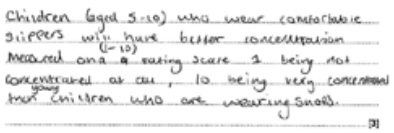
Mark scheme

Question			Answer/Indicative content	Marks	Guidance
1			D		task
			Total	**1**	
2			**Write a one-tailed alternative hypothesis for this study.** For example ... Children will have better concentration (measured by spot the difference puzzle out of 20) when wearing slippers compared to wearing shoes. Correctly cited one-tailed alternative hypothesis with both variables operationalised. Correctly cited one-tailed alternative hypothesis with reference to both variables, but only one operationalised. Correctly cited one-tailed alternative hypothesis with reference to both variables, but neither operationalised. The candidate has not provided any creditworthy information.	Max 3 3 2 1 0	Context = concentration, slippers, shoes, learning, primary school children etc. Tail can be in either direction (predicting ***better*** concentration when wearing slippers, or predicting ***worse*** concentration when wearing slippers) Zero marks for two-tailed, null or correlational hypotheses. Can be written in future or present tense. Use of the word 'significant' is not necessary for full marks. For full marks both the variables must be operationalised. IV - both levels/conditions must be given (slippers vs shoes) DV - need to specify how concentration will be measured, e.g. spot the difference puzzle score/spot the difference score out of 20. 'Level of concentration' is **not** operationalised. **Examiner's Comments** Overall, this question was answered well. Good responses provided a one-tailed hypothesis with clearly operationalised both variables (e.g. independent variable being slippers vs shoes and dependent variable being concentration measured by spot the difference puzzle out of 20 (or similar)). A large proportion of candidates did not fully operationalise the variable of

					concentration which prevented them from gaining 3 marks. Those who did not get any marks wrote a correlational or two-tailed hypothesis. Some candidates wrote a two-tailed hypothesis then a one-tailed, however the first answer can only be taken. The end of the first response was defined using a full stop for their statement. Exemplar 1  Exemplar 1 shows a full mark response with fully operationalised IV and DV.
			Total	**3**	
3	a		**Suggest one open question you could use to obtain some additional information for this study.** Accept any appropriate open question (e.g. How did you feel when completing your work whilst wearing slippers?) Clear suggestion of an appropriate open question in context. Attempt to suggest appropriate open question in context. Attempt to suggest appropriate open question not in context. The candidate has not provided any creditworthy information	Max 3 3 2 1 0	Context = concentration, slippers, shoes, learning, primary school children etc. Context can be only credited <u>within</u> the question. Context can be from the Q20 (study design). Example 2 mark (attempt in context) = Ask the pupils to discuss comfortable footwear when learning. Example 1 mark (open question not in context) = How do you feel today? **NB: Only first response is marked.** **<u>Examiner's Comments</u>** This question was answered very well and was contextualised - the majority of candidates achieved full marks. A common occurrence was that many candidates explained why the question was chosen, however marks were only awarded for the question itself. Candidates must be mindful of the command words to make the most of their examination time.

<table>
<tr>
<td></td>
<td>b</td>
<td></td>
<td>Outline one strength of the use of open questions in this study.

<table>
<tr><td colspan="2">Likely answers: more detail acquired; allows elaboration on responses, could lead to useful applications in education due to greater understanding etc.</td></tr>
<tr><td colspan="2">Clear outline of strength in context.</td></tr>
<tr><td>Clear outline of strength but not in context.</td><td>OR attempted outline of strength in context.</td></tr>
<tr><td colspan="2">Identification of or attempt to outline strength (whether in context or not).</td></tr>
<tr><td colspan="2">The candidate has not provided any creditworthy information.</td></tr>
</table></td>
<td>Max 3
3
2
1
0</td>
<td>Context = concentration, slippers, shoes, learning, primary school children etc.

Context can be from the question that they ask in 21(a) unless their question has achieved 1 mark as open but not in context.

No credit for just identifying that it is qualitative data (with no indication of why this is a strength or what the strength is).

NB: Only first response is marked.

<u>Examiner’s Comments</u>

The majority of candidates achieved full marks and showed confidence in the strengths of using qualitative data in research, referring to gaining rich detail, insight or depth from responses. Responses that did not score well either did not include context or did not fully explain why detail is a strength for this data.

Assessment for learning

Questions requiring candidates to outline one strength and/or weakness tend to be answered well if they follow a point, explain, context structure.</td>
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<tr>
<td></td><td></td><td></td><td>Total</td><td>6</td><td></td>
</tr>
<tr>
<td>4</td><td></td><td></td><td>This study used an independent measures design. Identify one strength and one weakness of this design.

<u>Strengths include:</u>

• No order effects.
• Can keep the learning material (words) the same in each condition.
• <u>Less chance</u> of demand characteristics</td>
<td>Max 2
[1 + 1]</td>
<td>Do not credit ‘eradicates/eliminates/rules out demand characteristics’ as a strength.

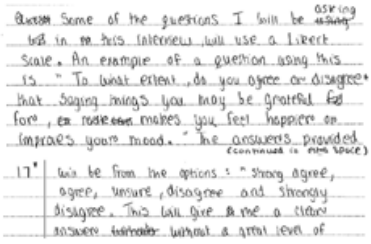
NB: Only first strength and first weakness are marked.

<u>Examiner’s Comments</u>

This was very well answered. Context was not necessary but was included by a number of candidates.</td>
</tr>
</table>

			Weaknesses include: • Participant variables, i.e. individual differences in memory may have influenced the findings irrespective of learning condition. • More participants needed for the study. Accept any other appropriate strengths or weaknesses. 1 mark for each identified strength and weakness		
			Total	**2**	
5			D		quasi experiment
			Total	**1**	
6			**D**	1	All of the above **Examiner's Comments** Most answered correctly.
			Total	**1**	
7			**A**	1	Through local child or general practitioner clinics **Examiner's Comments** Most answered correctly.
			Total	**1**	
8			**B**	1	Every 5 seconds for 20 minutes **Examiner's Comments** Most answered incorrectly. Of those who did answer incorrectly, the majority chose option A.
			Total	**1**	
9			**Write a one-tailed alternative hypothesis for this study.** 3 marks are awarded for correctly citing an appropriate alternative hypothesis for this study with increasing level of detail in terms of reference to the variables studied. **Example:** There will be a significant positive correlation between	Max 3 3 2 1 0	Can be written in future or present tense. Use of the word 'significant' is not necessary for full marks. Award zero for a null hypothesis. For full marks both the variables must be operationalised. Zero marks if cited as two-tailed

			the number of things people feel grateful for and mental health on a scale of 1-10 (1=poor mental health, 10 = good mental health). There will be a significant increase in mental health on a scale of 1-10 (1=poor mental health, 10 = good mental health), when people write down five or more things that they are grateful for. Correctly cited one-tailed alternative hypothesis with both variables operationalised Correctly cited one-tailed alternative hypothesis with reference to both variables, but only one operationalised Correctly cited one-tailed alternative hypothesis with reference to both variables, but neither operationalised The candidate has not provided any creditworthy information		(must be one-tailed. This may be phrased as an experimental or correlational hypothesis, depending on how the variables are operationalised. **Examiner's Comments** Many candidates were able to identify a one-tailed hypothesis however they often did not get full marks due to not operationalising the variables within the hypothesis. A large number of candidates wrote a two-tailed hypothesis, and some wrote a correlational hypothesis; these candidates were given zero marks.
			Explain how you would use the self-report method to investigate what kind of things make people feel grateful and if this helps improve their mental health. Justify your decisions as part of your explanation. You must refer to: • the use of a structured interview • one question that uses a Likert scale • the sampling method you would use to collect participants. You should use your own experience of practical activities to inform your response.		
			Total	**3**	
10			<table><tr><th>Level of response</th><th>Details of required features (RFs) included</th><th>Justification of decisions made</th><th>Reference to own practical work</th></tr><tr><td>**Good** 10-12 marks</td><td>**All 3** required features addressed. Accurate and detailed knowledge and understanding of each feature in</td><td>**Appropriate justification** of all decisions and *some* is contextualised. Well-developed line of reasoning that is clear</td><td>**Explicit** reference to own practical work and clear links between own work and the planned research</td></tr></table>	Max 12	Context = mental health, grateful, feelings, etc. **Examiner's Comments** There was a variety of responses to this question, although a significant minority of candidates achieved the marks in the highest band. The best responses were characterised by taking each of the three required features (RF) in turn. Firstly, candidates demonstrated knowledge of the feature itself and an understanding of what was involved in terms of addressing it for the research presented.

				context. **Good** evidence of **application** of required features in context.	and logically structured.	for each required feature. E.g. specific mention of aim or procedural features. For top band (good) 10 marks if just one RF linked, 11 marks if two and 12 if all three. If there is no explicit clear link between own practical work and any of the 3 required features caps the mark at 9 maximum.	They would then justify the decision made regarding how to address it before finally drawing on their own experiences of conducting research and explicitly outlining how this informed the planned study presented. All three of the required features (RF) needed to be discussed in context to obtain marks in the highest band. Most candidates achieved marks within the limited band due to a lack of detail in their responses, context or justification. Some candidates wrote more about their own practical activity than they did about the explanation of the study they had planned based on the stem. RF1: Most candidates simply defined a structured interview and their explanation did not go beyond this. Some candidates were able to suggest a question that might be asked. Those who understood the structured interview were able to effectively address how this could be done to gain the highest marks. RF2: Most candidates were able to suggest a Likert scale but often didn't elaborate on what the scale would be. Some candidates confused a Likert scale with a standard rating scale or a semantic differential scale. RF3: This was the better answered required feature with most candidates choosing opportunity sampling and suggesting how they could carry out this sampling method. Exemplar 1 
				Reasonable 7-9 marks	**All 3** required features addressed. Reasonably accurate and detailed knowledge and understanding of each feature. At least **two** applications of required features in context.	**Some** appropriate **justification** of decision related to all three required features (7 marks if only two required features justified). There was a line of reasoning evident with some structure.	
					If two required features are addressed in detail and justified in context and explicit links made to own practical work award 8 marks.		
				Limited 4-6 marks	**Two** of the required features addressed. **Limited application** of required features.	**Attempt** to justify decision(s) but weak. Evidence of some structure, but weak.	
					OR all required features referred to but in a limited way.		
					If one required feature addressed in detail and justified in context and explicit links made to own practical work award 4 marks.		

			Basic 1-3 marks	**One** of the required features addressed. **Weak application** of required features. **OR** more than one of the required features referred to but in a very brief and/or basic way.	**None**, or if present very weak.	

RF		Details of RF
1	Use of a structured interview.	• **Good** – A clear understanding of a structured interview with a clear and detailed overview of how the interview will be conducted – this could contain some procedural details • **Reasonable** – A clear understanding of a structured interview with an overview of how the interview will be conducted • **Limited** – An attempt at defining a structured interview with an indication that there are pre-determined questions with an attempted overview of how the interview will be conducted • **Basic** – An attempt at defining a structured interview - maybe some confusion about understanding of what a structured interview is
2	One question that uses a Likert scale.	• **Good** – A clear question with a scale including all options relevant to a Likert scale

Exemplar 1 shows an extract from a Level 4 candidate answer to RF2 (Likert scale) which is accurate, clear and in context. This candidate has demonstrated knowledge of the options participants are given in a Likert scale question.

Assessment for learning

Candidates often refer to their questionnaire that they have conducted as a form of practical for the self-report method. Candidates should be encouraged to conduct a practical using the interview technique so they are clear on the difference between a structured/semi structured/unstructured interview and are aware of how data is collected.

