

**Psychology**

Advanced Subsidiary GCE

Unit **G541**: Psychological Investigations

**Mark Scheme for June 2013**

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.















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.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

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## 1. Annotations

Annotation	Meaning
	Unclear
	Attempts evaluation
	Benefit of doubt
	Context
	Cross
	Evaluation
	Extendable horizontal line
	Extendable horizontal wavy line
	Significant amount of material which doesn't answer the question
	Not answered question
	Good use of resources
	Tick
	Development of point
	Omission mark

## Section A

Psychologists used the self-report method to investigate gambling behaviour. They placed an advert in a local newspaper asking for men and women aged 16 to 50 to apply. Those who replied were sent a questionnaire in the post consisting of a number of open and closed questions. For example:

Q. Give reasons why you gamble

Q. Which of the following gambling activities do you engage in ?:

national lottery     fruit machines     poker     horse racing     football

Question		Answer	Marks	Guidance	
1	(a)	The closed question is <i>which of the following gambling activities do you engage in</i> <input type="checkbox"/> national lottery, <input type="checkbox"/> fruit machines, <input type="checkbox"/> poker, <input type="checkbox"/> horse racing, <input type="checkbox"/> football (closed question). It is a closed question because it limits the respondents choice of answer to a number of predetermined options.	Max 2	-Simply saying 'the second question' is creditworthy for identifying which is the closed question.	
		The candidate has not provided any creditworthy information	0		
		Closed question correctly identified but no explanation of why it is closed	<b>OR</b> Explanation of what a closed question is in general		1
		Closed question correctly identified and clear explanation of why it is a closed question			2
1	(b)	For example, <i>on average, how much money do you spend on gambling each month</i> <input type="checkbox"/> £0–10, <input type="checkbox"/> £11–20, <input type="checkbox"/> £21–30 or, <input type="checkbox"/> more than £30	Max 2	-Context here refers to gambling and any gambling activity	
		The candidate has not provided any creditworthy information		0	-Examples of categories of closed responses are required
		Closed question suggested, but not in context	<b>OR</b> closed question suggested in context, but lacks clarity	1	-Where <b>numerical</b> categories overlap (e.g. 1-10, 10-20, 20-30 etc) = unclear – cap at one mark
		Closed question clearly outlined and in context		2	

Question		Answer			Marks	Guidance
2		For example, confidentiality, privacy, distress, the right to withdraw etc			Max 3	-Context here refers to gambling and any gambling activity  -Accept as creditworthy issues relating to the use of under 18-year-olds because some gambling activities are age-restricted
		The candidate has not provided any creditworthy information			0	
		Appropriate ethical issue identified but not in context	<b>OR</b> suggestion of how to address an ethical issue that has not been clearly identified		1	
		Appropriate ethical issue identified and a way to address it but not in context	<b>OR</b> suggestion of how to address an ethical issue that has not been clearly identified in context	<b>OR</b> Appropriate ethical issue identified in context, but no suggestion of how to address it	2	
		Appropriate ethical issue identified and appropriate suggestion of how it could be addressed in the context of gambling			3	

