GCE

Psychology

Advanced Subsidiary GCE

Unit **G541:** Psychological Investigations

Mark Scheme for January 2012

Any enquiries about publications should be addressed to:

Annotations

Annotation	Meaning
✚	Good response/positive (to be used to indicate number of marks awarded for part questions e.g. +++/++= 3+2 marks)
▬	Negative
?	Unclear
A	Attempts evaluation
BOD	Benefit of doubt
CONT	Context
λ	Omission
✗	Incorrect response
EVAL	Evaluation
〰	Expandable horizontal wavy line
IRRL	Irrelevant
NAQ	Not answered question
⦚	Expandable vertical wavy line
✔	Correct response

Question	Answer	Marks	Guidance
1	Strengths could include: the ability to use the same cartoon to control for possible effects of some cartoons being funnier than others; no carry-over effects (e.g. insight or fatigue) from having already participated in one condition prior to the other. Weaknesses could include: individual differences in how happy or not people are, regardless of whether 'smiling' or not; need more participants as they can only participate in one condition. 3 marks for strength, 3 marks for weakness	6	-Context here refers to for example: smiling, happiness, emotion, funny, pencil, teeth, lips or cartoon.

0 marks	The candidate has not provided any creditworthy information
1 mark	Appropriate strength/weakness outlined briefly but lacks clarity/detail (e.g. simply stating 'no order effects') and not in context

2 marks	Appropriate strength/weakness outlined clearly outlined, but not in the context of the research outlined in the source material	**OR** outline of strength/weakness lacks clarity/detail but attempt to discuss in context

3 marks	Appropriate strength/weakness outlined clearly outlined and in the context of the research outlined in the source material

Question			Answer	Marks	Guidance
2	(a)		The independent variable is 'smiling' operationalised as holding a pencil in the teeth or lips. <table><tr><td>**0 marks**</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr><tr><td>**1 mark**</td><td>Independent variable identified but no explanation of how it has been operationalised</td><td>**OR** description of how the independent variable has been operationalised without saying what it is</td></tr><tr><td>**2 marks**</td><td colspan="2">Independent variable correctly identified and details of how it was operationalised</td></tr></table>	2	-If unclear because reference is made to both IV and DV cap at 1 mark.
	(b)		The dependent variable is 'happiness' operationalised as a score on a scale (between 1 and 10). <table><tr><td>**0 marks**</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr><tr><td>**1 mark**</td><td>Dependent variable identified but no explanation of how it has been operationalised</td><td>**OR** description of how the dependent variable has been operationalised without saying what it is</td></tr><tr><td>**2 marks**</td><td colspan="2">Dependent variable correctly identified and details of how it was operationalised</td></tr></table>	2	-If unclear because reference is made to both IV and DV cap at 1 mark. -Accept 'mood' for DV. -Accept 'rating scale' for how the DV is operationalised.

Question			Answer	Marks	Guidance
3			For both reliability and validity positive and/or negative evaluation issues are acceptable. Comments about reliability could include use of the same scale (1 to 10) with clearly defined ends so should be easy to use in the same way by each participant; possible differences in the way each number on the scale is interpreted by participants; use of the same cartoon clip. Comments about validity could include: potential dishonesty of participants when selecting a number; demand characteristics (picking a number to please/upset the researcher); the numerical scale allows the extent of participants happiness to be assessed; difficult to express happiness just in a quantitative way.	10	-Context here refers to happiness and emotion. -NB reference to anything other than the actual measure of the DV is not creditworthy (such as Ps prior emotion state)

0 marks	The candidate has not provided any creditworthy information	
1-2 marks	General attempt to evaluate reliability only	**OR** General attempt to evaluate validity only
3-4 marks	General attempt to evaluate both reliability and validity	**OR** attempt to evaluate reliability **or** validity in context

5-6 marks	Clear evaluation of reliability, **or** validity in context	**OR** clear evaluation of both reliability and validity, but not in context (if only one clear = 5 marks)	**OR** attempt to evaluate both reliability and validity in context (if only one in context = 5 marks)

7-8 marks	Clear evaluation of reliability in context and attempt at evaluation of validity (just 7 marks if attempt not in context)	**OR** Clear evaluation of validity in context and attempt at evaluation of reliability (just 7 marks if attempt not in context)
9-10 marks	Clear evaluation of **both** reliability and validity in context. **Note**: For 10 marks all evaluation points discussed must be correctly labelled with no confusion between the two.	

