7.7 Experimental Designs: Repeated Measures, Independent Groups and Matched Pairs: Test Pack

AQA 7182 · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 Identify the experimental design used in this reaction-time study and give one reason why this design might be chosen.

(Total for Question 1 is 2 marks)

2 Outline one advantage of using random allocation within each matched pair and one remaining limitation that cannot be solved by this step.

(Total for Question 2 is 3 marks)

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3 Outline one reason why standardised instructions and procedures are important for controlling variables in repeated measures designs.

(Total for Question 3 is 3 marks)

4 Explain one strength and one limitation of using a matched pairs design for this educational comparison.

(Total for Question 4 is 3 marks)

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Mark scheme · 7.7 Experimental Designs: Repeated Measures, Independent Groups and Matched Pairs: Test Pack

Question 1

identifies repeated measures design, where each participant takes part in both conditions (simple and complex) cao **B1**

gives a reason, e.g. controls participant variables because the same people do both tasks oe **B1**

Answer: Repeated measures design; chosen because it controls participant variables since each participant performs both the simple and complex task.

Question 2

advantage: random allocation within pairs prevents systematic assignment bias and ensures which member of the pair receives each condition is not predictable oe **M1**

explains that this reduces confounding due to non random assignment and helps isolate the effect of the IV oe **A1**

limitation: unknown or unmeasured participant variables may still differ between matched members and confound results, and cannot be controlled by randomising which matched member gets which condition oe **A1**

Answer: Random allocation within pairs avoids systematic assignment bias so which matched partner gets each condition is unpredictable, helping isolate the IV effect. However unknown or unmeasured participant variables may still differ between matched members and confound results, which random allocation cannot eliminate.

Question 3

states that standardisation reduces situational/extraneous variables, e.g. differences in instructions, task timing or environment oe **M1**

explains that keeping these procedures the same ensures differences between conditions are more likely due to the IV rather than procedural differences oe **A1**

links to reliability or replicability, e.g. standardisation makes it easier to repeat the study and get comparable results oe **A1**

Answer: Standardised instructions and procedures reduce situational or extraneous variables by ensuring the same task wording, timing and environment for both conditions. This helps ensure condition differences reflect the IV not procedural differences, and improves reliability and replicability.

Question 4

strength: matching on prior attainment controls participant variables that could confound the comparison oe **M1**

explains that this increases internal validity because groups are similar on the matched characteristic oe **A1**

limitation: matching is time consuming and may be imperfect, and finding suitable pairs for all participants can be difficult or costly oe **A1**

Answer: Strength: matching on prior attainment controls participant variables, improving internal validity because groups are similar on the matched characteristic. Limitation: matching is time consuming, may be imperfect and can be difficult or costly to carry out for all participants.

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