				• **Reasonable** – A clear question with a Likert scale but some options within the scale may be missing • **Limited** – A Likert scale identified and defined • **Basic** – Some confusion regarding different rating scales	
			3 The sampling method you would use to collect participants.	• **Good** – Identified sampling method, possibly defined and clearly explained how this has been carried out in their study. This should include how the sampling method has been enacted/some procedural details • **Reasonable** – Identified sampling method, possibly defined and attempted to explain how this has been carried out in their study • **Limited** – Identified sampling method and defined • **Basic** – Just identified sampling technique or confuses sampling methods	
			Total	**12**	
11			**Suggest <u>one</u> open question you could use in this study.** **<u>Example open questions:</u>** *Describe the things that make you feel grateful.* *Why do you think your mental health is sometimes poor?* *Explain why your mood is sometimes low.* Open question in context Open question, but not in context OR attempt to suggest open question in context The candidate has not provided any creditworthy information	Max 2 2 1 0	Context = mental health, grateful, feelings, etc. If any response categories are explicitly given, or implied in the question, then award zero. Doesn't need a question mark. **<u>Examiner's Comments</u>** Most candidates achieved 2 marks on this question. For those who achieved 1 mark this was usually due to no context.
			Total	**2**	

<table>
<tr>
<td>12</td>
<td>a</td>
<td></td>
<td>
Outline <u>one</u> strength of the use of open questions in this study.
<table>
<tr><td><u>Answers could include:</u>
• Can obtain more rich, detailed information regarding what people are grateful for and how/why it influences their mental health and well-being.
• Responses are unrestricted about what people are grateful for and can give a more accurate answer about how it influences their mental health and well-being.</td></tr>
<tr><td>Clear outline of strength in context</td></tr>
<tr><td>Attempt to outline strength in context OR Clear outline of strength but not in context</td></tr>
<tr><td>Brief and/or weak attempt to outline strength (whether in context or not)</td></tr>
<tr><td>The candidate has not provided any creditworthy information</td></tr>
</table>
</td>
<td>Max 3
3
2
1
0</td>
<td>Context = mental health, grateful, feelings, etc.

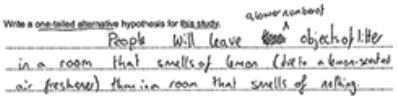
<u>Examiner’s Comments</u>

Many participants gained full marks for this question. There was a large number who gained 2 marks for mixed reasons: first, candidates sometimes miss out context; second, candidates are sometimes unable to elaborate on their evaluation for the final mark.</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td></td>
<td>
Outline <u>one</u> weakness of the use of open questions in this study.
<table>
<tr><td><u>Answers could include:</u>
• Difficult to analyse what people are grateful for and how it influences their mental health and well-being, therefore answers are difficult to compare.
• Some people may not be able to express themselves well regarding what they are grateful for and how it influences their mental health and well-being, therefore answers may lack validity.</td></tr>
<tr><td>Clear outline of weakness in context</td></tr>
<tr><td>Attempt to outline weakness in context OR Clear outline of weakness but not in context</td></tr>
<tr><td>Brief and/or weak attempt to outline weakness (whether in context or not)</td></tr>
<tr><td>The candidate has not provided any creditworthy information</td></tr>
</table>
</td>
<td>Max 3
3
2
1
0</td>
<td>Context = mental health, grateful, feelings, etc.

<u>Examiner’s Comments</u>

A similar number of candidates achieved 2 or 3 marks on this question. For those that achieved 2 marks this was often due to no context or no elaboration in their answer.</td>
</tr>
<tr>
<td></td><td></td><td></td><td>Total</td><td>6</td><td></td>
</tr>
<tr>
<td>13</td><td></td><td></td><td>D</td><td>1</td><td>Snowball sampling</td>
</tr>
</table>

					Examiner's Comments Nearly all answered this correctly.
			Total	**1**	
14			**B**	1	Null hypothesis **Examiner's Comments** Nearly all answered this correctly.
			Total	**1**	
15			A		creative **Examiner's Comments** The majority of candidates responded well to this question. Incorrect responses were varied.
			Total	**1**	
16			For example: There will be less pieces of litter left in a room (waste paper, food packets etc) when the room smells of lemons compared to a room that smells of nothing. Correctly cited one-tailed alternative hypothesis with both variables operationalised - 3 Correctly cited one-tailed alternative hypothesis with reference to both variables, but only one operationalised - 2 Correctly cited one-tailed alternative hypothesis with reference to both variables, but neither operationalised - 1 The candidate has not provided any creditworthy information - 0	Max 3	Context = aroma, smell, scent, fragrance, litter, any example of litter (e.g. wrappers, rubbish), cleanliness etc Can be written in future or present tense. Use of the word 'significant' is not necessary for full marks. Award zero if a *two-tailed* hypothesis or *null* hypothesis. Award zero if correlational hypothesis For full marks both the variables must be operationalised: IV – both levels/conditions must be given (e.g. smell of lemons, no lemon smell/smells of nothing). Credit description of the smell using other words such as odour, aroma etc DV – need to specify how amount of litter will be measured (e.g. number of pieces/items of litter, weight of litter, etc) 'Amount of litter' is **not** operationalised. **Explain how you would conduct a study using the laboratory experimental method to**

					investigate if there is a difference in the amount of litter left in a room filled with the smell of lemons compared to a room that has no smell. Justify your decisions as part of your explanation. **You must refer to:** **-the sampling technique used to obtain participants for the study** **-how you would operationalise the dependent variable to obtain quantitative data** **-details of how one ethical consideration would be addressed** **-the control of one extraneous variable** **You should use your own experience of practical activities to inform your response.** **<u>Examiner's Comments</u>** Good responses provided a one-tailed hypothesis with clearly operationalised both variables (e.g. independent variable: smell of lemons/no smell and dependent variable which specified how the amount of litter would be measured e.g. number of items of litter/weight of litter). The vast majority of responses operationalised the independent variable but it was common for responses to not operationalise the dependent variable and state 'amount of litter'. The majority of candidates provided either a two-tailed, correlational or null hypothesis which resulted in no marks being given. Exemplar 1  Write a one-tailed alternative hypothesis for this study. People will leave a lower number of objects of litter in a room that smells of lemon (due to a lemon-scented air freshener) than in room that smells of nothing. Exemplar 1 is an example of a full mark response with both variables clearly operationalised.

<table>
<tr><td></td><td></td><td></td><td>Total</td><td>3</td><td></td></tr>
<tr><td>17</td><td></td><td></td><td>What you are being driven by is the left-hand column of the grid (‘details of the required features (RFs)’. That is always your starting point and ‘locator’ for the appropriate mark band before considering the other two columns (‘justification of decisions made’ and ‘reference to own practical work’).

<table>
<tr><th>Level of response</th><th>Details of required features (RFs) included</th><th>Justification of decisions made</th><th>Reference to own practical work</th></tr>
<tr><td>Good
12-15 marks</td><td>All 4 required features (RFs) addressed in context

Accurate and detailed knowledge and understanding of each feature in context

Good evidence of application of required features in context</td><td>Appropriate justification of all decisions and some is contextualised

Well-developed line of reasoning that is clear and logically structured</td><td rowspan="2">Explicit reference to own practical work and clear links between own work and the planned research for each required feature.
e.g. specific mention of aim or procedural features For top band (good) 12 marks if just one RF explicitly linked, 13 marks if two, 14 marks if three and 15 if all four are linked explicitly.
If there is no explicit clear link between own practical work and any of the 4 required features caps</td></tr>
<tr><td>Reasonable
8-11 marks</td><td>At least 3 required features in context

Reasonably accurate and detailed knowledge and understanding of each feature</td><td>Some appropriate justification of decision related to required features (if no justification in context award 8 marks)

There was a line of reasoning evident with</td></tr>
</table></td><td>Max = 15</td><td>Context = aroma, smell, scent, fragrance, litter, any example of litter (e.g. wrappers, rubbish) cleanliness etc
Annotations

RF (in the left column AND see next page for descriptors of the levels for description of the RF) L4=Good; L3=Reasonable; L2= Limited; L1= Basic

Annotate with CONT for context if RF in context. (under RF level annotation on left)

Tick for justification within the response Do not annotate the level, note the level of justification to decide on the mark given within the band

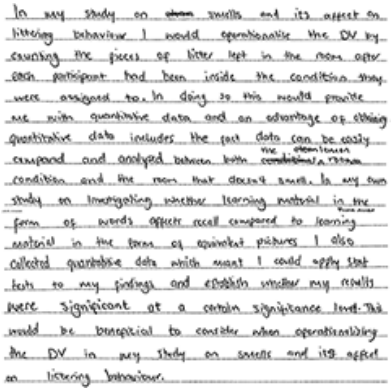
<u>Examiner’s Comments</u>

Responses varied a lot to this extended question, with the majority of candidates finding it difficult to gain the higher band marks. The best responses were characterised by taking each of the four required features in turn and writing a separate paragraph relating to each one: first, demonstrating understanding of what was involved and how to address it for the research presented; next by justifying the decisions made regarding how to address it and finally, drawing on the candidates own experiences of conducting research themselves and how they learned from this how to conduct the research presented.
All of this needed to be discussed in context to obtain marks in the highest band. It should also be noted that the candidates own experiences of conducting practical activities (especially the one using the same research method, which here was the laboratory experimental method) should be evident in their response to each required feature in terms of how this has helped inform their decision</td></tr>
</table>

				some structure	the mark at 11 maximum.		making for the planning of the current proposed research. There was also much variation in how candidates demonstrated knowledge and understanding of each of the individual required features (RFs). The best responses were characterised by first defining what the RF was/referred to (e.g. for RF1, defining the sampling method) before going on to describe exactly how the RF would be addressed in the proposed research. Often candidates did not provide enough detail. For example, in relation to RF1 just identifying the method without clearly describing how they would implement this sampling method in this research. For example, many responses did not clarify how they would end up with their final sample e.g. not stating that the first 20 volunteers were used. Some responses confused different sampling techniques, for example naming opportunity sample but then describing self-selected sampling. There were some very clear justifications in context, however, some did not use acceptable strengths of the sampling technique. For example, stating that opportunity sampling method would give a representative sample. There was great variation in the response to RF2. Better responses gave a clear outline of how the dependent variable of 'amount of litter' would be operationalised. Such as 'counting the pieces of litter left in the room on a tally chart' or 'weighing the amount of litter left in the room in grams'. Sometimes the operationalisation of dependent variable lacked when and where the collection of data would occur or where the litter came from which sometimes limited the response to the 'reasonable' rather than 'good' band for this RF. Common justifications for this RF included making comparisons, use of bar charts and doing statistical analysis. Some responses gave weaknesses
				Attempt to justify decision(s) but weak Evidence of some structure, but weak	**Maximum 11 marks (reasonable) if *clearly* done as a field experiment.** **Overall Mark Decide on band and final mark** **Look at RF first** **L4 Good** – all 4 good (L4) in context **L3 Reasonable** – min 3 reasonable (L3) in context (could be 1 good and 2 reasonable OR 2 good and 1 reasonable) **L2 Limited** – min 2 limited (L2) in context or 3-4 limited (L2) with no context **L1 Basic** – 1 basic (L1) (no context needed). **THEN look at justifications** Make judgement of which mark to give the response within the band based on the justifications **L4 Good** – at		
			Limited 4-7 marks	At least **two** of the required features addressed in context **Limited application** of required features			
				OR three or all four required features referred to but in a limited way			
				If one required feature addressed in detail and justified in context and explicit links made to own practical work award 4 marks			
			Basic 1-3 marks	At least **one** of the required features addressed **Weak application** of required features			
				OR more than one of the required features referred to but in a very brief and/or basic way	**None**, or if present very weak		

					least 2 reasonable (L3) AND at least 2 of the justifications are in context (does not have to be the reasonable ones) **L3 Reasonable** – at least 2 limited (L2) AND at least 1 of the justifications is in context (8 marks if none contextualised OR meets the minimum justification requirement). **L2 Limited** – at least 1 limited (L1) (none have to be in context) OR If one required feature addressed in detail (good) and justified in context and explicit links made to own practical work award 4 marks **L1 Basic** – no justification or basic justification		of their dependent variable which did not gain marks. Some justifications were contextualised but this was inconsistent in the responses. Candidates used a wide variety of ethical considerations in their response to RF3. Popular responses including debriefing which told the aim of the study and revealed any deceptions used as to the nature of the study, confidentiality and allowing the participants to withdraw their data. Giving informed consent was another successful response. Clear justifications contextualised the response and often referred to respect for participants or the necessity to follow the BPS guidelines. Weaker responses to this RF did not address the assessment request to address one ethical issue and often attempted to address many ethical issues. This led to less detail being given to each ethical issue raised in the response as well as difficulty in justifying any one ethical issue in detail. Some responses were in context, but this was less consistent compared to RF1 and RF2. The ethical consideration of confidentiality sometimes stated exactly how the researcher would keep the data from the participant confidential, such as using numbers in place of participants' names. However, many responses that had confidentiality as the ethical issue, often just stated they would keep it anonymous with no further explanation as to how they would do this. Some of the justifications were very brief, sometimes just stating it made the study 'more ethical'. There was a wide variety of suggestions given in responses to RF4. The best responses often detailed control of situational variables with a recognition that keeping the lemon smell/no smell in the rooms consistent for each participant was important. Popular ideas including opening windows and not allowing participants to wear any form of perfume during the study.

