Three Key Threats to External Validity

External validity: How far the given study/experiment generalizes to similar groups, individuals, etc.

1. Setting:
    - What is the physical and social context of the experiment?
2. Population:
    - Is there something specific about the sample that interacts with the treatment?
3. History:
    - Is there something about the time that interacts with the treatment?

Ecological Validity

- Ecological validity relates to the study's approximation of real-life situations.
- It is very difficult to attain a high level of ecological validity in laboratory studies.

The Validity Trade-Off: Truth and Myth

Internal validity ⟷ External validity

- Balance is important between the types of validity.
- That said, internal validity is usually the more important factor.

Experiments in the Field

- Some experiments can be conducted in a real-world setting while maintaining random assignment and manipulation of treatments.
- Example: Milliman study (1986) of music tempo and restaurant customer behavior
  - Does music tempo affect how restaurant patrons behave?
  - Subjects were tested but not brought into a laboratory setting.

Pros and Cons of Experiments

- Pros
  - Give researchers tight control over independent factors
  - Allow researchers to test key relationships with as few confounding factors as possible
  - Allow for direct causal testing
- Cons
  - Often yield a small *N* (in lab studies), which is enough for statistical purposes but not ideal for generalizing
  - Give up large amounts of external validity in favor of internal validity (and vice versa)
  - Require a large amount of planning, training, and time