



# Experimental Design

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# How To Design A Psychology Experiment

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- Start with a **research question**
- It must be testable – you must be able to change one variable and measure another
- Identify the variable you will change – the **independent variable (IV)**
- Identify the variable you will measure – the **dependent variable (DV)**

# Hypotheses

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- Write an experimental hypothesis – a statement predicting how the IV will affect the DV
- Is it directional or bidirectional? Why?
- Write a null hypothesis – a statement predicting that the IV will have no effect on the DV



# Design Decisions

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- From which population will your **sample** be taken?
- How will you find your sample, and how will you **allocate participants to conditions**?
- Repeated measures, independent measures or matched pairs?
- What will you do to avoid **confounding variables**?

# Experimental Design

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- **Repeated measures** – no problems with participant variables, fewer participants needed, but possible order effects.
- **Independent measures** – no order effects, but more participants needed and participant variables may be a problem
- **Matched pairs** – no order effects, more participants needed than repeated measures, but reduced problems with participant variables



# Ethics

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- See BPS ethics guidelines
- Think about informed consent
- Issues around deception
- No-one must be harmed or distressed
- Everyone has the right to withdraw



# Summary

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- Research question
- Hypotheses
- Design
- Ethics