RF		Details of RF
1	Sampling technique	• Good – Identified the sampling method and clearly explained where

					and how this has been carried out in their study. Details of how the sampling method is enacted/procedural details e.g. how the P is contacted, is approached or gets in touch with experimenter or becomes part of the sampling pool (e.g using everyone in that location). ` • Reasonable – Identified the sampling method, possibly defined AND reasonable attempt to explain how this has been carried out in their study. • Limited – Sampling method identified and defined OR unclear attempt to explain how this has been carried out in their study. • Basic – Just identifying the sampling technique or confuses sampling methods.		Other ideas that often achieved well standardised the environment by having the layout of the rooms, location of the bins and time spent in rooms standardised among participants. There were also some good responses about participant variables with a recognition that anyone who had problems with smell or was allergic to lemons should be excluded from the study. Weaker responses often just identified the extraneous variable to be controlled or gave a very brief outline of how to control. Some responses were contextualised while others were not. Justifications were often linked to increased validity and/or reliability and some were able to give a clear explanation of why the control would lead to this improvement in the study. Better responses had specific evaluation points included. Weaker candidates justified by suggesting this would improve validity and/or reliability with no further elaboration. Links to own practical work were usually explicit with the responses outlining what they did in their study. Some candidates linked their own practical work to the choice of the RF while others just simply described what they did in their study. Many were able to further justify their choice of RF through their choices made in their own practical work. Exemplar 2 
			2	Operationalising DV	• Good – Clear details on how dependent variable will be operationalised. Outline how data is quantified and how/when the litter is counted (e.g. how weight is measured or unit of measure, comparison of amount before/after, number of pieces in the bin, tally of number of pieces of litter). • Reasonable – Reasonable details on how dependent variable will be operationalised that does lead to		

In my study on ~~them~~ smells and its affect on littering behaviour I would operationalise the DV by counting the pieces of litter left in the room after each participant had been inside the condition they were assigned to. In doing so this would provide me with quantitative data and an advantage of using quantitative data includes the fact data can be easily compared and analysed between both ~~the~~ the participants condition and the room that doesn't smell. In my own study on investigating whether learning material in the form of words affect recall compared to learning material in the form of equivalent pictures I also collected quantitative data which meant I could apply stat tests to my findings and establish whether my results were significant at a certain significance level. This would be beneficial to consider when operationalising the DV in my study on smells and its affect on littering behaviour.

					quantitative data e.g. count the number of pieces of litter/number of wrappers. May include a muddled/vague indication of where and how this has been carried out in their study. • Limited – Way DV is operationalised is quantitative and addressed in a limited/unclear way. E.g. does not indicate which litter is being counted, more than one measure indicated; Could indicate where the litter has come from and 'amount of litter left in the room'. • Basic – Vague indication of how DV would be measured (e.g. amount of litter left in the room).		
			3	One ethical consideration addressed	Integrity (deception) Respect (privacy/confidentiality/consent/right to withdraw), Responsibility (debrief/no psychological or physical harm unlikely to be creditworthy unless clear how their study could be psychologically or physically harmful), Competence (refers to the competence of the researcher e.g. get an expert in to check for sensory impairments) • Good – Identifying the ethical consideration, explaining the ethical consideration and clarity on how it can be addressed. • Reasonable – Identifying the ethical consideration and reasonable explanation of how it can be addressed. Briefly addressed but lacks clarity.		
						Exemplar 2 is an example of a candidate who has addressed RF2 reasonably and in context and provided some reasonable justification but in context and makes explicit reference to their practical work. This candidate achieved a mark in the reasonable band overall as the RFs were one good in context, two reasonable in context and one basic in context. The justifications for their response were mixed with some good and some reasonable and mainly in context.

					Limited - Limited explanation with some understanding of the ethical consideration (e.g. outline of how to address ethical consideration possibly without identifying). • Basic – Just identifies the ethical consideration. If candidate clearly does more than one consideration, credit the first one. Allow ethical considerations which are clearly connected to each other/influence each other. There may be a mislabelling of the ethical principle. Therefore, if the RF meets the requirements of the description, it can be put at this level. This RF needs to focus on the way the ethical consideration is addressed. Any information given on the reason is justification.		
			4	Control of one Extraneous variable	• Good – Clear and somewhat detailed of how EV can be controlled. • Reasonable – Reasonable outline of how EV can be controlled. • Limited – Limited/brief outline of how EV can be controlled is unclear. • Basic – Identifies how EV can be controlled or is muddled. If more than one extraneous variable, credit the first one.		
			Total			**15**	
18	a					Max 3	Context = aroma, smell, scent, fragrance, litter, any example of litter

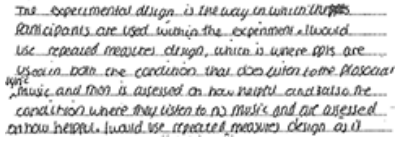
			Likely answers: no order effects e.g. practice or boredom, fewer demand characteristics as participants are unaware of the other condition and so will not adapt their behaviour, etc Clear outline of strength in context - 3 Clear outline of strength but not in context - 2 **OR** attempted outline of strength in context - 2 Brief and/or weak attempt to outline strength (whether in context or not) - 1 The candidate has not provided any creditworthy information - 0		(e.g. wrappers, rubbish) cleanliness etc For 3 marks the response needs to explain why this is a strength. Order effects and guessing the aim of the study/demand characteristics are two separate strengths. Credit the first strength. **Examiner's Comments** Common responses for this question often included reference to demand characteristics and order effects. Full mark responses focused either on reduced demand characteristics as participants only experience one condition of the independent variable in this case lemon scent or no smell or no order effects. These were clearly explained within the context of the study. They clearly showed how the issue chosen was a strength of the design. Weaker responses were often due to lack of explanation or missing context in the response. Common errors involved identifying demand characteristics as a problem but then describing order effects or vice versa. As the question states outline one strength they would only be given marks for identifying the first strength given in the response. Candidates who used the response to identify sampling issues as a strength did not gain any marks.
	b		Likely answers: problem of individual differences (participant variables), and more participants required overall etc Clear outline of weakness in context - 3 Clear outline of weakness but not in context - 2 **OR** attempted in context - 2 Brief and/or weak attempt to outline weakness (whether in context or not) - 1	Max 3	Context = aroma, smell, scent, fragrance, litter, any example of litter (e.g. wrappers, rubbish) cleanliness etc For 3 marks the response needs to explain why this is a weakness. Credit the first weakness. **Examiner's Comments**

			The candidate has not provided any creditworthy information - 0		Responses that gained marks included reference to individual differences (participant variables) or requiring a larger sample. Full mark responses often described issues with individual differences (participant variables) due to having different participants in each condition and some may be generally tidier than others or have different attitudes towards littering. Good responses that used the need for more participants were able to explain this being due to the extra time required to recruit twice as many participants as in the repeated measures design. Some were then able to extend this weakness by explaining the effect spending more time on recruiting participants could have on the study e.g. having less time to spend on designing the study itself. The majority of candidates did not explain why their point was a weakness and/or the response lacked context.
			Total	**6**	
19	a		For example – What do you think about people who drop litter? Clear suggestion in context - 2 Clear suggestion but not in context - 1 **OR** attempt in context - 1 The candidate has not provided any creditworthy information - 0	Max 2	Context = aroma, smell, scent, fragrance, litter, any example of litter (e.g. wrappers, rubbish) cleanliness etc Example 1 mark responses Ask the participants to have a discussion about litter. = Attempt in context Describe how you feel today. = Clear suggestion but not in context. **<u>Examiner's Comments</u>** The vast majority of responses were good with a clear open question that was in the context of this study. Some candidates did not contextualise their response or provided a closed question by putting answer categories into the question.
	b		Answers here are dependent upon the	Max 3	Context = aroma, smell, scent, fragrance, litter, any example of litter

			specific question the candidate has suggested in the previous question. Likely answers – Strengths – in-depth data, allows deeper understanding of participants' views/behaviour in the study, could lead to useful applications for reducing litter due to deeper understanding, etc Weaknesses – subjectivity/bias in interpretation of response, harder/more difficult to do (statistical) analysis/comparison of data, etc Clear evaluation in context - 3 Clear evaluation but not in context - 2 **OR** attempt in context - 2 Brief and/or weak attempt (whether in context or not) - 1 The candidate has not provided any creditworthy information - 0		(e.g. wrappers, rubbish) cleanliness etc Context can be from the question that they ask in 24(a) unless their question has achieved 1 mark as clear but not in context. Credit the evaluation of their question (e.g. is a leading question, uses words participants may not know etc) No credit for just identifying that it is qualitative data (with no indication of why this is a strength or what the strength is) The response can be awarded full marks with either just strengths or just weaknesses or a combination. **Examiner's Comments** The majority of responses focused on the use of an open question providing more of an insight or depth into the attitudes towards littering and the reasons why they littered: is this because of the independent variable or other factors. Some candidates referred to the subjective nature of the qualitative data, but did not always make it clear what was subjective e.g. the comparison between responses could have been subjectively interpreted. Some responses evaluated the question they used in Question 24(a) such as it being a leading question which gained marks. Better responses were able to explain these specific evaluation points made about the question they have suggested. Some responses discussed evaluation generically of the self-report method such as social desirability rather than evaluation of an open question which did not gain marks. Many responses were contextualised but this was not consistent.
			Total	**5**	

