

# Experimental and Quasi-Experimental Designs for Research

Donald T. Campbell, along with Julian C. Stanley, authored the influential book "Experimental and Quasi-Experimental Designs for Research," which outlines various experimental and quasi-experimental designs used in social sciences. Here's a summary of the key designs they describe, along with examples for each:

## True Experimental Designs

### Pre test-Post test Control Group Design

01

Subjects are randomly assigned to either a treatment or control group, both groups are pre tested, and post tested after the intervention.

**Example:**

A study evaluating a new teaching method where one group receives the new method and another receives the standard method, with tests before and after the intervention.



02

### Post test-Only Control Group Design

Similar to the pre test-post test design but without a pre test. Random assignment helps ensure group equivalence.

**Example:**

Testing a new drug's effectiveness by administering it to one group while another group receives a placebo, with outcomes measured only after treatment.

## Quasi-Experimental Designs

01



### Non-equivalent Control Group Design

Similar to the pre test-post test control group design but lacks random assignment. Groups are compared before and after the treatment.

**Example:**

Studying the impact of a new educational program in one school while comparing it to another school that doesn't implement the program.

02



### Interrupted Time Series Design

Repeated measurements are taken over time before and after an intervention to detect changes attributable to the intervention.

**Example:**

Analyzing the effect of a traffic law change by examining accident rates before and after the law's implementation.

03



### Regression Discontinuity Design

Assigns treatment based on a cutoff score on a pre-intervention variable, allowing for causal inference at the cutoff.

**Example:**

Evaluating a scholarship program's effect by comparing students just above and below the cutoff score for receiving the scholarship.

## Pre-Experimental Designs

01

### One-Shot Case Study

A single group is exposed to a treatment, and outcomes are measured afterward. It lacks control or comparison groups.

**Example:**

Observing outcomes of a new training program by measuring employee performance only after the training.



02

### One-Group Pre test-Post test Design

A single group is tested before and after an intervention, without a control group for comparison.

**Example:**

Evaluating the effect of a diet program by measuring participants' weight before and after the program.

