

Psychology

General Certificate of Secondary Education

Unit **B543**: Research in Psychology

Mark Scheme for June 2012

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Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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Annotations

Annotation	Meaning
	Correct response
	Incorrect response
	Unclear
	Banded down
	Benefit of doubt
	No benefit of doubt
	Expansion of a point
	Irrelevant
	Effective evaluation
	Knowledge and understanding

Place a tick on the back page to show that you have looked at it. Remember to place links where appropriate.

Question		Answer	Marks	Guidance
1		'to investigate whether pulse rate is a good indicator of fear',	1	Allow similar response. Hypotheses and statements of results are not acceptable.
2		1 mark for identifying that this hypothesis predicts no relationship between the two variables. 1 mark for the accurate identification of each variable. (eg 'there will be no relationship (correlation) (1) between pulse rate and how fearful the participants think the rides are' (1).	2	The hypothesis must refer to relationships to obtain full marks. 'No link', 'no association', 'no trend', 'no pattern' are all creditworthy. The hypothesis can be in the present tense ('there is a relationship'), future tense 'there will be') but NOT in the past tense 'there was '). If the candidate has written both no correlation / no difference, maximum of 1 mark for the accurate identification of both variables. NB: if there is no reference to a correlation but both variables have been identified, 1 mark can still be credited. Allow 'scary' / 'frightened' for 'fear'
3	(a)	Increase in pulse rate. (1) (Self rating) of how fearful the rides are. (1)	2	Allow variations, eg pulse / pulse rate / heart rate Fear / level of fear / fear rating / increases in fear. Allow 'scary' / 'frightened' for 'fear'.
	(b)	1 mark for correctly identifying that the scattergraph shows a positive correlation. 1 mark for a clear and accurate description which elaborates making reference to both variables.	2	

Question		Answer	Marks	Guidance
		For example 'the scattergraph shows a positive correlation.(1) As pulse rates increased so did the rating of fear'. (1)		
4		Closed questions	1	No marks if both boxes ticked.
5		Quantitative	1	No marks if both boxes ticked.
6		<p>1 mark for correctly identifying a weakness of using questionnaires as a method of collecting data. 1 mark for explaining how or why it is a weakness. 1 mark for placing the weakness in context of the study in the source.</p> <p>For example 'one weakness of using questionnaires is social desirability, (1) participants may give the answer they think the researcher wants to hear (1) and so in this study they may say a ride is fearful when really they were not scared by it'. (1)</p>	3	<p>Most likely weaknesses could include:</p> <p>Subjective interpretation of scale Lying, not telling the truth Use of closed questions Demand characteristics Social desirability</p> <p>Unreliability is not a justification for a weakness of a questionnaire but lack of validity is.</p> <p>NB: Some link to the source is needed for full marks.</p>
7	(a)	<p>2 marks for recognising that everyone in the target population has an equal chance of becoming a participant. (2) 1 mark for a partial definition.</p> <p>For example 'everyone has an equal chance of becoming a participant' (1).</p>	2	<p>For full marks an accurate and fully complete definition MUST be given (allow 'same chance' for equal).</p> <p>Responses which describe ways in which a random sample may be achieved are not creditworthy (eg drawing names out of a hat).</p>
	(b)	<p>1 mark for the accurate identification of a strength of using a random sample. 1 mark for an elaborated response describing how or why it is a strength.</p> <p>For example, 'one strength of random samples is that they are</p>	2	<p>Allow 'a fair way' because everyone has an equal chance of being picked' (2).</p> <p>Definitions of random samples are not credit worthy.</p>