Question	Answer	Marks	Guidance
3	<p>Evaluating the reliability could include: the use of a standardized questionnaire; interpretation of closed compared to open questions; where and how the participants completed the questionnaire etc.</p> <p>Evaluating the validity could include: restricted responses from closed questions; more detailed insights available from open questions; willingness of participants to be open and honest about their gambling behaviour; the restricted sample used; the reluctance to disclose full, honest details because of embarrassment; the age of the participants inaccurate details recorded due to demand characteristics about the things the participants expect the researchers to find etc etc.</p> <p>Note – it is okay to discuss the same point related to both reliability and validity if it is made clear how it would be influential (e.g. different findings may be obtained if the questionnaire had been completed under standardized, control conditions, which affects the reliability of the findings obtained, but may lower the overall validity as participants may be less inclined to be open and honest about their gambling behaviour if completing the questionnaire in the direct presence of the researcher).</p>	Max 10	<p>-Context here refers to gambling and any gambling activity</p> <p>-Accept appropriate suggested improvements as acceptable comments about reliability and validity</p>
The candidate has not provided any creditworthy information		0	
General attempt to evaluate reliability only   <b>OR</b> General attempt to evaluate validity		1-2	
General attempt to evaluate both reliability and validity	<b>OR</b> attempt to evaluate reliability <b>or</b> validity in context	<b>OR</b> clear evaluation of either reliability <u>or</u> validity but <u>not</u> in context	3-4
Clear evaluation of reliability, <b>or</b> validity in context	<b>OR</b> clear evaluation of both reliability and validity, but not in context (if only one clear = 5 marks)	<b>OR</b> attempt to evaluate both reliability and validity in context (if only one in context = 5 marks)	5-6
Clear evaluation of reliability and attempt at evaluation of validity (just 7 marks if one in context, 8 marks if both)	<b>OR</b> Clear evaluation of validity and attempt at evaluation of reliability (just 7 marks if one in context, 8 marks if both)	<b>OR</b> clear evaluation of both reliability and validity, but only one in context	7-8
Clear evaluation of <b>both</b> reliability and validity in context.		9-10	
Note: For 10 marks all evaluation points discussed must be correctly labelled with no confusion between the two.			

Question	Answer			Marks	Guidance
4	Accept any other sampling method as an alternative, <b>besides self-selecting</b> , as already used (e.g. could suggest opportunity sampling).			Max 3	-Context here refers to any gambling activity or location  -If random sampling suggested, it must be clear what the population is to assess fully how random sampling could be used and if it is possible under such circumstances.  -Any suggestion that involves the use of self-selecting will score zero (e.g. a combination of self-selecting and random sampling techniques)
	The candidate has not provided any creditworthy information			0	
	Alternative sampling method only named	<b>OR</b> attempt to describe alternative sampling method that is not named, or named incorrectly		1	
	Alternative sampling method named and in context but not described	<b>OR</b> alternative sampling method named and described, but not in context	<b>OR</b> Attempt to describe alternative sampling method in context, but lacks clarity, or named incorrectly	2	
	Alternative sampling method named and clearly described in context			3	

## Section B

Psychologists are interested in investigating if there is a correlation between age and ability to use the internet.

Question		Answer	Marks	Guidance
5		For example ... <i>There will be a correlation between age and the ability to use the internet.</i>	Max 4	-Stating there will be a 'difference' or 'effect' should be awarded zero, regardless of what else is written  -Use of the words 'link' or 'association' should be awarded zero  -Accept one-tailed alternate hypotheses  -Null hypotheses should be awarded zero  -If both an alternate and null hypothesis are presented award zero
		The candidate has not provided any creditworthy information	0	
		The candidate has written an appropriate alternate hypothesis but has simply stated 'there will be/is a correlation'. There is no indication of either of the measured variables	1	
		<i>The candidate has written an appropriate alternate hypothesis but has simply stated 'there will be/is a correlation'. There is no indication of either of the measured variable.</i>	2	
		The candidate has written an alternate hypothesis referring to both variables, but there is a lack of clarity about one of the measured variables or both	3	
		The candidate has written a clearly stated appropriate alternate hypothesis referring to both of the measured variables	4	



