Your notes

GCSE Psychology: revision notes

Research methods: hypotheses, variables and designs

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Hypotheses and variables

- An aim is a general statement of what a study will investigate. A **hypothesis** is a testable prediction.
- An alternative (experimental) **hypothesis** predicts a difference or relationship; a **null hypothesis** predicts no difference or relationship.
- The **independent variable** (IV) is what the researcher changes; the **dependent variable** (DV) is what is measured.
- **Extraneous variables** are other factors that might affect the DV; they should be controlled.

Experimental designs

- Independent groups: different participants in each condition. There are no order effects, but participant differences may affect results.
- Repeated measures: the same participants do all conditions. Participant differences are controlled, but order effects (practice or fatigue) can happen; **counterbalancing** reduces them.
- Matched pairs: participants are matched on key features, then one of each pair goes into each condition.

Types of research method

- Laboratory experiments: controlled conditions, but can be artificial. Field experiments: in a natural setting, more realistic but less control. Natural experiments: the IV occurs naturally.
- Interviews (structured or unstructured), questionnaires (open and closed questions), case studies (in-depth study of one person or group), observations, and correlational studies.

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Key terms

Hypothesis	A testable prediction.
Null hypothesis	A prediction of no difference or relationship.
Independent variable	The variable the researcher changes.
Dependent variable	The variable the researcher measures.
Extraneous variable	Another variable that could affect the results.
Independent groups design	Different participants in each condition.
Repeated measures design	The same participants in every condition.
Counterbalancing	Varying the order of conditions to reduce order effects.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. What is the independent variable?
2. What is the dependent variable?
3. What does a null hypothesis predict?
4. What is a repeated measures design?
5. What is an advantage of independent groups?
6. What does counterbalancing reduce?
7. What is a matched pairs design?
8. What is a weakness of laboratory experiments?

Answers

1. The variable the researcher changes
2. The variable the researcher measures
3. No difference or relationship
4. The same participants take part in every condition
5. There are no order effects
6. Order effects
7. Participants are matched on key features, one of each pair in each condition
8. They can be artificial

What to do next

Practise 10 questions on this topic

Try 4 exam questions, with mark schemes

Read the lesson, one step at a time

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