GCE

Psychology

Unit **G541**: Psychological Investigations

Advanced Subsidiary GCE

Mark Scheme for June 2015

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All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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

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*Where a question asks for one thing (e.g. one strength) if a candidate provides more than one answer only credit the first response.
Where a question asks for two things (e.g. two findings) if a candidate provides more than two answers only credit the first two responses.

Question			Answer	Marks	Guidance
1	a		The design used is a repeated measures design	Max 2	-Simply saying *repeated measures design*, or just *repeated measures* is sufficient for 2 marks here
			Experimental design clearly identified	2	
			Attempt to identify the experimental design (e.g. simply saying 'repeated' or 'RMD')	1	-Reference to lab expt on its own is not creditworthy
			The candidate has not provided any creditworthy information	0	-Context is not required here -Accept 'within subjects design' -Simply describing what repeated measures design involves without *identifying* it (by name) is not creditworthy

Question			Answer	Marks	Guidance
1	b		**Strengths** could include: no influence of individual differences between participants in terms of subject variables, such as differences in ability to hear clearly, or musical preferences etc; fewer participants needed overall etc **Weaknesses** could include: order effects from having taken part in one condition prior to the other (listening to music in the light before listening to music in the dark); cannot use same stimulus material (piece of music) in each condition; increases possibility of demand characteristics (becoming aware study is about how listening to music in the dark may affect perception) etc **3 marks for strength, 3 marks for weakness**	Max 6	-Context here refers to music (and/or clarity of), dark/light, and hearing etc -Detail refers to some elaboration as to why it is a strength/weakness, or the effect of the strength/weakness -Cap at 2 marks if correct evaluation of repeated measures design but labelled (identified) as an independent measures design
			Clear and detailed outline of strength/weakness in the context of the material presented in the source material	3	
			Clear brief outline of strength/weakness, but in the context of the research outlined in the source material	**OR** clear and detailed outline of strength/weakness, but not in context of the research outlined in the source material	2	
			Attempt to describe strength/weakness, whether in context or not but lacks clarity/detail (e.g. strength/weakness identified but not *explained*)	1	
			The candidate has not provided any creditworthy information	0	

Mark Scheme

Question	Answer	Marks	Guidance
2	The dependent variable (participants' perception of the clarity of the music) was operationalized by responses on a scale 1 to 10, where 1 = not very clear and 10 = very clear. Evaluation points can be positive or negative. For example ... Positive evaluation points could include: use of a numerical scale to produce quantitative data which can be interpreted more objectively and presented clearly with descriptive statistics; scale easy to understand with verbal descriptors at each end Negative evaluation points could include: differences in how the scale is interpreted by different people (possible reliability issues); the scale does not provide qualitative data/information on the reasons why the music was perceived as clear or not etc	**Max 4**	- Context here refers to music (and/or clarity of) and hearing or sound -Reference to lights/dark is *not* context for *this* question (this relates to the IV) - maximum 2 marks for evaluation only (i.e. where there is no identification of the DV, or incorrect identification of the DV) -Labelling ends of scale ('not very clear', 'very clear') is not required for clear identification of DV (but reference to 1 to 10 is required) together with context -Any reference to participant variables (e.g. poor hearing) is not creditworthy
	Correct identification of how the dependent variable has been operationalized and clear evaluation of the way the DV has been operationalized in context	**4**	
	Correct identification of how the dependent variable has been operationalized and clear evaluation of the way the DV has been operationalized but not in context / **OR** Correct identification of how the dependent variable has been operationalized and an attempt to evaluate the way the DV has been operationalized in context, but unclear / **OR** identification of the way the dependent variable has been operationalized lacks detail/clarity but with clear evaluation in context	**3**	
	Correct identification of how the dependent variable has been operationalized and brief attempt to evaluate the way the DV has been operationalized (in context or not) / **OR** identification of the way the dependent variable has been operationalized lacks detail/clarity with clear evaluation but not in context	**2**	
	Correct identification of how the dependent variable has been operationalized / **OR** identification of the way the dependent variable has been operationalized lacks detail/clarity with brief attempt to evaluate the way the DV has been operationalized (in context or not)	**1**	
	The candidate has not provided any creditworthy information	**0**	