Question		Answer	Marks	Guidance
		unbiased/representative (1) in that they are more likely to represent the characteristics of those people from which it was drawn'(1). 'One strength of a random sample is that they are unbiased / representative (1) so the findings can be generalised' (1).		Obtaining a wide range / variety of people = 0 marks.
8	(a)	1 mark for correctly identifying any ethical issue relevant to the study in the source. Most likely answers will be (informed) consent, confidentiality, deception, withdrawal and protection (harm), debrief.	1	An appropriate ethical issue must be clearly identified (eg allow welfare).
	(b)	1 mark for a generic response which shows how the ethical issue would be dealt with. 1 mark for responses which are placed in context of the study in the source. For example 'the psychologist must make it clear to participants that they can leave the research whenever they want (1), so if someone didn't want to go on one of the rides, they shouldn't have to'. (1)	2	Do not credit repetitions transferred from 8(a) eg if the candidate states 'withdrawal' in (a) no credit can be awarded for 'telling the participant they can withdraw' in part (b). the candidate needs to show an understanding of what withdrawal means, eg 'reminding the participant they can leave at any time' can be credited 1 mark.
9		1 mark for outlining an extraneous variable which could affect the outcome of this investigation. 1 mark for an elaborated response which demonstrates an accurate understanding of the implication of the extraneous variable. For example 'an extraneous variable is a variable which could affect the results if it is not controlled (1) so in this study taking the participant's pulse rate before the ride could make them nervous and increase it' (1) or 'the presence of others screaming on the ride could make it seem more fearful (1) and so the rating of fear given will be higher because of this and not because of the ride' (1).	2	Anything that could increase / decrease pulse rate unrelated to the fear rating is a feasible extraneous variable. Anything that could affect rating of fear that is unrelated to the ride is a feasible extraneous variable. A response that identifies a variable that affects both fear and pulse rate = 0 marks. (For example 'if the weather is raining, the participant may say they are more frightened and so their pulse may also go up'). An explanation of the effect of the extraneous

Question		Answer	Marks	Guidance
				<p>variable in relation to what is being measured is necessary for full marks.</p> <p>NB: Any extraneous variable that does not contradict the nature of the investigation can be considered as appropriate.</p>
10		<p>1 mark for outlining a comparison relating to differences in time between longitudinal and cross sectional studies.</p> <p>1 mark for outlining a comparison relating to differences relating to the use of participants between longitudinal and cross sectional studies.</p> <p>For example 'longitudinal studies are studies carried out over a <i>long period</i> of time using the <i>same participants</i> cross sectional studies are where <i>two or more groups</i> are compared / studied at the <i>same time</i>. (1 mark is awarded for each distinction).</p>	2	<p>The distinction between the use of participants AND time is needed for 2 marks.</p> <p>The distinction between the two types of study must be explicit, for example 'longitudinal studies are carried out over a long time and cross sectional are not' is not creditworthy.</p> <p>An answer which does not show a difference between the two types of studies = 0 marks (for example, longitudinal studies are carried out over a long period of time using the same participants) is not credit worthy.</p>
11		<p>1 mark for a response which refers to ecological validity only; (eg 'validity means how true to life something is'. (1))</p> <p>1 mark for a response which refers to validity as measure of truth (1)</p> <p>1 mark for a response which refers to validity as showing whether the results reflect reality. (1)</p> <p>1 mark for isolated examples without explanation; (eg 'whether the questionnaire is really measuring fear'. (1))</p> <p>2 marks for an accurate definition of validity; (eg validity means the extent to which a test or something measures what it claims to measure). (2)</p>	2	<p>Do not credit 'how correct the results are' or 'not being fair' or validity as a measure of 'accuracy'.</p>

Question		Answer	Marks	Guidance
12	(a)	<p>1 mark for identifying that this hypothesis predicts a difference. 1 mark for the accurate identification of both variables.</p> <p>For example 'participants will have more trouble (1) paying attention to tasks when they are asked to do two things at the same time' (1), or 'participants will complete tasks much quicker (1) when they are asked to complete one at a time compared to completing two simultaneously.' (1)</p>	2	<p>There must be reference to (i) attention / concentration and (ii) two tasks to gain 1 mark for the identification of variables.</p> <p>Correlation / trend link is not creditworthy.</p>
	(b)	<p>A target population is the entire group of people the researcher wants to generalise his results to.</p> <p>1 mark for the accurate identification of a feasible target population.</p> <p>For example, 'my whole school', 'people who work in a factory', 'office workers' etc.</p>	1	<p>A distinct group of people needs to be identified: Males / females / a workplace / children / age specified groups / locality specific (any population which the candidate could want to generalise their findings to). Do not allow human population.</p> <p>NB: Do not credit an example of a sample, eg 30 children (under 16) / 20 adults / 10 males and 10 females.</p>
	(c)	<p>1 mark for the identification of how attention could be measured. 1 mark for elaboration showing how the measurement could work for this investigation.</p> <p>(for example 'I would measure attention by using a memory task (1), to see how many words could be remembered' (1), 'I would measure attention by getting participants to watch a television programme and asking them questions (1) to see how many questions they got right' (1) or 'I would measure attention by getting participants to watch television (1) to see how much they could remember' (1).</p>	2	<p>1 mark is awarded for what is being measured (eg using questions, counting, word searches) 1 mark is awarded for showing how it could be measured (eg the number of correct...., timings, quantity, performance, scale of measurement).</p> <p>NB: both conditions do not need to be identified here.</p>