Question	Answer		Marks	Guidance	
6	<p><i>Ability to use the internet could be measured in many different ways. For example: timing how long it takes participants to access a list of specific internet sites; assessing how many sites relevant to a specific topic can be found;</i></p> <p><i>Evaluation points (of this suggested way to use the internet) could include low ecological validity as people may react differently when having/wishing to use the internet for their own reason/purposes; demand characteristics as a consequence of being watched whilst using the internet etc.. However, reliability would be high if the same standard web sites had to be accessed for example.</i></p>		Max 10	<p>-Context here refers to the internet, websites or reference to a computer etc</p> <p>-Details of sample and sampling method are not required, just details of the ability to use the internet</p>	
	The candidate has not provided any creditworthy information		0	<p>-Suggestion can be simple and basic and still gain full marks if replicable (e.g. number of websites related to a specific topic accessed in a given time period etc).</p>	
	Attempt to describe a way to measure ability to use the internet only – replication not possible	<b>OR</b> attempt to evaluate a way to measure ability to use the internet that has not been described (i.e. attempted evaluation only)	1-2		
	Detailed description of a way to measure ability to use the internet that would allow full replication, but no evaluation. If only minor omissions 3 marks	<b>OR attempt</b> to describe a way to measure ability to use the internet but with some omissions that make replication difficult and <b>attempt</b> to evaluate it		3-4	<p>-Note candidates' suggestions must generate a quantifiable figure for each participant to enable use in a correlation.</p> <p>-Nominal data, such as yes/no managed to access a specific website is not appropriate on its own for full credit.</p>
	Detailed description of a way to measure ability to use the internet that would allow full replication, and attempt at evaluation (whether in context or not)	<b>OR</b> attempt to describe a way to measure ability to use the internet, with just minor omissions that make replication difficult, but evaluation not in context (6 marks = evaluation attempted in context)	<b>OR</b> attempt to describe a way to measure ability to use the internet but with some omissions that make replication difficult, but with clear and detailed evaluation, in context or not = 5 marks maximum	5-6	
	Detailed description of a way to measure ability to use the internet that would allow full replication and clear, detailed evaluation but not in context	<b>OR</b> attempt to describe a way to measure ability to use the internet, with just minor omissions that make replication difficult, but detailed evaluation mainly in context		7-8	
	<p>For 9 marks – detailed description of a way to measure ability to use the internet that would allow replication and clear, detailed evaluation with reference to at least <b>one</b> evaluation issue in context</p> <p>For 10 marks – Detailed description of a way to measure ability to use the internet that would allow replication and clear, detailed evaluation with reference to two or more appropriate evaluation issues in context</p>		9-10	<p>-Lack of details on scoring = 'minor omissions'</p> <p>-'some omission' = e.g. details of actual tasks set are not specified (e.g. just saying '<i>participants had to complete a set of tasks on the internet</i>')</p>	

Question	Answer	Marks	Guidance
7	<p><b>Strengths</b> could include: provides information about patterns/trends between age and ability to use the internet that can then be investigated more experimentally if desired; can be plotted visually in a scattergraph to see relationship between age and ability to use the internet clearly; enables us to make predictions about the relationship between age and the ability to use the internet etc</p> <p><b>Weaknesses</b> could include: does not inform us about cause-and-effect (age does not necessarily affect peoples ability to use the internet); the relationship revealed can be misleading; difficulties quantifying the variables 'ability to use the internet'.</p> <p>3 marks for strength, 3 marks for weakness The candidate has not provided any creditworthy information</p>	Max 6	<p>-Context here refers to the internet, websites, age or reference to a computer etc</p> <p>-Where a candidate offers more than one strength/ weakness only credit the first response</p> <p>-Any reference to dependent variable is not creditworthy</p> <p>-Any reference to 'effect'/'affect' when referring to the strength is not creditworthy</p> <p>-Use of the words 'link' or 'association' should be awarded zero</p>
	The candidate has not provided any creditworthy information	0	
	Attempt to identify strength/weakness but lacks clarity and not in the context of the research outlined in the source material	1	
	Strength/weakness clearly identified but not in the context of the research outlined in the source material	2	
	<b>OR</b> attempt to identify strength/weakness but lacks clarity but in the context of the research outlined in the source material		
	Strength/weakness clearly identified in the context of the research outlined in the source material	3	

## Section C

A researcher conducted a study to investigate the behaviour of people who came to sit on a bench in a park one day in summer. The researcher stood out of sight behind a tree several metres away and recorded what was happening every 10 minutes for a period of 15 seconds between 10am and 2pm. The table below shows the number of times different behaviours were observed.