Question			Answer			Marks	Guidance
3	a		The mean is obtained by summing all the scores in a data set and dividing by the number of entries constituting the data set. Scores out of 10 for ratings of the clarity of music listened to in the light would be added up and divided by ten, then the scores out of 10 for ratings of the clarity of music listened to in the dark would be added up and divided by ten			Max 4	- Context here refers to music (and/or clarity of), dark/light etc
			Clear explanation of how the mean would have been calculated for both conditions in this study in context (just 3 marks if unclear for one condition)			3-4	-To be 'clear' (and in context) reference to the conditions needs to refer to light/dark as context
			Clear for one condition and in context	**OR** attempt to explain how the mean would have been calculated in this study in context, but lacks some clarity	**OR** clear, but general explanation of how the mean is calculated (no specific reference to the different conditions). No context.	2	
			Attempt to explain how the mean would have been calculated for each condition, but not in context of the information in the source material - e.g. just saying *"add up all the scores and divide by the number of scores there are"*			1	-Cap at 3 if mean is explained for one condition, but then candidate simply says *'and do the same for the other condition'*, without referring to light/dark)
			The candidate has not provided any creditworthy information			0	

Question			Answer		Marks	Guidance
3	b		The median is a more representative form of a measure of central tendency (average) when there is anomalous data, or 'outliers'. Why? – this is because any 'extreme' or 'unusual' scores that would otherwise artificially inflate or deflate the average if the mean was calculated are marginalized and do not feature in the calculation		Max 4	-Context not required, but can be used as an example to clarify/illustrate point made
			Clear explanation of the circumstances under which the median would be more appropriate **and** a clear explanation of why		4	
			Clear explanation of the circumstances under which the median would be more appropriate and an attempt to explain why	**OR** Attempt to explain the circumstances under which the median would be more appropriate and clear explanation of why	3	
			Clear explanation of the circumstances under which the median would be more appropriate	**OR** *attempt* to explain the circumstances under which the median would be more appropriate and *attempt* to explain why	2	
			Attempt to explain when the median would be more appropriate, but lacks clarity		1	
			The candidate has not provided any creditworthy information		0	

Question			Answer	Marks	Guidance
4			Accept any two findings from, for example: placing coats on the empty seat was the most common territorial marker used; sitting in the middle of the seats was the least common territorial marker used; stretching legs out across empty seat was observed three times etc **2 marks for each finding**	Max 4	-Context here refers to bus, passengers or territorial markers (categories) -The data in the table displays the total number of times each behaviour was exhibited, not the <u>number</u> of people displaying these behaviours. So any reference to <u>number</u> of people displaying the behaviours is not creditworthy.
			The candidate has stated a clear finding and this is in the context of the research outlined in the source material.	2	
			The candidate has stated a finding, but this lacks clarity, or is not in the context of the research outlined in the source material.	1	-Reference to total number of participants observed (30) is incorrect and not creditworthy
			The candidate has not provided any creditworthy information	0	-Reference to mean, median and range are not creditworthy.

Frequency of use of territorial markers by passengers on a bus journey				
Places coat on empty seat	Puts bag on empty seat	Stretches legs out across empty seat	Sits in the middle of two seats	Puts arm out across empty seat
12	8	3	2	5

Question	Answer	Marks	Guidance
5	For example, consent, confidentiality, privacy, distress, harm, the right to withdraw etc	**Max 4**	-Context here refers to bus, passengers or territorial markers (categories)
	Appropriate ethical issue described clearly in context and clear and appropriate suggestion of how it could be addressed in context	**4**	-Accept as 'way to deal with issue' changes to methodology (e.g. use of self-report), that still investigates use of territorial markers
	Appropriate ethical issue described in context and a way to address it but not in context | **OR** appropriate ethical issue described but not in context with suggestion of how to address it in context | **OR** Attempt to describe ethical issue and suggestion of how it could be addressed in context | **OR** appropriate ethical issue described in context and attempt at a way to address it	**3**	
	Description of ethical issue only (in context) | **OR** suggestion of how to address an ethical issue (in context) that has not been described | **OR** *attempt* to describe ethical issue and *attempt* to address it (in context or not) | **OR** description of ethical issue and way to address it but neither in context	**2**	
	Description of ethical issue only – not in context | **OR** way to address ethical issue only – not in context	**1**	
	The candidate has not provided any creditworthy information	**0**	

