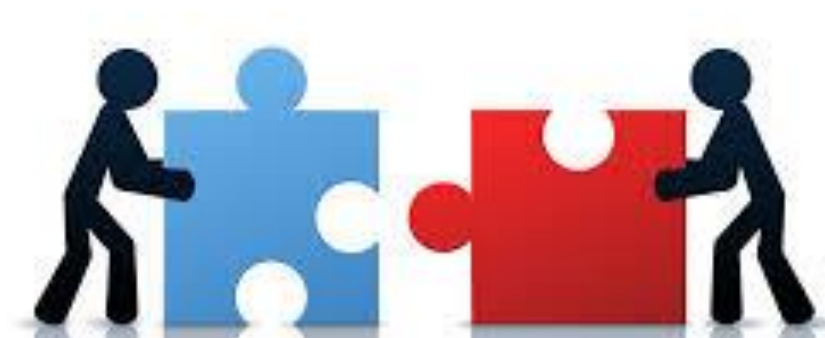


# Zachary Estes, Bocconi Marketing: Key Lessons Learned from Marketing and Psychology

## 1. Experiments complement, rather than substitute, other research methods

A good experiment provides greater confidence in causality than a good regression study. BUT...

- a poor experiment provides less confidence than a well controlled regression study, AND...
- a good experiment + a good regression study can be more informative than two good experiments.



# Key Lessons Learned from Marketing and Psychology

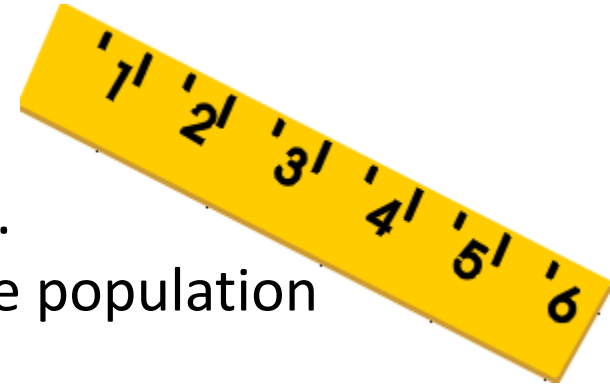
## 2. Yes, size matters

### A. Sample size

- Small samples produce effects that are...
  - less likely to generalize reliably to the population
  - more likely to be false.
- Large samples can produce effects that are
  - statistically significant, but
  - practically meaningless.

### B. Effect size

- Because it's independent of sample size, it can be more informative than statistical significance.
- Beware: *Experiments exaggerate effect size*, because...
  - manipulations are often unrealistically strong, and
  - measurements are often unrealistically sensitive.



# Key Lessons Learned from Marketing and Psychology

## 3. Explore small, replicate big

Larger studies require far more resources

- Fewer new hypotheses can be tested
- May slow down scientific discovery process

Many scholars now recommend

- small studies for initial hypothesis testing
  - progress is not slowed
- large replications of observed effects, so
  - progress favors reliable effects
  - effect size estimates are more accurate



# Particular Challenges for Field Experiments

## **1. Effect sizes should be smaller than in lab experiments**

- due to complexity of environment / proliferation of factors beyond experimenter control.

!! Therefore need larger samples to detect the same effect.

## **2. Random assignment may be impossible**

- Company structure may not allow it on individual level.

!! Measurement of control variables becomes even more important.

## **3. The manipulation may be contaminated across conditions**

- Managers and employees may communicate about their treatments, to other units or even other offices.

!! Disguising the treatment becomes even more important.