20			B	1	**Examiner's Comments** The majority of candidates responded correctly. A minority of students stated 'difference' (option A) rather than 'relationship' (option B). **Assessment for learning** Candidates could complete an activity on hypotheses at the end of the teaching of research methods where they are required to identify which hypotheses are suitable for an experiment and which are suitable for a correlation. To extend this, candidates could be required to write a hypothesis for an experiment and to write a hypothesis for a correlation. If this is done as a joint activity rather than only when teaching these methods, candidates will be able to see the difference between the two.
			Total	**1**	
21			A	1	**Examiner's Comments** The majority of candidates gave many incorrect responses to this question. Candidates should be aware that research methods knowledge of Core Studies can be assessed in the multiple choice section of this paper.
			Total	**1**	
22			B	1	**Examiner's Comments** The majority of candidates answered this correctly.
			Total	**1**	
23			For example ... (accept variations in operational decisions of IV and DV) There will not be a significant difference in prosocial behaviour (doing someone a good deed) after listening to music with prosocial lyrics (containing the word 'love') compared to music without	Max 3	-Context = music, prosocial, love, kindness, helpful etc -Can be written in future or present tense. -Use of the word 'significant' is not necessary for full marks -Award zero for citing an alternative hypothesis -Award zero if reference to

			prosocial lyrics. Any difference found will be due to chance. Correctly cited null hypothesis with both IV and DV operationalised - 3 Correctly cited null hypothesis, reference to both variables, but neither or only one variable operationalised - 2 Simply stating 'there will not be a difference' - 1 **OR** a null hypothesis with reference to just one variable - 1 The candidate has not provided any creditworthy information - 0		'relationship' or 'correlation' -For full marks both the IV and DV must be operationalised - Both levels of the IV must be included **Examiner's Comments** The majority of candidates achieved 1 mark on this question for correctly stating a null hypothesis (no difference). The minority of candidates included both conditions of the independent variable to gain higher marks. It was very rare that candidates operationalised all variables in order to achieve the maximum number of marks. Some candidates wrote a hypothesis suitable for a correlation rather than an experiment for example stating that there will be no significant relationship rather than no significant difference, therefore these candidates were not awarded any marks.
			Total	**3**	
24			**Level of response**: **Good** 10-12 marks **Details of required features (RFs) included**: -**All 3** required features addressed -Accurate and detailed knowledge and understanding of each feature in context -**Good** evidence of **application** of required **Justification of decisions made**: -**Appropriate justification** of all decisions and *some* is contextualised -Well developed line of reasoning that is clear and logically structured **Reference to own practical work**: -**Explicit** reference to own practical work and clear links between own work and the planned research for each required feature. e.g. specific	Max 12	-Context = music, prosocial, love, kindness, helpful etc **Examiner's Comments** This question gained a variety of responses, although very few candidates achieved the highest band marks. The best responses were characterised by taking each of the three required features (RF) in turn. Firstly, demonstrating knowledge of the feature itself and an understanding of what was involved in terms of addressing it for the research presented. Candidates would then justify the decision made regarding how to address it before finally drawing on their own experiences of conducting research and explicitly outlining how this informed the planned study presented. All three of the required

				features in context		mention of aim or procedural features -For top band (good) 10 marks if just one RF linked, 11 marks if two and 12 if all three -If there is no explicit clear link between own practical work and *any* of the 3 required features caps the mark at 9 maximum.	features (RF) needed to be discussed in context to obtain marks in the highest band. The majority of candidates achieved marks within the limited band due to responses lacking detail, context or justification. Some candidates wrote more about their own practical activity than they did about the explanation of the study that was being conducted based on the stem. Candidates need to perform well on the explanation and justification of the required features before marks are given for their reference to their experience of their own practical activity. RF1: Some candidates confused the use of an experimental design with the experimental method. Those who understood the experimental design and were able to effectively address how this could be done in addition to the allocation of participants to conditions gained the highest marks. RF2: Most candidates were able to operationalise the dependent variable and suggest how this would gain quantitative data. Candidates generally gave a rating scale to assess helpfulness or a task with detail on how they would measure helpfulness. RF3: This was the least well answered feature with many candidates simply stating an ethical consideration. Some candidates took their response further by defining the consideration however it was rare for candidates to give a detailed explanation on how this consideration could be addressed. Exemplar 1 
				Reasonable 7-9 marks	-**All 3** required features addressed -Reasonably accurate and detailed knowledge and understanding of each feature -At least **two** applications of required features in context	-**Some** appropriate **justification** of decision related to all three required features (7 marks if only two required features justified) -There was a line of reasoning evident with some structure	
					If two required features are addressed in detail and justified in context and explicit links made to own practical work award 8 marks		
				Limited 4-6 marks	-**Two** of the required features addressed -**Limited application** of required features	-**Attempt** to justify decision(s) but weak -Evidence of some structure, but weak	
					OR all required features referred to but in a limited way		
					If one required feature addressed in detail and justified in context and explicit links made to own practical work award 4 marks		
				Basic 1-3 marks	-**One** of the required features addressed -**Weak application** of required features	-**None**, or if present very weak	

						This exemplar demonstrates a reasonable in context response to RF1 (experimental design). For this candidate to gain a good in context response they need to explain which condition is completed first for a repeated measures design. The candidate would then go on to justify the use of using this experimental design by giving a strength in context. Before finally using knowledge of their own practical activity to inform their response.

	OR more than one of the required features referred to but in a very brief and/or basic way		

RF		Details of RF
1	Experimental Design	- Good: Design is identified and conditions labelled with how the participants would be assigned to each condition. If RMD which condition it is first/is it counter-balanced. - Reasonable: Design identified and conditions labelled and brief or somewhat muddled outline of how the participants would be assigned to each condition or demonstrates some understanding of the design. - Limited: Design identified and conditions labelled. - Basic: Design identified or described or confuses experimental designs (e.g., identified RMD and outlines IMD).
2	Operationalising DV (quantitative data)	- Good: if a rating scale is suggested - clear numerical scale with ends of rating scale labelled. Semantic differential scales can be creditworthy and are considered

				reasonable (good if the numerical scale is given or an explanation of how the data will be made ordinal). - Reasonable: rating scale given but lacks clarity (e.g., Ends of rating scale not labelled). Indicates a number of questions will be asked but does not explain how the final score for each participant will be calculated. - Limited: the way the DV is operationalised could be considered to be quantitative but not explicit. - Basic: vague indication of how DV would be measured e.g., Likert scale		
			3	One Ethical consideration	- Good: ethical consideration identified and clear details of how this will be addressed. - Reasonable: briefly addressed or lacks clarity. - Limited: identification of one ethical consideration with some understanding of the consideration. - Basic: identification of one ethical consideration	
			Total			**12**
25	a		For example ... Poster displayed in the cafe area in a large sixth form college asking for volunteers for a study investigating the influence of music on behaviour. The poster will provide an email address for those interested to reply		Max 3	-Context = music, prosocial, love, kindness, helpful etc **Examiner's Comments** Most candidates knew that a researcher would need to advertise the study in order to get volunteers.

			to, which the researcher will then use to select the first 20 people who respond Clear outline in context - 3 Clear outline but not in context - 2 **OR** attempted outline in context - 2 Brief and/or unclear outline (whether in context or not) - 1 No creditworthy response - 0		Some candidates were able to put this in context of the study. Candidates who achieved full marks on this question were clear on how participants were required to volunteer for the research. The minority of candidates confused the sampling method with opportunity sampling.
	b		Answers could include: less control over composition of sample; sample could be biased (only those who like music applying / taking part), low response rate etc Clear outline of strength in context - 3 Clear outline of strength but not in context - 2 **OR** attempted out-line of strength in context - 2 Brief and/or weak attempt to out ine strength (whether in context or not) -1 The candidate has not provided any creditworthy information - 0	Max 3	-Context = music, prosocial, love, kindness, helpful etc **Examiner's Comments** Most candidates were able to identify an appropriate weakness of self-selected sampling in context. Some candidates lost marks for not contextualising their response. For those who gained full marks they were able to identify a weakness, elaborate and explain why it was a weakness in context.
			Total	**6**	
26	a		Examples ... *How did you feel when you were listening to the music? Would you say you were generally a kind person? What type of music do you like listening to?* etc Clear sugges tion in context - 2 Clear suggestion but not in context - 1 **OR** attempted suggestion in context - 1 The candidate has not provided any creditworthy information - 0	Max 2	-Context = music, prosocial, love, kindness, helpful etc **Examiner's Comments** Most candidates answered this correctly and gained 2 marks. For the minority of candidates who lost a mark it was due to lacking context and writing a generic open question.
	b		Answers here will be predicated on the candidate's response to the previous question (20a) Possible answers could include: difficult to analyse/compare, possible misinterpretation of data. Clear outline in context - 3 Clear outline but not in context - 2 **OR** attempted outline in context - 2 Brief and/or weak outline (whether in context or not) - 1	Max 3	-Context = music, prosocial, love, kindness, helpful etc Do not credit that qualitative data <u>cannot</u> be compared - it <u>can</u> be compared just not as easily/quickly. No credit for general evaluation of self-reports. Evaluation must be specific to open questions. **Examiner's Comments** Many candidates gained 2 marks on this question with some achieving full

			The candidate has not provided any creditworthy information - 0		marks. For those who lost marks it was the lack of detail or context which penalised them. There was a large number of candidates who didn't gain marks on this question due to evaluating the self-report method in general and gave an evaluation point which could have applied to either an open or a closed question.
			Total	**5**	
27			Answer here relates to one of candidates' own practical activities Possible answers may include: detailed answers given, explains the reason 'why' Clear outline of strength in context - 3 Clear outline of strength but not in context - 2 **OR** attempted out-line of strength in context - 2 Brief and/or weak attempt to out ine strength (whether in context or not) - 1 The candidate has not provided any creditworthy information - 0	Max 3	-Context here = the theme of the candidates own chosen practical activity **Examiner's Comments** Many candidates gained 2 marks on this question with some achieving full marks. For those who lost marks it was the lack of detail or context about their own practical which penalised them.
			Total	**3**	
28			Closed question. Reason = the data is just frequency counts of the number of responses in each category of things that motorists may find annoying. The data is participants responses to fixed choice response options with no opportunity to respond in any different way. Correct question type identified and clearly justified - 2 Correct question type identified - 1 **OR** correct question type identified and unclear attempt to justify why - 1 The candidate has not provided any creditworthy information - 0	Max 2	Context is not required for full marks **Examiner's Comments** Most candidates got this answer correct and gained 2 marks. For those who only gained 1 mark, they were unable to provide an appropriate reason for it being a closed question.
			Total	**2**	
29			A	1	**Examiner's Comments** The majority of candidates responded correctly.

			Total	**1**	
30			D	1	**Examiner's Comments** Many candidates answered this correctly with some inaccurately answering C as their response.
			Total	**1**	
31			C	1	**Examiner's Comments** Most candidates answered this correctly.
			Total	**1**	
32			**Level of Response** **Good** 10–12 marks **Details of required features(RFs included)** • **All 3** required features addressed • Accurate and detailed knowledge and understanding of each feature in context • **Good** evidence of **application** of required features in context **Justification of decisions made** • **Appropriate justification** of all decisions and *some* is contextualized • Well developed line of reasoning that is clear and logically structured **Reference to own practical work** **Explicit** reference to own practical work and clear links between own work and the planned research for each required feature e.g. specific mention of aim or procedural features For top level, 10 marks if one RF linked, 11 marks if two and 12 marks if all three	Max12	Context = mental illness, psychiatric, attitudes etc **Examiner's Comments** This question gained a variety of responses, although very few candidates achieved the highest band marks. The best responses were characterised by taking each of the three required features in turn. Firstly, demonstrating knowledge of the feature itself and an understanding of what was involved in terms of addressing it for the research presented. Candidates would then justify the decision made regarding how to address it before finally drawing on their own experiences of conducting research and explicitly outlining how this informed the planned study presented. All three of the required features (RF) needed to be discussed in context to obtain marks in the highest band. See next page for further details. RF1: Many candidates confused the purpose of a semi-structured interview being about gathering both quantitative and qualitative data. Understanding of a semi-structured interview was quite poor. Those who understood that a semi-structured interview consisted of some pre-planned questions in addition to having the ability to ask spontaneous questions in response to a participants' response gained the

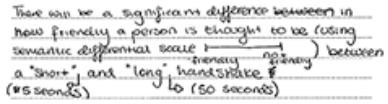
			If there is no explicit link between own practical work and any of the three required features – max 9 marks **Level of Response** **Reasonable** 7–9 marks **Details of required features(RFs included)** • **All 3** required features addressed • Reasonably accurate and detailed knowledge and understanding of each feature • At least two applications of required features in context It **two** required features are addressed in detail and justified in context and explicit links made to own practical work – award 8 marks **Justification of decisions made** • **Some** appropriate justification of decisions related to all three required features • Bottom of the band if only two required features justified • There was some line of reasoning evident with some structure **Level of Response Limited** 4–6 marks **Details of required features (RFs) included** • **Two** of the required features addressed • Limited application of required features • OR all **three** required features referred to but in a limited way If **one** required feature is addressed in detail and justified in context and explicit links made to own practical work – award 4 marks **Justification of decisions made**		highest marks. RF2: Many candidates also confused a Likert scale with other types of rating scales therefore not addressing this feature of the question. Some candidates did have correct knowledge of a Likert scale but sometimes their response was limited due to not giving an appropriate scale that could be used. Those that provided a clear contextualised example of a Likert scale with an appropriate scale gained the highest marks. RF3: Most candidates addressed this feature well. Many gave a closed question with fixed choice responses to address this feature. Candidates who displayed less understanding were likely to not give fixed choice responses therefore making it unclear how the data gathered would be quantitative. Exemplar 1  Exemplar 1 shows RF1 being addressed. Correct knowledge and understanding of the feature in context. Candidates should then justify the RF before explicitly linking it to their own practical work.

