

Research methods and the experimental study

IB DP Psychology HL research methods and IA full package

1. Research at a glance

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IB Psychology HL core "approaches to researching behaviour" plus the experimental-study IA: quantitative methods (experiments, designs, sampling, descriptive statistics, correlation), the qualitative toolset, ethics, and the evaluation concepts with HL significance testing.

Must-know: four experiment types by control and realism; three designs with counterbalancing; random vs opportunity vs volunteer sampling (sampling is not allocation); mean, median, SD; correlation r never a cause; the six ethics principles; generalizability, credibility, bias; sign test $N = 8$, $S = 2$ not significant at 5 percent; the IA report spine.

2. Quantitative research

Quantitative research

Experiments manipulate the IV and measure the DV: lab (control, low realism), field (realism, less control), natural and quasi (existing differences, no random allocation). Independent measures, repeated measures and matched pairs trade participant variables against order effects; counterbalancing and standardised instructions attack order effects and demand characteristics.

Random sampling is representative in principle; opportunity and volunteer are cheap and biased. Means are dragged by outliers, medians resist; SD beats the range. The rehearsal experiment: acoustic 6.0 vs semantic 8.7 words - descriptive only, since variability and chance remain untested without an inferential statistic.

3. Qualitative, ethics, evaluation

Qualitative, ethics, evaluation

Case studies buy depth with generalizability; observations need behavioural categories and inter-rater reliability; interviews run structured, semi-structured or focus groups; questionnaires scale but attract social desirability; triangulation is the multi-lens answer.

Ethics: informed consent, debrief after any deception, protection from harm, withdrawal, confidentiality, the 3Rs for animals. Evaluation: generalizability, credibility (credibility, transferability, dependability, confirmability), bias. HL: significance at p under 0.05; the sign test with $N = 8$ and $S = 2$ exceeds the critical value of 0, so not significant.

4. The experimental study

The experimental study

The IA is a simple experiment the student designs, runs and reports: introduction (theory, rationale, operationalised aim), exploration (design with reasons, variables, controls, sampling, ethics, materials), analysis (descriptive statistics and graphs; HL adds an inferential test with the statistical decision), evaluation (strengths, limitations, modifications), appendices (raw data, standardised instructions, consent forms).

Spine of the worked report: processing level and recall; repeated measures with counterbalancing; volunteer sample of one year group (limit stated); means 6.0 vs 8.7 with ranges; HL Wilcoxon decision; evaluation names volunteer bias and single-year limits with the matching modifications.

Check yourself

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The four experiment types and three designs with counterbalancing; sampling versus allocation.

Mean, median, mode, range, SD with their weaknesses; correlation never a cause.

The qualitative toolset with inter-rater reliability and triangulation; the six ethics principles.

Generalizability, credibility, bias; HL significance and the sign test; the IA report five sections.