1. Natural experiments

- In both laboratory and field experiments, researchers normally control which group the subjects are assigned to. In a natural experiment, an external event or situation ("nature") results in the random or random-like assignment of subjects to the treatment group.
- Even though some use random assignments, natural experiments are not considered to be true experiments because they are observational in nature.
- Although the researchers have no control over the independent variable, they can exploit this event after the fact to study the effect of the treatment.

Example: Natural experiment: The Oregon Health Study is one of the most famous natural experiments. In 2008, the state of Oregon decided to expand enrollment in Medicaid, America's low-income public health insurance program, to more low-income adults.

However, as they could not afford to cover everyone who they deemed eligible for the program, they instead allocated spots in the program based on a random lottery.

Researchers were able to study the impact of the program by using the enrolled individuals as a randomly assigned treatment group, and the others who were eligible but did not succeed in the lottery as a control group.

When to use quasi-experimental design

Although true experiments have higher internal validity, you might choose to use a quasi-experimental design for ethical or practical reasons.

1. Ethical

Sometimes it would be unethical to provide or withhold a treatment on a random basis, so a true experiment is not feasible. In this case, a quasi-experiment can allow you to study the same causal relationship without the ethical issues.

The Oregon Health Study is a good example. It would be unethical to randomly provide some people with health insurance but purposely prevent others from receiving it solely for the purposes of research.

However, since the Oregon government faced financial constraints and decided to provide health insurance via lottery, studying this event after the fact is a much more ethical approach to studying the same problem.

2. Practical

True experimental design may be infeasible to implement or simply too expensive, particularly for researchers without access to large funding streams.

At other times, too much work is involved in recruiting and properly designing an experimental intervention for an adequate number of subjects to justify a

true experiment.

In either case, quasi-experimental designs allow you to study the question by taking advantage of data that has previously been paid for or collected by others.

Advantages and disadvantages

ADVANTAGES

- ✓ Quasi experimental designs are more frequently used because they are more practical and feasible to conduct research. • Where the sample size is small, and where randomization & availability of control group is not possible, this design is preferred.
- ✓ Quasi experimental design is more suitable for real natural world setting than true experimental designs. • This design allows the researchers to evaluate the impact of quasi independent variables under naturally occurring conditions. • In some cases hypotheses are practically answered through this design.

DISADVANTAGES

- ☒ In this design there is no control over extraneous variables influencing the dependent variable.
- ☒ The absence of a control group and absence of control over the research setting makes the result of this design less reliable and weak

for the establishment of causal relationship between independent & dependent variable.