Question	Answer	Marks	Guidance
4	Findings could include: most number of times thinking about a white bear reported was 21; least number of times was 2; range of scores was 2-21 showing a lot of variation in how many times thoughts of a white bear were reported; most people reported thinking of a white bear 10 or more times during the five minute period, . 2 marks for each finding 	**0 marks**	The candidate has not provided any creditworthy information
1 mark	The candidate has stated a finding, but this lacks clarity, or is not in the context of the research outlined in the source material.
2 marks	The candidate has stated a clear finding and this is in the context of the research outlined in the source material.		4	-Context here refers to a 'white bear' (or just 'bear') -The following descriptive statistics are creditworthy. Mean = 11.6, median = 11.5 (accept 11 or 12), range = 19, total = 116 -Accept the scores of 2 and 21 as anomalous or extreme

Question	Answer	Marks	Guidance
5	Appropriate descriptive statistics include calculating the mean, median or range. <table><tr><td>**0 marks**</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr><tr><td>**1 mark**</td><td>Appropriate descriptive statistic named</td><td>**OR** described but not named (or described but named incorrectly)</td></tr><tr><td>**2 marks**</td><td>Attempt to describe how an appropriate descriptive statistic could be used but not in context of the information outlined in the source material</td><td>**OR** described in context (or described in context but named incorrectly)</td></tr><tr><td>**3 marks**</td><td>Attempt to describe how an appropriate descriptive statistic could be used in context of the information outlined in the source material</td><td>**OR** Appropriate descriptive statistic fully explained but not in context</td></tr><tr><td>**4 marks**</td><td colspan="2">Appropriate descriptive statistic fully explained in context of the research outlined in the source material</td></tr></table>	4	Context here refers to a 'white bear' (or just 'bear') -Mode and bar chart not appropriate - Credit average, dispersion and central tendency.

Question	Answer	Marks	Guidance
6	**Strengths** could include: allows researchers access to what kind of things related to a white bear participants were thinking of; informative about what else participants were thinking of when not a white bear **Weaknesses** could include: difficult to classify and interpret findings; may be difficult to understand what some participants mean at times; not a natural process – may be different to how participants think when not expressing their thoughts aloud. 3 marks for strength, 3 marks for weakness	6	-Context here refers to a 'white bear' (or just 'bear'). -Do not credit strengths and weaknesses of the method (e.g. self-reports – dishonesty)

0 marks	The candidate has not provided any creditworthy information
1 mark	Attempt to outline strength/weakness but in general, not in the context of the research outlined in the source material.
2 marks	Strength/weakness clearly outlined but not in the context of the research outlined in the source material.	**OR** Attempt to outline strength/weakness in the context of the research outlined in the source material.
3 marks	Strength/weakness clearly outlined in the context of the research outlined in the source material.

Question			Answer	Marks	Guidance
7	(a)		An open question is one that does not restrict how respondents reply. For example, describe what it was like when trying not to think of a white bear	2	-Context here refers to a 'white bear' (or just 'bear')
			0 marks — The candidate has not provided any creditworthy information		
			1 mark — Attempt to suggest an appropriate open question, but lacks some clarity / **OR** open question clearly outlined but not in context		- Assume response is an open question if there are no predetermined options. EG Did you think of any bears? = 2 marks.
			2 marks — Appropriate open question clearly outlined in context		
	(b)		A closed question is one that presents respondents a number of pre-determined response categories to select from when answering the question. For example, How difficult was it not to think of a white bear? - very difficult - somewhat difficult - not very difficult.	2	-Context here refers to a 'white bear' (or just 'bear')
			0 marks — The candidate has not provided any creditworthy information		
			1 mark — Attempt to suggest an appropriate closed question, but lacks some clarity / **OR** closed question clearly outlined but not in context		-Must have response options to gain any credit
			2 marks — Appropriate closed question clearly outlined in context		
	(c)		A rating scale question involves the use of a scale for respondents to indicate their answer. For example Indicate on a scale of 1 (not very difficult) to 10 (very difficult) how difficult you found it not to think of a white bear	2	-Context here refers to a 'white bear' (or just 'bear')
			0 marks — The candidate has not provided any creditworthy information		
			1 mark — Attempt to suggest an appropriate question involving the use of a rating scale, but lacks some clarity / **OR** rating scale question clearly outlined but not in context		-A verbal rating scale is Okay, but must include at least three options.
			2 marks — Appropriate question involving the use of a rating scale, clearly outlined in context		