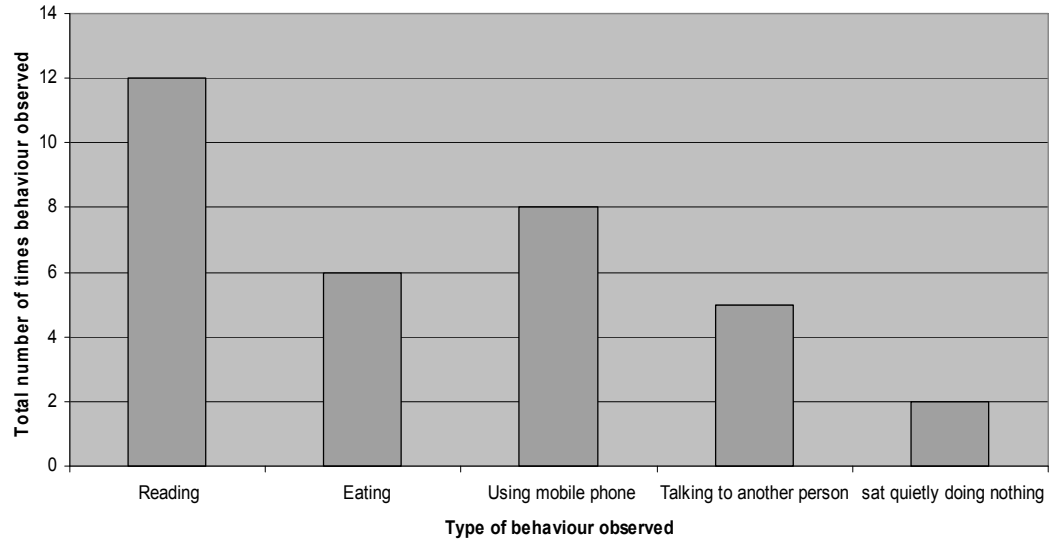
Reading	Eating	Using mobile phone	Talking to another person	Sat quietly doing nothing
12	6	8	5	2

Question	Answer	Marks	Guidance
8	<i>A structured observation is one which uses an explicitly, pre-defined coding framework for recording data that clearly outlines the behavioural categories to be used.</i>	Max 2	-Context is not necessary for full marks here, but is okay if included  -Responses about observation in general are not creditworthy (e.g. 'just watching people')
	The candidate has not provided any creditworthy information	0	
	Attempt to explain what structured observation is but lacks clarity	1	
	Clear explanation of what structured observation is	2	

Question	Answer	Marks	Guidance
8 b	<i>Strengths include: increases reliability of data recording; simplifies the data recording process; easier to establish inter-rater reliability; enables data to be recorded quickly using a tally system</i>	Max 4	-Context here refers to the park, bench and/or behavioural categories  -Points related to observation method in general, whether in context or not cap at 1 mark (e.g. ethical issues such as invasion of privacy)
	<i>Weaknesses include: constrained and somewhat reductionist in only considering behaviour in fixed, predetermined categories; can lower overall validity; too rigid – considers behaviour outside of the context in which it is happening.</i>		
	2 marks for strength, 2 marks for weakness	0	-Where a candidate offers more than one strength/weakness only credit the first response
	The candidate has not provided any creditworthy information		
Strength/weakness clearly identified but not in the context of the research outlined in the source material	OR attempt to identify strength/weakness in context, but lacks clarity		
Strength/weakness clearly identified in the context of the research outlined in the source material		2	

Question		Answer	Marks	Guidance
9	a	<i>Time sampling involves making observations of peoples behaviour for set lengths of time at set intervals</i>	Max 2	-Context not required here (but Okay if included)
		The candidate has not provided any creditworthy information	0	
		Attempt to explain what time sampling is	1	
		Clear explanation of what time sampling is	2	

