# Exam Response: Observational vs. Experimental Studies

The correct answer is (A) Observational studies tend to have better external validity than experiments.

## Explanation:

Observational studies examine subjects in their natural settings without manipulating variables, which can provide greater external validity (generalizability to real-world populations) than experiments. This is because:

1. Observational studies capture real-world contexts and behaviors without artificial constraints

2. They often involve more diverse and representative populations

3. They can study phenomena that would be impractical, unethical, or impossible to manipulate experimentally

In contrast, experiments have stronger internal validity (ability to establish causal relationships) due to randomization and controlled conditions, but this control often comes at the expense of external validity.

Options (B), (C), and (D) are incorrect:

- (B): Experiments, not observational studies, typically have better internal validity due to randomization and control

- (C): Sample size requirements depend on effect size, power needs, and study design, not simply whether a study is observational or experimental

- (D): Representative sampling remains critical in observational studies to ensure valid inferences about target populations