Question	Answer	Marks	Guidance
(d)	<p>1 mark for an attempt to describe how the investigation would be done. (for example, 'I would prepare two tasks and get participants to complete them at the same time and then individually'. (1))</p> <p>2 marks for describing a reasonable feasible procedure (for example, 'I would get two groups of participants, one group would complete an activity and I would see how long it took them. The other group would complete the same activity but with the television on at the same time (1). I would then compare how quickly they could complete the activities'). (1)</p> <p>3 marks for describing in some detail within the time constraints, a feasible procedure; (for example, 'I would use an independent groups design and ask one group to complete a task so they are just paying attention to that. (1) the other group would complete the same task but with the television on so that they are paying attention to two things at once (1), I would then see how quickly each group completed the task to see whether people do have more trouble paying attention to two things at the same time).' (1)</p>	3	<p>Refer back to 12 (b) and 12(c) BEFORE marking this question to check for repetition. No marks can be awarded for: identification of the target population, a repeat of the answer in 12(c) or how the data will be analysed (as this is assessed in 12 (g).</p> <p>Credit any features of the design not already asked for in the other questions. For example:</p> <ul style="list-style-type: none"> Sampling technique Details of the sample Experimental design Details of controls Ethical guidelines followed <p>Any details of the procedure not credited elsewhere in section B (eg identification / description of the tasks).</p> <p>As identified for full marks – there must be a control group/task (ie recognising there must be two conditions).</p> <p>Context can be set in 12(c).</p> <p>If the answer reads like a list cap at 2 marks An answer that is not contextualised to the nature of the investigation in any way is capped at 1 mark.</p> <p>The focus to this question is HOW not why. No marks can be awarded for justifications or definitions (of experimental designs for example).</p>

Question		Answer	Marks	Guidance
	(e)	<p>1 mark for showing an understanding of the concept of demand characteristics.</p> <p>1 mark for showing how the demand characteristic would affect their investigation.</p> <p>1 mark for contextualising the response.</p> <p>For example 'in this study the participants may guess the nature of the investigation (1) when they are asked to do one task then two together(1). They may then do purposely worse in the second task to help the researcher out. (1)</p>	3	<p>Referral to 'tasks' counts as contextualisation.</p> <p>If the candidate suggests a change to the participant's behaviour / participant acts unnaturally, due to the presence of an observer / because they know they are being investigated / mood and not because of cues from the environment, no marks because the unnatural behaviour is linked incorrectly.</p>
	(f)	<p>1 mark for the identification of a weakness of using an experiment.</p> <p>Most likely answers will refer to: lack of ecological validity, demand characteristics, ethics.</p> <p>1 mark for placing the weakness in context of this study/explaining why it is a weakness with reference to this investigation.</p> <p>For example 'one weakness of experiments is they lack ecological validity (1) and so the tasks the participants are doing may not be very true to life', (1) or 'one weakness of experiments is that demand characteristics can occur (1) so participants may guess they aim and be better at paying attention to one thing on purpose'. (1)</p>	2	<p>Generic weaknesses of experiments, not contextualised can be awarded 1 mark.</p> <p>Contextualisation does not have to be explicit but should not contradict the candidate's design of the investigation. For example; If the candidate has stated they would use a lab experiment and then says it would lack ecological validity this is credited as contextualisation.</p>
	(g)	<p>1 mark for brief answers that involve just looking for patterns / or stating the use of a graph / chart / table.</p> <p>2 marks for detailed answers that go beyond the mere identification, eg draw a graph and plot the mean scores / calculate the median and put it in a table / draw a bar chart and look for differences between the two groups.</p>	2	<p>The key to this question is how not why the data is analysed.</p> <p>Contextualisation is implicit to the question but is not required for 2 marks.</p> <p>Answers referring to drawing a scattergraph are not creditworthy.</p>

APPENDIX 1

Question No	A* - B	C - E	F - G	Max mark
1			1	1
2		1	1	2
3(a)			2	2
3(b)		1	1	2
4			1	1
5			1	1
6	1	1	1	3
7(a)	2			2
7(b)	1	1		2
8(a)			1	1
8(b)			2	2
9	2			2
10	1	1		2
11	2			2
12(a)		1	1	2
12(b)		1		1
12(c)		1	1	2
12(d)	1	1	1	3
12(e)	2	1		3
12(f)		1	1	2
12(g)		1	1	2
Total	12	12	16	40

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