Quiz Questions

# Chapter 11: Research design

1. Identify the independent variable and the dependent variable in the following hypothesis that we used to illustrate the post-test only design:

*Preterm babies who receive developmental nursing care gain weight faster than preterm babies who receive conventional nursing care.*

IV = developmental nursing care

DV = weight gain

2. Identify the independent variable and the dependent variable in the following hypothesis that we used to illustrate the pre-test, post-test design:

*Drug A is more effective than drug B in reducing hypertension in adults.*

IV = drug A

DV = hypertension

3. Identify the independent variable and the dependent variable in the following hypothesis that we used to illustrate the Solomon Four design:

*Nurses working in palliative care settings who attend staff support groups, cope better with work-related stress compared to nurses who do not attend a staff support group.*

IV = staff support group

DV = work-related stress

4. Identify the independent variable and the dependent variable in the following hypothesis that we used to illustrate the within-participants design:

*Non-uniformed nurses establish a better rapport with adults with learning disabilities in comparison to the rapport they develop with them when wearing the uniform.*

IV = non-uniform

DV = rapport

5. Identify the independent variable and the dependent variable in the following hypothesis that we used to illustrate the matched pairs design:

*Children who have a pre-surgery hospital visit experience less post-operative pain in comparison to children who do not have a pre-surgery visit.*

IV = pre-surgery visit

DV = post-operative pain

6. Explain the difference between the research method and research design.

The research method is the specific way in which a study is conducted and it reflects the methodology to which it is allied. The research design is the overall plan which identifies the way in which a research method will be carried out.

7. What are the three main types of experimental research designs?

Between-participants design, within-participants design and matched-pair design.

8. Which experimental research design is generally considered to be the most robust?

Matched pair design.

9. Give an example of a between-participants research design.

Post-test only design, pre-test, post-test design, Solomon Four design

10. What is the main weakness of the within-participants design?

Order or practice effect

11. What is the rationale for having a wash-out period during a within-participants design?

A wash-out period between the first and second phases of a within-participants design allows the effect of the first treatment to diminish.

12. Identify three strengths and three weaknesses of the cross-sectional design.

Strengths: economical (time, money and effort), on-going commitment from participants not required, Findings available promptly, can use large samples.

Weaknesses: extraneous variables may impact the findings, low response rates, the risk that extreme views/findings are obscured, providing only a ‘snap-shot’ of the ‘here and now’, data can be superficial.

13. Identify three strengths and five weaknesses of the longitudinal design.

Strengths: Identifies trends, changes and developments over time, facilitate predictions about the future, provides detailed and extensive data, reduces the effect of recall bias, can infer causal relationships between variables.

Weaknesses: Can be costly (time, money and effort), requires high levels of

researcher/participant commitment, risk of participant drop-out (attrition), participants become aware of the variables that the researchers are interested in, the research team may change over time, following up participants can be complex, findings become distorted if high drop-out is high, findings may not be available for some time, blinding may not always be possible, cannot conclude causal relationships

14. Identify five strengths and five weaknesses of the Delphi design.

Strengths: utilises the expertise of participants, participants do not need to meet, participants can be located anywhere in the world, economical (time, money, resources and effort), participant anonymity and confidentiality can be maintained, encourages participant honesty, enables participants to consider issues and information that they may have overlooked, democratic (domination of an individual participant prevented).

Weaknesses: potential for bias in the selection and recruitment of ‘experts’, no agreement over ideal panel size, diverse opinions may be lost, participant drop-out over time, findings become distorted if high drop-out is high, time-consuming, no clear definition of consensus, no evidence to suggest a different group of experts would reach the same agreement.

15. Identify three strengths and five weaknesses of the retrospective design.

Strengths: can collect extensive data, realism is high, can infer causal relationships, economical (time, money and effort).

Weaknesses: susceptible to faulty interpretation, accessing retrospective data can be problematic, recall bias, cannot conclude causal relationships.