrect because a sample size of 1,000 randomly selected adults is generally considered adequate for making inferences about the U.S. adult population. The question states that the findings were statistically significant, which indicates the sample was sufficient to detect the relationship with reasonable confidence.

Option (C) incorrectly makes a causal claim that "earning more money influences people to recycle more," which cannot be supported by correlational data alone. There could be numerous confounding variables explaining this relationship, such as:

- Education level (which might correlate with both income and environmental awareness)

- Housing type (higher-income individuals may have more space for recycling)

- Access to recycling services (which might be better in higher-income neighborhoods)

- Consumption patterns (higher-income individuals might purchase more items that generate recyclable waste)

To establish causation, researchers would need to employ experimental designs with random assignment or more sophisticated causal inference techniques that control for potential confounding variables.