Question		Answer	Marks	Guidance
9	b	<i>Strengths include: Can be more representative of behaviour over a certain length of time; can be more reliable as only short periods of behaviour are being observed at specific intervals making the recording of behaviour easier.</i>	Max 4	-Context here refers to the park, bench and/or behavioural categories
		<i>Weaknesses include: might miss important, or unusual behaviour occurring outside of the schedules observation recording intervals; may lower overall validity</i>		
		2 marks for strength, 2 marks for weakness		
		The candidate has not provided any creditworthy information	0	
		General description of strength/weakness but not in the context of the research outlined in the source material	<b>OR</b> attempt to describe strength/weakness (but lacks some clarity) that is in the context of the research outlined in the source material	
Clear description of strength/weakness that is in the context of the research outlined in the source material	2			

Question	Answer	Marks	Guidance										
10 a	<p><i>A bar chart looking something like this should be produced ...</i></p> <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;"><b>A bar chart to show the behaviour of people sat on a park bench</b></p>  <p style="transform: rotate(-90deg);">Total number of times behaviour observed</p> <p style="text-align: center;">Type of behaviour observed</p> </div> <p>Table of data for reference when marking the sketch the candidate has produced</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Reading</th> <th>Eating</th> <th>Using mobile phone</th> <th>Talking to another person</th> <th>Sat quietly doing nothing</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>6</td> <td>8</td> <td>5</td> <td>2</td> </tr> </tbody> </table>	Reading	Eating	Using mobile phone	Talking to another person	Sat quietly doing nothing	12	6	8	5	2	Max 4	<p>-For full marks, it must be clear where the behaviours were recorded (e.g. in a park, or on a bench).</p> <p>-Tables are not creditworthy</p> <p>-Reference to number of people (not behaviours) is inaccurate labelling</p>
Reading	Eating	Using mobile phone	Talking to another person	Sat quietly doing nothing									
12	6	8	5	2									
	The candidate has not provided any creditworthy information	0											
	Appropriate graph, but no labelling	1											
	Appropriate graph but incomplete, inaccurate in more than one way or unclear labelling in more than one way	2											
	Appropriate graph, but a slight lack of clarity (e.g. labelling on one axis is inaccurate or unclear but OK on the other)	3											
	Appropriate graph with clear labelling on both axes	4											

Question	Answer	Marks	Guidance										
10 b	<p><i>Findings could include: most popular behaviour whilst sitting on a park bench was reading; the least common behaviour was sitting quietly doing nothing.</i></p> <p><i>Note: the data collected is the total number of occurrences of the different categories of observed behaviour, and not the total number of people engaging in such behaviours (e.g. the same person could have been observed reading on a number of different occasions).</i></p> <p>2 marks for each finding</p> <p>Table of data for reference when marking the findings presented by the candidates</p> <table border="1"> <thead> <tr> <th>Reading</th> <th>Eating</th> <th>Using mobile phone</th> <th>Talking to another person</th> <th>Sat quietly doing nothing</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>6</td> <td>8</td> <td>5</td> <td>2</td> </tr> </tbody> </table>	Reading	Eating	Using mobile phone	Talking to another person	Sat quietly doing nothing	12	6	8	5	2	Max 4	<p>-Context here refers to the park, bench and/or behavioural categories</p> <p>-Certain descriptive statistics such as the mean, median and range are inappropriate for this data and should not receive credit. However, the mode is appropriate and is creditworthy.</p> <p>-Reference to people, rather than number of behaviours recorded is incorrect and should be awarded zero</p>
Reading	Eating	Using mobile phone	Talking to another person	Sat quietly doing nothing									
12	6	8	5	2									
	The candidate has not provided any creditworthy information	0											
	The candidate has identified a finding, but this lacks clarity, or is not in the context of the research outlined in the source material.	1	-Where a candidate offers more than two findings only credit the first two responses										
	The candidate has clearly identified a finding and this is in the context of the research outlined in the source material.	2	-Total number of behaviours observed = 33										

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