Correlational studies lack the components of random control trials and quasi-experimental studies to allow them to assign causality. A correlational study might look at differences in behaviors or outcomes, but it cannot prove that a specific factor caused the changes. Even if it looks as if a factor is always present, it is not possible to establish causality. A correlational study might look at differences in behaviors or outcomes, but it cannot prove that a specific factor caused the changes. Even if it looks as if a factor is always present, it is not possible to establish causality.

Features not present in correlational studies

- **No Comparison Groups**: Comparison groups are used when you want to examine a treatment’s impact on one group but not the comparison group.
- **No Random Assignment**: Since correlational studies cannot randomly assign subjects, they often use statistical techniques to account for outside factors.
- **No Baseline Equivalence**: Baseline equivalence ensures that comparison groups have characteristics similar to one another. It is not possible to establish baseline equivalence.

Correlational studies are not and cannot be causal. Instead, they tell you that two things change in concert with each other, but not why they change. Without the rigorous structure of an experimental study, there are too many unknown factors that prevent correlational studies from establishing causality.

Control Variables

The possible presence of an unobserved factor is an inherent aspect of correlational studies. Studies use control variables to take into account as many factors as possible that might influence the outcome of interest. This helps isolate the relationship being studied.

Causal Inference

Causal inference goes beyond correlation. It’s not possible to establish causality in correlational studies. Instead, they allow researchers to make causal inferences by controlling for other variables.

References:


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