Question			Answer	Marks	Guidance
8			Note: null hypotheses are not tailed. Some good examples here would be something like … There is/will be no correlation between how ugly people rate snakes and how frightened they are of them. Any correlation found is due to chance.	4	
			<table><tr><td>0 marks</td><td>The candidate has not provided any creditworthy information</td></tr><tr><td>1 mark</td><td>The candidate has written an appropriate null hypothesis but has simply stated 'there will not be/is no correlation'. There is no indication of either of the measured variables</td></tr><tr><td>2 marks</td><td>The candidate has written an appropriate null hypothesis but has only referred to one variable</td></tr><tr><td>3 marks</td><td>The candidate has written an null hypothesis referring to both variables, but there is a lack of clarity about one of the measured variables or both</td></tr><tr><td>4 marks</td><td>The candidate has written a clearly stated appropriate null hypothesis referring to both of the measured variables</td></tr></table>		- Allow 'relationship' or 'correlation'. -Do not credit any reference to difference/effect/IV/DV regardless of what else is written. -The variables do not have to be fully operationalised for maximum marks. -Do not credit reference to an 'association' or a 'link'. -Do not credit directional statements.

Question			Answer	Marks	Guidance
9			The use of rating scales are acceptable here but also measurements based on any other alternatives, such as an observation schedule that classifies the number of anxiety responses towards a snake when exposed to one or discussing one. However, the measure must yield a quantifiable result for use in a correlation analysis.	4	

0 marks	The candidate has not provided any creditworthy information	
1 mark	Attempt to outline how fear could be measured, but lacks detail and/or clarity and not replicable but not in context.	
2 marks	Minor omissions that would prevent replication	**OR** Attempt to outline how fear could be measured, but lacks detail and/or clarity and not replicable but in context.
3 marks	Replicable outline of how fear could be measured but not in context	**OR** Minor omissions that would make replication difficult but in context
4 marks	Replicable outline of how fear could be measured that is in context	

Guidance:

-The measure of fear must be quantifiable.
-Context is 'snakes'.

-For 3 marks numerical values for rating scales is needed.

-For 4 marks the scale needs to be labelled (ends and/or mid-points).

- For 4 marks it must be clear who is doing the rating if a rating scale is used.

-If verbal scales given cap at 2 marks.

Question			Answer	Marks	Guidance
10			Possible responses here include strengths of using a rating scale (e.g. produced quantifiable data, easy to compare fear of snakes across different people etc) and weaknesses (e.g. a number does not indicate more detailed reasons about how/why a person fears snakes etc). 3 marks for strength, 3 marks for weakness <table><tr><td>**0 marks**</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr><tr><td>**1 mark**</td><td colspan="2">Attempt to outline strength /weakness, but lacks detail and/or clarity</td></tr><tr><td>**2 marks**</td><td>Clear outline of strength / weakness, but not in context</td><td>**OR** Attempt to outline strength /weakness, but lacks detail and/or clarity but in context.</td></tr><tr><td>**3 marks**</td><td colspan="2">Clear outline of strength / weakness in context</td></tr></table>	6	-Context is 'snakes' -Ethical issues are acceptable but must be outlined appropriately and not just stated (e.g. 'reduces harm').

Question			Answer	Marks	Guidance
11			A positive correlation is where as the values of one variable increase, related values of the second variable also tend to increase (although not necessarily at the same rate). <table><tr><td>**0 marks**</td><td>The candidate has not provided any creditworthy information</td></tr><tr><td>**1 mark**</td><td>Attempt to explain what a positive correlation is, but could be clearer</td></tr><tr><td>**2 marks**</td><td>Clear explanation of a positive correlation</td></tr></table>	2	-A sketch of a scattergraph displaying a positive correlation is fine, but must be accompanied by some explanatory text for full marks. -Reference to DV = 0 (as it implies causation). -Clear examples of positive correlations (whether in context or not) can achieve full marks.

Question			Answer	Marks	Guidance
12			**Strengths** could include: provides information about patterns/trends that can then be investigated more experimentally if desired; can be plotted visually in a scattergraph to see relationship clearly; enables us to make predictions based on the relationship between variables; when unethical or impractical to carry out an experiment; starting point for further research; etc. **Weaknesses** could include: does not inform us about cause-and-effect; the relationship revealed can be misleading; some variables cannot be correlated (only variables generating continuous data can be correlated) 2 marks strength, 2 marks for weakness <table><tr><td>**0 marks**</td><td>The candidate has not provided any creditworthy information</td></tr><tr><td>**1 mark**</td><td>Attempt to identify strength/weakness, but lacks some clarity</td></tr><tr><td>**2 marks**</td><td>Strength/weakness clearly outlined</td></tr></table>	4	-For full marks the strength and weakness cited must be specific to the correlational method, and not generic. For example, a weakness is that just because we might find a positive correlation between the variables it does not show cause and effect. -Citing quantitative data on its own is not sufficient to credit, but elaborating on it is creditworthy. A weak elaboration would gain one mark. -Reference to a relationship between an IV and a DV should not be credited.

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