			• Attempt to justify decision(s) but weak • Evidence of some structure, but weak **Level of Response** **Basic** 1–3 marks **Details of required features (RFs) included** • **One** of the required features addressed • **Weak** application of required features OR more than one of the required features referred to but in a very brief and/or basic way **Justification of decisions made** • **None**, or if present very weak		
			Total	**12**	
33			Likely answer: To investigate people's attitudes towards mental illness **2 mark answer**: Clearly written aim, in context **1 mark answer**: Attempt to write aim, in context **0 marks**: No credit worthy information	2	Context – mental illness, psychiatric, attitudes etc **Examiner's Comments** Many candidates performed well on this question with a minority presenting a hypothesis. The key differentiation here came from some candidates not stating a fully contextualised aim clearly enough. Some made it much more complex than it needed to be.
			Total	**2**	
34	a		Population is the group of people you want to apply the findings to, whereas the sample is the people you obtain data from. **1 mark answer**: Difference between population and	1	**Examiner's Comments** This was quite poorly answered with many candidates not having a clear understanding of a population.

			sample clearly identified **0 marks**: No credit worthy information		**Misconception** Some candidates have identified a population as 'everyone from an area' but this isn't always the case. A population may refer to a particular group of people. For this question, candidates were required to demonstrate knowledge that a population is who the researcher wants to apply/generalise results to.
	b		Accept naming and describing of any appropriate sampling technique here (e.g. opportunity, self-selected or snowball) **3 mark answer**: Named and clearly described in context **2 mark answer**: Named and clearly described, but not in context OR Attempt to name and describe in context **1 mark answer**: Attempt to name and describe (whether in context or not) **0 marks**: No credit worthy information	3	Context – mental illness, psychiatric, attitudes etc If random sampling described, must clearly identify the target population and include how all members of such a group would have a chance of selection **Examiner's Comments** This question gained a range of responses. Those who achieved full marks were able to name a sampling technique, describe how they would use the technique to gain a sample and contextualise to the scenario. Many candidates named one technique but described another suggesting that candidates are confusing key concepts. Many candidates managed to gain 2 of 3 marks on this question. The lack of detail or context penalised some in terms of accessing the full marks.
			Total	**4**	
35	a		Likely answers: easier to analyse; easier to compare across participants etc **3 mark answer**: Clear outline of strength in context **2 mark answer**: Clear outline of strength but not in context OR Attempted outline of strength in context	3	Context – mental illness, psychiatric, attitudes etc **Examiner's Comments** Most candidates gained 2 or 3 marks on this question. For those who lost marks it was the lack of detail or context which penalised them.

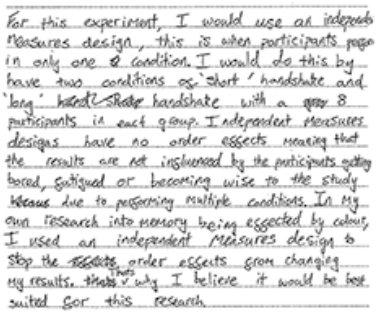
			1 mark answer: Brief and/or weak attempt to outline strength /weakness (whether in context or not) **0 marks**: No credit worthy information		
	b		Likely answers: lack of insight about reasons why people think like they do about mental illness; lack of ability to elaborate etc **3 mark answer**: Clear outline of weakness in context **2 mark answer**: Clear outline of weakness but not in context OR Attempted outline of weakness in context **1 mark answer**: Brief and/or weak attempt to outline weakness (whether in context or not) **0 marks**: No credit worthy information	3	Context – mental illness, psychiatric, attitudes etc **Examiner's Comments** Many candidates gained 2 marks on this question with some achieving full marks. For those who lost marks it was the lack of detail or context which penalised them. Candidates need to provide more information rather than 'it lacks detail'.
			Total	**6**	
36			C	1	**Examiner's Comments** Most candidates answered this correctly with some inaccurately answering A as their response.
			Total	**1**	
37			B	1	**Examiner's Comments** Some candidates inaccurately answered D to this question. **Assessment for learning** Check that candidates are clear on the difference in hypothesis writing for experiments and correlations, e.g., a correlation investigates a relationship

					whereas an experiment investigates a difference. Candidates could be given a range of research proposals using different methods and be asked to write the appropriate hypothesis.
			Total	**1**	
38			volume of grey matter in posterior B hippocampus and length of time as a taxi driver		**Examiner's Comments** Answered correctly by many candidates. Incorrect choices by candidates were varied.
			Total	**1**	
39			A Concentration		**Examiner's Comments** Answered correctly by most candidates. Some candidates chose option C incorrectly.
			Total	**1**	
40			B		semantic differential
			Total	**1**	
41			For example … There will be a significant difference in how friendly (on a scale of 1–10) a person is thought to be depending on the length of time their hand is shaken ('long' (5 secs) compared to 'short' (2 secs)) 3 marks are awarded for correctly citing an appropriate two-tailed alternative hypothesis for this study with increasing level of detail in terms of reference to the variables studied 1 mark for the stem which should predict a different including both the IV and DV, plus 2 further marks for operationalising each variable. Correctly cited two-tailed alternative hypothesis with both variables operationalised Correctly cited two-tailed alternative hypothesis with reference to both variables, but only one operationalised Correctly cited two-tailed alternative hypothesis with reference to both variables, but neither operationalised The candidate has not provided any creditworthy information	Max 3 3 2	Can be written in future or present tense. Use of the word 'significant' is not necessary for full marks. For full marks **both** the variables must be operationalised. How friendliness is measured (DV) – can be ordinal, nominal or interval data. Rating scale does not need labelling. 'Rating scale' on its own not operationalised. Length of each handshake (IV) needs to be specified e.g., 6 seconds Doesn't matter if length of handshake is not suitable e.g., 1 minute 0 marks for null, one-tailed/directional, correlational hypothesis. 0 marks if gives both directional and non- directional - When a candidate

				1 0	provides contradictory responses, then no mark should be awarded, even if one of the answers is correct. **Examiner's Comments** Good responses provided a two-tailed hypothesis with clearly operationalised rating scale, e.g. 1 being very unfriendly and 10 being very friendly. Many were able to identify times (in seconds for the handshakes-short and long). Less successful responses either operationalised one variable or neither. A significant minority of responses provided either a one-tailed, correlational or null hypothesis which were not creditworthy. Exemplar 1  There will be a significant difference between in how friendly a person is thought to be (using semantic differential scale 1 unfriendly 10 friendly) between a "short" and "long" handshake (#5 seconds) to (50 seconds) Exemplar 1 is a full mark response with both variables clearly operationalised.
			Total	**3**	
42			**Level of response** **Good** 12 – 15 marks **Details of required features (RFs) included** -**All 4** required features are good in context -Accurate and detailed knowledge and understanding of each feature in context -**Good** evidence of **application** of required features in context **Justification of decisions made** -**Appropriate justification** of all decisions with at least one that is good and *some* is contextualised	15	**Examiner's Comments** Responses varied a lot to this extended question, with many candidates finding it difficult to achieve the higher band marks. The most successful responses were characterised by taking each of the four required features in turn, writing a separate paragraph relating to each one. Firstly, demonstrating understanding of what was involved and how to address it for the research presented. Next by justifying the decisions made regarding how to address it. Finally, drawing on the candidate's own experiences of conducting research themselves and how they learned from this to conduct the research presented. All of this needed to be discussed in context to

			-Well developed line of reasoning that is clear and logically structured **Reference to own practical work** -**Explicit** reference to own practical work and clear links between own work and the planned research, e.g., specific mention of question/scales used or extraneous variables controlled. e.g., specific mention of aim or procedural features -For top band (good) 12 marks if just one RF explicitly linked, 13 marks if two, 14 marks if three and 15 if all four are linked explicitly. -If there is no explicit clear link between own practical work and *any* of the 4 required features caps the mark at 11 maximum. **Additional Guidance** RF 3- Needs to lead to data being quantitative to be addressed and measures friendliness (or something similar e.g., warmth). Context needs to be linked to the DV. Mislabeling 1–10 scale as likert scale will move the response down one level (e.g., fits the good level but has mislabeled 1–10 as likert so achieves reasonable) **Overall, Mark** 12–15 marks – 4 RFs in context and they must all be good 8–11 marks – 3 RFs in context and these three must be at least reasonable 4–7 marks – 2 RFs in context and these two must be at least limited OR 3–4 RFs which are at least limited (whether in context or not) OR 1 RF addressed in detail, justified in context and explicit links made to own practical work award 4 marks. 1–3 marks – at least 1 RF referred to (whether in context or not)		obtain marks in the highest band. It should also be noted that the candidates own experiences of conducting practical activities (especially the one using the same research method, which here was the laboratory experimental method) should be evident in their response to each required feature in terms of how this has helped inform their decision making for the planning of the current proposed research. There was also much variation in how candidates demonstrated knowledge and understanding of each of the individual required features (RFs). The most successful responses were characterised by first defining what the RF was / referred to (e.g. for RF1, defining the sampling method) before going on to describe exactly how the RF would be addressed in the proposed research. Often candidates did not provide enough detail. For example, in relation to RF1 just identifying the method without clearly describing how they would implement this sampling method in this research (for example, many candidates did not clarify how they would end up with their final sample, e.g. not stating that the first 20 volunteers were used.) RF2 was generally identified and defined by providing an outline of the two conditions and whether the participants would do one or two conditions. However, many responses did not explain how the participants would be assigned to the conditions or which condition would be first for repeated measures design. Reponses that used matched pairs design often scored lower for this RF. Most candidates were able to identify and describe an appropriate way to operationalise the variable ‘extraversion’ for RF3. Many did clearly explain how this would be done with the most popular choice

			Maximum 11 marks (reasonable) if *clearly* done as a field experiment. **Level of response** Reasonable 8–11 marks **Details of required features (RFs) included** -At least **3 required features are reasonable in context** -Reasonably accurate and detailed knowledge and understanding of each feature **Justification of decisions made** -**Some** appropriate **justification of decision** with at least one that is reasonable of related to required features (if no justification in context award 8 marks) -There was a line of reasoning evident with some structure **Level of response** **Limited** 4–7 marks **Details of required features (RFs) included** -At least **two** of the required features are limited in context -**Limited application** of required features **OR** three or all four required features referred to but in a limited way (in context or not) If 1 RF addressed in detail and justified in context with explicit links made to own practical work award 4 marks **Justification of decisions made** -**Attempt** to justify decision(s) with at least one that is limited but weak -Evidence of some structure, but weak **Level of response** Basic		being a 1–10 scale. A significant number of candidates clearly labelled the rating scale they had given. There were a significant number of candidates who did confuse the terms likert scale and semantic differential scale where they would identify one type of scale and then outline a different scale. The most common of these was identifying a likert scale and outlining a 1–10 scale. In addition, some candidates confused the independent and dependent variable and outlined the length of the handshake as the dependent variable which was not creditworthy. RF4 was also well answered with a wide range of controls with detailed justification of how they would limit the impact of extraneous variables, e.g. standardising the hand shaker's appearance/behaviour. Less successful responses often did not explain how they would enact the control and just identified what should be controlled and why. Most candidates did make explicit reference to their own practical projects throughout their response. A significant number of responses did not have context when justifying the decisions to use a particular sample, design etc. Also, many candidates wrote extensively about their own research but often did not link this to their decisions to use or not use that particular strategy in their planning of this piece of research. Some candidates wrote out a full description of the activities they had done in class first, then addressed the RF without linking the two together. Exemplar 2

