

1. Experiments in Psych

Scientific method

- Formal investigation & experimentation
- Isolate effects → understanding
- Analytic approach: variables studied in isolation
- Achieved by:
 - Eliminating irrelevant variables
 - Randomising some effects, or
 - Controlling/measuring all variables present
- Intervention: identify casual powers

Abstractions

- Experiments → make statements on general principles/abstractions, not particular situations
- Measure is not the concept itself but an **indication** of the concept
 - Eg. Self esteem isn't scale of self esteem, temperature is not thermometer marks

"Relevant facts"

- =Facts that inform us about our abstractions
- Facts are **irrelevant** if:
 - Inadequate precautions against potential sources of interference
 - Measurements employ insensitive/outdated methods
 - Experiment incapable of solving problem at hand
 - Questions designed to answer become discredited eg. If study looks at 1 true self but theory suggests existence of multiple selves
 - Have no bearing on abstractions
- → Facts are fallible, reversible, challengeable depending on **relevancy**
- If experimental basis of science is fallible & reversible, so too is science-based knowledge

Chalmers (1999), *What is this thing called science?* Chpt 1-3

- Science = knowledge derived from facts of experience
- Why should facts precede theory? How can we derive facts through observation if we do not have some guidance as to what kind of knowledge we're seeking?
- Observation need not be passive & private but can be an act of public & practical intervention
- Observable facts are both objective & fallible