Question			Answer	Marks	Guidance
6	**a**		The sampling method used could be opportunity sampling (as it just the passengers who happen to be on the bus at the time the study takes place that are used as participants) **OR** event sampling (as categories of behaviour are recorded, which is a feature of event sampling).	**Max 2**	-Context here refers to bus, passengers or territorial markers (categories)
			Sampling method clearly named with justification of how this is known in context	**2**	
			Sampling method just named	**OR** justification of what the sampling method is without actually naming it	**OR** sampling method named and justified but not in context	**1**	
			The candidate has not provided any creditworthy information	**0**	

Note: the row "Sampling method just named / OR justification... / OR sampling method named..." spans three answer sub-columns. Represented above merged. Corrected table below:

Question			Answer	Marks	Guidance
6	**b**		Re 'opportunity sampling' Strengths could include; easy to obtain (just passengers on normal bus journey); quick; inexpensive and convenient etc Weaknesses could include: may not be representative sample; could be biased Re 'event sampling' Strengths could include: making it easier to record the behaviours (more structured); could improve inter-rater reliability; all behaviours (from the categories) get recorded each time they occur (so could increase validity) etc Weaknesses could include: only specific predetermined behaviours recorded (so may be less valid); may be problematic trying to record all the (specific) behaviours each time they occur etc **2 marks for strength, 2 marks for weakness**	**Max 4**	-Context here refers to bus, passengers or territorial markers (categories) -Reference to ethics is not creditworthy here. -If referring to event sampling the suggested strength and weakness must be specific to the use of event sampling and not the observation method in general (e.g. reference to *"natural behaviour is able to be recorded as participants are unaware they are being studied"* as a strength is not creditworthy)
			Strength / weakness clearly identified in context	**2**	
			Strength / weakness identified in general	**OR** Attempt in context	**1**	
			The candidate has not provided any creditworthy information	**0**	

Question	Answer	Marks	Guidance
7	Strengths could include: higher ecological validity as in a natural setting; overall validity could be higher as participants likely to be unaware they are being monitored so act more naturally; no restrictions on how participants behave Weaknesses could include: problems recording behaviour accurately if the bus gets busy; problems interpreting the behaviour of the passengers (e.g. confusing stretching when yawning as putting arm over next seat etc); observer bias; lack of validity if participants become aware of being monitored whilst on the bus (demand characteristics); ethical issues (e.g. invasion of privacy) etc 3 marks for strength, 3 marks for weakness	**Max 6**	-Context here refers to bus, passengers or territorial markers (categories) -Detail refers to some elaboration as to why it is a strength/weakness, or the effect of the strength/weakness -Accept as a weakness 'lack of replication of findings' However, this needs to be explained (justified) well. Lack of reproducing the same findings on its own is not a weakness per se in observation research (different people around, different environmental conditions etc can simply account for this). But if discussed as an issue related to problems checking/verifying findings, and evaluating reliability it is acceptable -Accept strengths and weaknesses related to the use of event sampling here -Accept strengths and weaknesses related to the use of participant observation here
	Clear and detailed outline of strength/weakness in the context of the material presented in the source material	**3**	
	Clear and brief outline of strength/weakness in the context of the research outlined in the source material	**OR** Clear and detailed description of strength/weakness, but not in context of the research outlined in the source material	**2**	
	Attempt to describe strength/weakness, but lacks clarity/detail whether in context or not (e.g. strength/weakness identified but not *explained*)	**1**	
	The candidate has not provided any creditworthy information	**0**	

Question			Answer		Marks	Guidance
8	a		Random sampling is where each and every member of the target (or a specific) population has an equal and independent chance of being selected as a participant.		Max 2	-It is important that candidates make clear reference to a *target , or specific* population
			Random sampling clearly explained		2	-Cap at one 1 mark if just a description of how to *obtain* a random sample
			Attempt to explain random sampling		1	
			The candidate has not provided any creditworthy information		0	-Cap at 1 mark for reference to 'general population' or just 'population'
						-No credit for evaluation of random sampling here