			1–3 marks **Details of required features (RFs) included** -At least **one** of the required features addressed -**Weak application** of required features **OR** more than one of the required features referred to but in a very brief and/or basic way **Justification of decisions made** - **None**, or if present very weak RF 1 Sampling technique Details of RF • Good – Identified the sampling method and clearly explained how this has been carried out in their study. Details of how is the sampling method is enacted/procedural details. • Reasonable – Identified the sampling method, possibly defined and attempted to explain how this has been carried out in their study, • Limited – sampling method identified and defined, • Basic – Just identifying the sampling technique or confuses sampling methods RF 2 Experimental design Details of RF • Good – Design identified and conditions labelled with how the participants would be assigned to each condition. If RMD which condition is first/is it counter-balanced. • Reasonable – Design identified and conditions labelled and brief or somewhat muddled outline of	 For this experiment, I would use an independ measures design, this is when participants part in only one @ condition. I would do this by have two conditions of 'short' handshake and 'long' hand-shake handshake with a group 8 participants in each group. Independent measures designs have no order effects meaning that the results are not influenced by the participants getting bored, fatigued or becoming wise to the study because due to performing multiple conditions. In my own research into memory being effected by colour, I used an independent measures design to stop the order effects from changing my results, that's why I believe it would be best suited for this research. Exemplar 2 addressed RF2 reasonably and in context and provided some reasonable justification but not in context and makes explicit reference to the candidate's practical work. This candidate achieved a mark in the reasonable band overall as one of the RFs was not in context and the justification for each RF throughout their response was mixed with one limited, two reasonable and one good and sometimes not in context.

			how the participants would be assigned to each condition. • Limited – Design identified and conditions labelled. • Basic – Design identified or described or confuses experimental designs (e.g., identifies RMD and outlines IMD). RF Operationalising DV Details of RF • Good – if a rating scale is suggested - clear numerical scale with ends of rating scale labelled. Semantic differential scales can be creditworthy and are considered reasonable (good if the numerical scale is given or an explanation of how the data will be made ordinal). • Reasonable – rating scale given but lacks clarity (e.g., Ends of rating scale not labelled). Indicates a number of questions will be asked but does not explain how the final score for each participant will be calculated. • Limited – way DV is operationalised could be considered to be quantitative but not explicit. • Basic – vague indication of how DV would be measured e.g., Likert scale. RF 4 Control of one Extraneous variable Details of RF • Good – Clear and somewhat detailed of how EV can be controlled, • Reasonable – outline of how EV can be controlled, • Limited explanation of the EV is unclear,		

			• Basic – identifies how EV can be controlled or is muddled.		
			Total	**15**	
43			B random		**Examiner's Comments** Almost all candidates answered correctly for Question 6. Incorrect choices by candidates were varied.
			Total	**1**	
44	a		Clear focus on technique, i.e. identification of sampling technique, description of how this technique is used to select the participants, contextualised. Description of the features of the sample is not creditworthy on its own. **3 mark answer:** Clear outline in context **2 mark answer:** Clear outline but not in context OR Attempted outline in context **1 mark answer:** Brief and / or weak attempted outline (whether in context or not) **0 marks:** No creditworthy response	3	-Context = theme for candidates own selected practical activity OR specific location / target population of participants.
	b		Identification and elaboration of strength plus context Clear focus on technique not on features of sample **3 mark answer:** Clear outline of strength in context **2 mark answer:** Clear outline of strength but not in context OR Attempted outline of strength in context **1 mark answer:** Brief and / or weak attempt to outline strength (whether in context or not)	3	-Context = theme for candidates own selected practical activity or specific location / target population of participants.

			0 marks: No creditworthy response		
			Total	**6**	
45			B	1	
			Total	**1**	
46	a		Detailed response of sample clearly contextualised Possible answers: Age, Gender, Number, Target Population. **2 mark answer:** Clear details provided in context Possible answer: 20 participants aged 16-19 with a range of happiness levels **1 mark answer:** Clear details provided but not in context OR attempt to provide details in context Possible answer: The participants in this study on happiness should be varied in age and ethnicity. **0 marks:** No creditworthy response	2	-Context = happy, happiness, comedy, emotion etc Wide range of ages, gender, ethnicity, etc. award 1 mark.
	b		Clear outline of how sample would be recruited using the self-selected sampling technique. i.e. what researcher would do to recruit the participants, how the researcher would select participants from those who have volunteered, in context **3 mark answer:** Clear outline in context **2 mark answer:** Clear outline but not in context OR Attempted outline in context **1 mark answer:** Brief and / or weak attempt to outline how self-selected sampling could be used (whether in context or not)	3	Context = happy, happiness, comedy, emotion etc Self-selected sampling can use posters, adverts, social media, mailshot, etc.

			0 marks: No creditworthy response		
	c		Weakness identified, elaborated / explained, contextualised Answers could include: bias (e.g. only happy people respond); problems obtaining a representative sample as researcher limited in choice by type of people who respond, etc. **3 mark answer:** Clear outline in context **2 mark answer:** Clear outline but not in context OR Attempted outline in context **1 mark answer:** Brief and / or weak attempt to outline of weakness of the use of self-selected sampling (whether in context or not) **0 marks:** No creditworthy response	Max 3	Context = happy, happiness, comedy, emotion etc Not generalisable / representative without any link to self-selected sampling technique award 1 mark whether in context or not. Demand characteristics is not creditworthy.
			Total	**8**	
47			C	1	
			Total	**1**	
48		i	**Chaney et al. (2004) used a repeated measures design in their Funhaler study.** **Explain how this design was used.** Possible answer: Repeated measures was used as participants took part in both conditions of the experiment (1) first of all being assessed on the outcomes of using a standard inhaler and then being assessed on the outcomes of using the Funhaler (1).	2	**2 marks** for demonstrating knowledge of a repeated measures design and for applying this to the procedure used in the study. NB The knowledge may be implicit in the application of the study. **1 mark** for demonstrating knowledge of a repeated measures design. **0 marks** – no creditworthy response.
		ii	**Outline one strength of using a repeated measures design in this study.** Possible answer: One strength is that there are no	2	**2 marks** for demonstrating knowledge of a strength of the design and for applying this to the study. **1 mark** for demonstrating knowledge of a strength of the design either explicitly, or implicitly through

			participant variables acting as extraneous variables (1) so adherence to a particular inhaler cannot be attributed to the personality of the child or the support of the family (1)		application to the study. **0 marks** – no creditworthy response.
			Total	**4**	
49		i	**Outline the apparatus used in Moray's (1959) study into attention.** Possible answer: A (stereophonic) tape recorder (modified) with two amplifiers to give to independent outputs going into either earpiece on a pair of headphones.	2	**2 marks** for a full description of the apparatus which details the three components that allowed for dichotomous messages **1 mark** for partial and / or largely accurate description ofthe apparatus. **0 marks** – no creditworthy response
		ii	**Outline one weakness of using an experimental method in this study.** Possible weaknesses can apply to the experimental method or the laboratory experiment specifically e.g. lack of external validity, artificiality of task / setting, low construct validity, potential for demand characteristics. <u>Example of 1 mark answer</u> The method lacks ecological validity (1). <u>Example of 2 mark answer</u> The method lacked ecological validity (1) because it is unrealistic to have two messages relayed in such a controlled way (1). Experiments have low construct validity (1) as the dependent variable – in this case, the number of words correctly recognised in a message – is a very narrow measure of the process of attention (1).	2	**2 marks** for a clearly identified and relevant weakness which is appropriately applied to the study. **1 mark** for identifying a relevant ethical weakness either explicitly, or implicitly through application to the study. **0 marks** – no creditworthy response.
			Total	**4**	
50		i	**Simons and Chabris (1999) used an independent measures design in their study on attention.** **Explain how the design was used in this study.**	2	**2 marks** for demonstrating knowledge of an independent measures design and for applying this to the conditions used in the study. **1 mark** for demonstrating knowledge

			Possible answer: Participants were only allocated to one of four conditions (1) varying between whether an umbrella or gorilla used and whether this was in opaque or transparent conditions (1).		of an independent measures design either explicitly, or implicitly through application to the study. **0 marks** – no creditworthy response. *Accept reference to 4 or 16 conditions *Candidates do not need to outline all conditions of the study but they must make it clear through their answer that they understand there were different groups being compared e.g. those who saw a gorilla versus an umbrella, or those in the opaque condition versus transparent condition.
		ii	**Outline two weaknesses of using an independent measures design in this study.** Possible weaknesses: Participant variables, more participants need to be recruited compared to repeated measures. <u>Example of a 4 mark answer</u> One weakness is the number of participants that need to be recruited (1). In this study they had four conditions and had to recruit separate participants for each condition and this could mean the research takes longer to conduct (1). Another weakness is the effect of participant variables on findings (1) as the difference between conditions could be do with the cognitive abilities of individual participants rather than the different situations that had been set up (1). NB Other appropriate responses should be credited.	2 + 2	**2 marks** for each clearly identified and relevant weakness which is appropriately applied to the study. **1 mark** for identifying a relevant weakness either explicitly, or implicitly through application to the study. **0 marks** – no creditworthy response.
			Total	**6**	
51		i	**Give two features of the sample used in Bandura et al.'s (1961) study into aggression.** Features: Number: 72 children	2	**1 mark** for each feature identified with correct reference from the study. **0 marks** – no creditworthy response. Candidates can only gain credit once for one type of feature.

			Gender: 36 boys, 36 girls Age: 37-69 months (or 3-5 years) or mean 52 months Target population: from Stanford University Nursery School		
		ii	**Outline one way in which this sample was biased.** Possible answers: Cultural bias – all American Age bias – represented younger children only Socio-economic/class bias – in nursery at university <u>Example of 2 mark answer</u> It is not representative of all age groups (1) as it only focused on younger children who may be more open to the influence of role models (1).	2	**2 marks** for identifying a relevant type of bias and outlining this in the context of the study. **1 mark** for identifying a relevant type of bias either explicitly, or implicitly through application to the study. **0 marks** – no creditworthy response. Candidates do not have to specifically name the type of bias to gain the first mark but it must be made clear through their answer that they understand why the sample is unrepresentative If candidates simply provide an outline of features of the sample without commenting on why this makes the sample biased then zero marks..
			Total	**4**	
52			**Level of response** **Good** 12-15 marks **Details of required features (RFs) included** - **All 4** required features addressed - Accurate and detailed knowledge and understanding of each feature in context - **Good** evidence of **application** of required features in context **Justification of decisions made** - **Appropriate justification** of all decisions and some is contextualised - Well developed line of reasoning that	15	Context – food, meal(s), eating, plate(s), crockery etc

			is clear and logically structured **Additional guidance** **Explicit** reference to own practical work and clear links between own work and the planned research required feature e.g. specific mention of aim or procedural features from own research If there is no explicit link between own practical work and any of the four required features – max 11 marks RF1- Basic – Just identifying the sampling technique, Limited – sampling method identified and defined, Reasonable – Identified the sampling method, possibly defined and attempted to explain how this has been carried out in their study. Good – Identified the sampling method and clearly explained how this has been carried out in their study RF 2- Allow reference to design IMD/RMD as part of operationalising the IV RF 3- needs to lead to data to be at least ordinal data to be addressed. Semantic differential scales can be creditworthy and are considered reasonable (good if the numerical scale is given or an explanation of how the data will be made ordinal) weight is not context for this RF. RF 4-Integrity, Respect, Responsibility, Competence. Also allow social sensitivity. Basic – just identifies the ethical consideration, Limited - Limited explanation of the ethical consideration, Reasonable – identifying the ethical consideration/how it can be addressed, Good – Explaining the ethical consideration and clarity on how it can be addressed. **Level of responseReasonable** 8-11 marks		

			Details of required features (RFs) included - At least **3** required features addressed in context - Reasonably accurate and detailed knowledge and understanding of each feature It **two** required features are addressed in detail and justified in context and explicit links made to own practical work – award 8 marks **Justification of decisions made** - Some appropriate justification of decisions related to required features (if no justification in context – max 8 marks) - There was some line of reasoning evident with some structure **Level of responseLimited** 4-7 marks **Details of required features (RFs) included** - At least **2** of the required features addressed in context - Limited application of required features - OR **3** or **4** required features referred to but in a limited way If **one** required feature is addressed in detail and justified in context and explicit links made to own practical work – max 4 marks **Justification of decisions made**- Attempt to justify decision(s) but weak - Evidence of some structure, but weak **Level of responseBasic** 1-3 marks **Details of required features (RFs) included**- At least **1** of the required features addressed- **Weak** application of		

			required features- OR more than one of the required features referred to but in a very brief and/or basic way **Justification of decisions made** - **None**, or if present very weak		
			Total	**15**	
53	a		Likely answers: individual differences (participant variables) controlled for, fewer participants required **3 mark answer:** Clear outline of strength in context **2 mark answer:** Clear outline of strength but not in context OR Attempted outline of strength in context **1 mark answer:** Brief and/or weak attempt to outline strength (whether in context or not) **0 marks:** No credit worthy information	3	Context = food, meal(s), eating, plate(s), crockery etc
	b		Likely answers: order (or carry-over) effects a problem, increased risk of demand characteristics, fatigue **3 mark answer:** Clear description of weakness in context **2 mark answer:** Clear description of weakness but not in context OR Attempted outline of weakness in context **1 mark answer:** Brief and/or weak attempt to describe weakness (whether in context or not) **0 marks:** No credit worthy information	3	Context = food, meal(s), eating, plate(s), crockery etc
			Total	**6**	
54			C time sampling	1	

			Total	**1**	
55			D structured pairs	1	
			Total	**1**	
56			For example: Less food (number of items eaten) will be consumed from the red plate compared to the white plate. OR More food (number of items eaten) will be eaten from the white plate compared to the red plate. **3 mark answer:** Correctly cited one-tailed alternative hypothesis with both variables operationalised **2 mark answer:** Correctly cited one-tailed alternative hypothesis with reference to both variables, but only one operationalised **1 mark answer:** Correctly cited one-tailed alternative hypothesis with reference to both variables, but neither operationalised **0 marks:** No credit worthy information	3	Context = food, meal(s), eating, plate(s), crockery etc Can be written in future or present tense. Use of the word 'significant' is not necessary for full marks. For full marks both the variables must be operationalised. Award zero if a two-tailed hypothesis, null hypothesis, or reference to relationship Allow opposite one-tailed DV could be food, items of food, mass of food It needs to be clear that it is about food consumption and not being served Colours do not need to be red and white. Can be any colours
			Total	**3**	
57			**Name the experimental design used in Loftus & Palmer's study into eye witness testimony.** <u>Answer:</u> Independent measures/independent groups.	1	**1 mark** for correctly naming the design. **0 marks** – no creditworthy response e.g. independent.
			Total	**1**	
58		i	Give the sample used in Sperry's split-brain study. <u>Possible answers:</u> • 11 participants/patients	1	**1 mark** for correctly identifying at least one appropriate feature of the sample e.g. 'patients', 'undergone brain surgery'. Accept small sample rather than actual number.

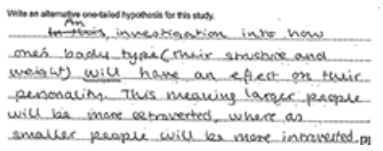
			• Participants/<u>patients</u> who had undergone brain surgery • A small sample who had split-brain undergone brain surgery/a commissurotomy to control epilepsy. Other appropriate answer.		**0 marks** – no creditworthy response
		ii	**Outline one example of sampling bias in this study.** <u>Possible answers:</u> • Had to have had brain surgery (so leads to a small sample) (1) – difficult to generalise (1) • All had experienced epilepsy (1) which may have confounded the results of the study (1) <u>Examples of a 1-mark answer:</u> The sample was small because all participants had had commissurotomies. All participants suffered from severe epilepsy. <u>Examples of a 2-mark answer:</u> The sample was small because all participants had had commissurotomies (1). It is therefore very difficult to generalise the findings (1). All participants suffered from severe epilepsy which may have influenced their brain function beyond the effects of the surgery (1), thus confounding the results (1). Other appropriate answer.	3	**2 marks** for identifying a bias in the sample and for explaining its impact in the context of this study. **1 mark** for identifying a bias in the sample with no explanation of its possible impactor for a muddled explanation/not contextualised. **0 marks** – no creditworthy response e.g. there were more men/women than women/men, it was androcenric – the study only identified that of the 11 participants, there was one woman and one man.
			Total	**3**	
59			**Level of Response** **Good** 10-12 marks **Details of required features (RFs) included** - **All 3** required features addressed - Accurate and detailed knowledge and understanding of each feature in context	Max 12	**Context = doodling, drawing, scribbling, concentration etc**

			- **Good** evidence of **application** of required features in context **Justification of decisions made** -**Appropriate justification** of all decisions and some is contextualised - Well developed line of reasoning that is clear and logically structured **Reference to own practical work** - **Explicit** reference to own practical work and clear links between own work and the planned research for each required feature e.g. specific mention of aim or procedural features - For top level, 10 marks if one RF linker, 11 marks if two and 12 marks if all three - If there is no explicit link between own practical work and any of the three required features – max 9 marks **Level of Response** **Reasonable** 7-9 marks **Details of required features (RFs) included** - All 3 required features addressed - Reasonably accurate and detailed knowledge and understanding of each feature - At least two applications of required features in context It **two** required features are addressed in detail and justified in context and explicit links made to own practical work – award 8 marks **Justification of decisions made** - Some appropriate justification of decisions related to all three required features - Bottom of the band if only two required features justified - There was some line of reasoning evident with some structure		

			Level of Response **Limited** 4–6 marks **Details of required features (RFs) included** - **Two** of the required features addressed - Limited application of required features - OR all **three** required features referred to but in a limited way If **one** required feature is addressed in detail and justified in context and explicit links made to own practical work – award 4 marks **Justification of decisions made** - Attempt to justify decision(s) but weak - Evidence of some structure, but weak **Level of Response** **Basic** 1-3 marks **Details of required features (RFs) included** - **One** of the required features addressed - **Weak** application of required features OR more than one of the required features referred to but in a very brief and/or basic way **Justification of decisions made** - **None**, or if present very weak		
			Total	**12**	
60	a		For example: Random sampling could be used by writing the name of all the 120 students in a lecture theatre at a university on slips of paper, put the slips of paper in a box, shake it up and pull out 20 slips of paper. The names of the students on these slips of paper would then be asked to participate in the study on doodling and concentration. **3 mark answer:** Clear description of how random sampling could be used, in context	Max 3	- Context – doodling, drawing, scribbling, concentration etc

			2 mark answer: Clear description of how random sampling could be used but not in context OR Attempt in context **1 mark answer:** Brief and/or unclear description of random sampling (whether in context or not) **0 marks:** No credit worthy information		
	b		Answers could include: More representative of the effect of doodling on concentration of students as all students have had an equal chance of being selected, can generalise findings about the effects of doodling on concentration better etc **3 mark answer:** Clear outline of strength in context **2 mark answer:** Clear outline of strength but not in context OR Attempted outline of strength in context **1 mark answer:** Brief and/or weak attempt to outline strength (whether in context or not) **0 marks:** No credit worthy information	Max 3	- Context – doodling, drawing, scribbling, concentration etc
			Total	**6**	
61			Answer here relates to one of the candidates own practical activities **3 mark answer:** Clear outline of strength in context **2 mark answer:** Clear outline of strength but not in context OR Attempted outline of strength in context **1 mark answer:** Brief and/or weak attempt to outline strength (whether in context or not) **0 marks:**	3	Context – the theme of the candidates own chosen practical activity

			If a sampling technique is simply named No credit worthy information		
			Total	**3**	
62			C	1	
			Total	**1**	
63			For example ... (accept variations in operational decisions of IV and DV) There will be a significant difference in the ability to concentrate (solving anagrams) when doodling (scribbling whatever liked) compared to not doodling. **3 mark answer:** Correctly cited alternative hypothesis with both IV and DV operationalised **2 mark answer:** Correctly cited alternative hypothesis with reference to both variables but neither or only one operationalised **1 mark answer:** Simply stating 'there will be a difference' **OR** An alternative hypothesis with reference to just one variable **0 marks:** No credit worthy information	Max 3	Context – doodling, drawing, scribbling, concentration etc – Can be written in future or present tense – Use of the word significant is not necessary for full marks – Award zero for citing a null alternative hypothesis – Award zero if reference to 'relationship' or 'correlation' – For full marks both the IV and DV must be operationalised
			Total	**3**	
64			A	1	
			Total	**1**	
65			B	1	
			Total	**1**	
66			For example … There will be a positive correlation between a person's weight and their level of extroversion measured on a rating scale. 3 marks are awarded for correctly citing an appropriate alternative hypothesis for this study with increasing level of detail in terms of reference to the variables studied. 1 mark for predicting	Max 3	-Context = structure/ weight, personality etc - Can be written in future or present tense. - Use of the word 'significant' is not necessary for full marks. - Award zero if reference to a difference/cause and effect. Eg Larger people will have a more extrovert personality compared to

			a positive/negative correlation plus a further 2 marks if both variables are fully operationalised.		smaller people. - Award zero if a two-tailed hypothesis is written (just stating 'there will be a correlation') - Award zero for null - For full marks both the variables must be operationalised. Not necessary to give units for weight/BMI. Must operationalise extroversion (e.g. numerical scale, self-report). - Can state positive or negative correlation will be found - Full marks can be given for a description of the positive/negative correlation. E.g. As weight increases, the level of extroversion measured on a rating scale will also increase.
			Correctly cited one-tailed alternative hypothesis with both variables operationalised	3	
			Correctly cited one-tailed alternative hypothesis with reference to both variables, but only one operationalised Unclear wording - correctly cited one-tailed alternative hypothesis with both variables operationalised	2	
			Correctly cited one-tailed alternative hypothesis with reference to both variables, but neither operationalised Unclear wording - correctly cited one-tailed alternative hypothesis with reference to both variables, but only one operationalised	1	
			The candidate has not provided any creditworthy information	0	**Examiner's Comments** Many candidates did write an appropriate alternative one-tailed hypothesis where both variables were operationalised. Most candidates operationalised body type by measuring the weight of the participants. Many candidates operationalised extroversion by measuring it in either a personality test or using a 1-10 rating scale. Common errors included writing an experimental hypothesis where smaller and larger people were compared or not operationalising the variables fully. A smaller number of candidates wrote a two-tailed hypothesis which was not creditworthy. **Exemplar 1**  21 Write an alternative one-tailed hypothesis for this study. An ~~In this~~ investigation into how ones body type (their shape and weight) will have an effect on their personality. This meaning larger people will be more extroverted, where as smaller people will be more introverted.pj Exemplar 1 is an example of a common error where the candidate

<table>
<tr><td></td><td></td><td></td><td></td><td></td><td>has written an experimental hypothesis rather than a correlational hypothesis.</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>3</td><td></td></tr>
<tr><td>67</td><td></td><td></td><td>Possible examples ...
-How would you describe your personality?
-In what way do you think weight influences your personality?
Open question clearly presented in context
Open question clearly presented, but not in context | OR attempt to present open question in context
The candidate has not provided any creditworthy information</td><td>Max 2 2 1 0</td><td>-Context = structure/ weight, personality etc Allow anything that could affect your weight or personality (e.g. exercise)

-Accept open questions related to the assessment of either variable

Credit a statement such as ‘Describe your personality’ (can lead to an open response).