Question			Answer		Marks	Guidance
8	b		Accept as strengths: more representative of the target population; able to generalize the findings about helping behaviour more accurately to the target population; less bias in the selection/recruitment of participants etc		Max 3	-Context is help / helping behaviour
			Strength clearly outlined in context		3	-Detail refers to some elaboration as to why it is a strength, or the effect of the strength
			Clear and brief outline of strength in context	**OR** Clear and detailed outline of strength, but not in context	2	
			Attempt to suggest strength of random sampling (whether in context or not)		1	- If candidates refer to representativeness or generalizability as the strength they must make reference to 'target' or a specific population for full marks
			The candidate has not provided any creditworthy information		0	
						- **If** candidates refer to population (they don't have to, but *if* they do) it must state 'target' or a specific population for full marks

Question	Answer	Marks	Guidance
9	For a fully replicable description here candidates must provide details of the actual questions to be used (at least an example of the open and closed and any rating scale questions they suggest using)	Max 10	-Context is help / helping behaviour
	For 9 marks – detailed description of a procedure to investigate helping behaviour that would allow replication and clear, detailed evaluation with reference to at least **one** evaluation issue in context For 10 marks – Detailed description of a procedure to investigate helping behaviour that would allow replication and clear, detailed evaluation with reference to two or more appropriate evaluation issues in context	9-10	-For full marks reference to the who, what, where, when and how is required in order to allow full replication -Major omissions is the 'what' and 'how' 'What' refers to examples of each type of question to be used (open/closed/rating scale). However, if no examples = major omission. Where candidates refer to more than one type of question (open, closed, rating) they must give an example of *all* (otherwise = minor omission).
	Detailed description of a procedure to investigate helping behaviour that would allow full replication and clear, detailed evaluation but not in context	OR attempt to describe a procedure to investigate helping behaviour with just minor omissions that make replication difficult, but detailed evaluation in context (one in context = 7 marks, two = 8 marks)	7-8	

| | Detailed description of a procedure to investigate helping behaviour that would allow full replication, and attempt at evaluation (whether in context or not) | OR attempt to describe a procedure to investigate helping behaviour, with just minor omissions that make replication difficult, but attempt at evaluation not in context (6 marks if evaluation attempted in context, or detailed evaluation but not in context) | OR attempt to describe a procedure to investigate helping behaviour but with major omissions that make replication difficult, but with clear and detailed evaluation, in context or not = 5 marks maximum | 5-6 | If scenarios are used (as a stimulus to self report) then at least one example must be given (otherwise = minor omission).

'How' can refer to whether an interview or questionnaire, timed or not, completed anonymously etc (only one of these required) |

	Detailed description of a procedure to investigate helping behaviour that would allow full replication, but no evaluation. If only minor omissions 3 marks	OR **attempt** to describe a procedure to investigate helping behaviour but with major omissions that make replication difficult and **attempt** to evaluate it	3-4	-Minor omissions include the who, when and where. 'When' could either be a date and/or time (e.g. 10am), or duration (e.g. had 15 minutes to complete or a week to return/complete)
	Attempt to describe a procedure to investigate helping behaviour – replication not possible	OR attempt to evaluate a procedure to investigate helping behaviour that has not been described (i.e. attempted evaluation only)	1-2	-Where reference to use of other methodologies (e.g. experiment) there is no credit for description of procedure, and/or evaluation that does not include self-report at some stage
	The candidate has not provided any creditworthy information		0	

Question			Answer	Marks	Guidance
10	**a**		Any change to the use of the self-report method already presented is acceptable here. For example: changing the number and type of questions asked; changing the sample, or sampling method; changes to how and where the participants complete the self-report, use of an interview instead of questionnaire etc.	**Max 2**	-Context is help / helping behaviour
			Clear suggestion of a change to how the study could be conducted in context	**2**	-Accept changes to questions already presented in response to the previous question (e.g. asking more open, and fewer closed questions, or vice versa etc)
			Clear suggestion of a change to how the study could be conducted but not in context / **OR** attempt to suggest a change to how the study could be conducted in context or not	**1**	
			The candidate has not provided any creditworthy information	**0**	

Question			Answer	Marks	Guidance
10	**b**		Responses here will be determined by the answer the candidate provides in response to the previous question.	**Max 3**	-Context is help / helping behaviour
			Clear and detailed outline of the effect of the change in context	**3**	
			Clear but brief outline of the effect of the change in context / Clear and detailed outline of the effect but not in context	**2**	
			Attempt to outline the effect of the change whether in context or not	**1**	
			The candidate has not provided any creditworthy information	**0**	

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