<u>Examiner’s Comments</u>

Most candidates wrote an open question that was appropriately contextualised for this study. For example, many candidates asked about why they thought they were an extrovert or why they believed that there is a relationship between extraversion and body type. Some candidates did ask a general question and these received 1 mark as they were not necessarily appropriate for this study in terms of understanding the relationship between extraversion and body type through an open question. A very small minority of candidates wrote a closed question with response categories and these were not creditworthy.</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>2</td><td></td></tr>
<tr><td>68</td><td></td><td></td><td>Answers could include: easy to miss things when attempting to record all occurrences of the behaviour studied; more time consuming; does not give an indication of the time of the behaviours, etc
Clear outline of weakness in context
Clear outline of weakness but not in context | Attempt to outline weakness in context</td><td>Max 3 3 2 1 0</td><td>-Context = bin/bins, litter, steps

- do not credit weaknesses of nominal data/the type of data collected, ethics, sampling, observer bias,.

Responses can refer to the ‘use of event sampling’ in this study such as the study taking place over a long time (4 hours), not taking place over a number of days, etc</td></tr>
</table>

			Brief and/or weak attempt to outline weakness (whether in context or not) The candidate has not provided any creditworthy information		For full marks the response must engage with a feature specific to event sampling that leads to the weakness **Examiner's Comments** This question generated a variety of responses. Strong responses focused on features of event sampling in this study specifically, for example referring to the fatigue involved in observing bins for 4 hours. A number of good responses commented on how time sampling would have provided more detail in this study, for example, use of time sampling could indicate if there were a large number of people attempting to use the bins simultaneously and this would suggest that sometimes people used a bin, not because of the steps, but because that was the one available for use at that time. Common errors included giving weaknesses of carrying out an observation or a weakness of an overt observation, which were not creditworthy. Most of the responses were in context.
			Total	**3**	
69			A a technique that enables qualitative data to be recorded as quantitative	1	**Examiner's Comments** A minority of candidates were not clear on what a coding frame is. This could be avoided by promoting use of key terms and concept glossary lists.
			Total	**1**	
70			A detection of 'gorilla'	1	**Examiner's Comments** A number of candidates were unable to give correct response to this knowledge based question on operationalising a dependent c=variable in the core study. D was given wrongly as a response by quite a number of candidates.
			Total	**1**	

<table>
<tr><td>71</td><td></td><td></td><td>B self-selected</td><td>1</td><td><u>Examiner's Comments</u>

Answered correctly by 67% of candidates. Incorrect choices by candidates were varied. A number of candidates were unable to give correct response to this question, potentially due to confusion over the knowledge of different sampling techniques.</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>1</td><td></td></tr>
<tr><td>72</td><td>a</td><td></td><td>Likely answers: can provide more detail about the reasons why children have the morals that they do; allows for greater elaboration about influences on morality

Clear outline of strength in context

Attempt to outline strength in context OR Clear outline strength but not in context

Brief and/or weak attempt to outline strength (whether in context or not)

The candidate has not provided any creditworthy information</td><td>Max 3

3
2

1

0</td><td>-Context = morality, morals, good/bad, right/wrong
Qualitative on its own = 1 mark
<u>Examiner's Comments</u>

Most candidates were able to earn 1 or 2 of the marks here demonstrating some level of knowledge and understanding about the strengths of open questions. The lack of detail or context penalised some in terms of accessing the full marks. Candidates needed to go beyond "they give you more information".</td></tr>
<tr><td></td><td>b</td><td></td><td>Likely answers: can be more difficult to interpret and analyse responses about morality

Clear outline of weakness in context

Attempt to outline weakness in context OR Clear outline weakness but not in context

Brief and/or weak attempt to outline weakness (whether in context or not)

The candidate has not provided any creditworthy information</td><td>Max 3

3
2

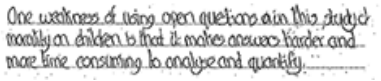
1

0</td><td>-Context = morality, morals, good/bad, right/wrong

Difficulties in making comparisons as a weakness is creditworthy.

<u>Examiner's Comments</u>

When candidates were asked for one weakness of open questions, many candidates did not offer enough detail/elaboration or were not related to the item enough to gain the full 3 marks available.

Exemplar 2
 
Exemplar 2 demonstrates a good response with enough detail and context to merit full marks.</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>6</td><td></td></tr>
</table>

73			A	1	**Examiner's Comments** Many candidates were unable to give correct response experimental question. Option C being given wrongly as response by quite a number of candidates  **Misconception** Many students were not clear on the concept of alternative hypothesis
			Total	**1**	
74			A	1	**Examiner's Comments** The least well answered question in this section probably due to less familiarity with this aspect of the Specification. D a popular wrong response. This could be avoided by promoting use of key terms and concept glossary lists.
			Total	**1**	
75			B	1	**Examiner's Comments** Answered correctly by most candidates.
			Total	**1**	
76			A	1	**Examiner's Comments** Most answered this correctly
			Total	**1**	
77			B	1	**Examiner's Comments** Most answered this correctly
			Total	**1**	
78			Something like ... *The aim was to investigate moral reasoning* ***OR*** *The aim was to find out what kind of things may influence how people decide what is right or wrong* Etc etc Clearly written aim	Max 2 2	-Context = morality, morals, good/bad, right/wrong **Examiner's Comments** Many candidates performed well on this question with few presenting hypotheses. The key differentiation

			Attempt to write aim The candidate has not provided any creditworthy information	1 0	here came from some simply not stating a fully contextualised aim clearly enough. Some made it far more complex and convoluted than it needed to be.
			Total	**2**	
79	a		Likely responses: 'young children'; primary school children Appropriate sample identified The candidate has not provided any creditworthy information	Max 1 1 0	-Context = morality, morals, good/bad, right/wrong -Accept age ranges provided -Sample size is not required but can be creditworthy as part of the response -Sample size alone (e.g. just saying '20 people') is not creditworthy -Must refer to children/childhood in some way. EG- sample may consist of parents/ teacher of young children being used to interview the children **Examiner's Comments** This was poorly answered by a minority who confused sample for sampling method (opportunity/random etc). Good responses provided a clear description of a sample appropriate for the investigation of the development of morality. Most samples were based on children but some cited parents and justified it well in next linked question (18b)
	b		Likely answer: 'Young children' as the research is aimed at investigating morality in young children and needs to obtain the thoughts and ideas of such a group. Clear justification of choice of sample in context Clear justification of choice of sample but not in context Attempt to justify choice of sample (whether in context or not) The candidate has not provided any creditworthy information	Max 3 3 2 1 0	-Context = morality, morals, good/bad, right/wrong -Must refer to children/childhood in some way. eg- justification may consist of parents/ teacher of young children being used to interview the children. **Examiner's Comments** This was well done by those who had identified their appropriate sample rather than sampling method.
			Total	**4**	

80			D	1	
			Total	**1**	
81			C	1	
			Total	**1**	
82			D	1	
			Total	**1**	
83	a		**What type of sampling technique is this?** Self-selected sampling	1	
	b		**Describe ONE strength and ONE weakness of using this sampling technique in this study.** Strengths could include: relatively easy to obtain a potentially diverse group of participants; cost effective; can include specific details of type of participants desired. Weaknesses could include: prone to (volunteer) bias; limited to those shopping in the chosen supermarket at the time. **2 marks:** Strength / weakness clearly described in context **1 mark:** Strength / weakness clearly described but not in context **OR** attempt to describe strength / weakness in context **0 marks**: No creditworthy response.	4	-2 marks for strength, 2 marks for weakness -Context = 'supermarket', 'shopping', 'memory', 'colour of words', 'green' For both the strength and weakness: • 2 x AO3 marks for analysis / evaluation of the strengths / weaknesses of the use of self-selected sampling in this study • 2 x AO2marks for the application of knowledge relating to self-selected sampling in this study
•			**Total**	**5**	
84			**Write a one-tailed alternative hypothesis for this study.** *eg* • *There will be a significant difference in the number of words correctly remembered with more words printed in green ink being remembered than those printed in black ink*	3	-Can be written in future or present tense. -Use of the word 'significant' is not necessary for full marks. 3 x AO2 marks are awarded for correctly citing an appropriate one-tailed alternative hypothesis for this study with increasing level of detail in

			• *More words presented for learning printed in green ink will be remembered than words presented in black ink.* **3 marks**: correctly cited one-tailed alternative hypothesis with both variables operationalised **2 marks**: correctly cited one-tailed alternative hypothesis with reference to both variables, but only one operationalised **1 mark**: correctly cited one-tailed alternative hypothesis with reference to both variables, but neither operationalised **0 marks**: No creditworthy response.		terms of reference to the variables studied. 1 mark for the stem, which should predict a difference plus 1 mark for the inclusion of each of the variables, plus a further mark if both variables are fully operationalised.
			Total	**3**	
85			**Evaluate the use of matched participants design if it had been used in this study**. Possible responses could include: enables individual differences to be controlled in terms of existing levels of memory; pre-testing / matching can be time consuming; deciding what to match can be problematic **Level 3: 5-6 marks:** Good evaluation demonstrating good understanding of the use of matched participants design in this study. **Level 2: 3-4 marks:** Reasonable evaluation demonstrating reasonable understanding of the use of matched participants design in this study. **Level 1: 1-2 marks:** Limited / basic evaluation, whether in context or not. **0 marks**: No creditworthy response.	6	-Context = ‘supermarket’, ‘shopping’, ‘memory’, ‘colour of words’, ‘green’ -Evaluation points can be positive or negative, good or bad Up to 2 x AO2 marks are awarded for the application of knowledge of matched participants design in this study. Up to 4 x AO3 marks are awarded for evaluation points related to the use of matched participants design in this study.
			Total	**6**	
86	a		**Psychologists want to conduct a follow-up study using the self-report**	2	-Context = ‘memory’, ‘colour of words’, ‘green’

			method to investigate other things that may influence memory. Suggest one open question that could be used in this study. eg. *Explain what kind of things case you the most problems with your memory?* **2 marks***:* Clear suggestion of an open question in context **1 mark:** Attempt to suggest an open question **0 marks**: No creditworthy response.		1 x AO1 mark for demonstrating knowledge and understanding of what an open question is. 1 x AO2 mark for the application of knowledge and understanding of what an open question is.
	b		**Suggest one closed question that could be used in this study.** eg: *Which of the following cause you problems with your memory?* *❑ dates ❑ names ❑ facts ❑ figures ❑ events* **2 marks:** Clear suggestion of a closed question in context **1 mark:** Attempt to suggest a closed question **0 marks**: No creditworthy response.	2	-Context = 'memory', 'colour of words', 'green' 1 x AO1 mark for demonstrating knowledge and understanding of what a closed question is. 1 x AO2 mark for the application of knowledge and understanding of what a closed question is.
	c		**Suggest one question using a rating scale that could be used in this study.** eg: *Indicate on a scale of 1 (not very good at all) to 10 (excellent) how good is your memory for names?* **2 marks:** Clear suggestion of a rating scale in context **1 mark:** Attempt to suggest a rating scale question **0 marks**: No creditworthy response.	2	-Context = 'memory', 'colour of words', 'green' 1 x AO1 mark for demonstrating knowledge and understanding of what a rating scale question is. 1 x AO2 mark for the application of knowledge and understanding of a rating scale question is.
			Total	**6**	
87			A	1	
			Total	**1**	
88			D	**1**	**Examiner's Comments** Responses to this question revealed that many candidates were not aware of the different specific types of rating scales that they need to know about, which made what should have been a

					relatively straightforward question much more challenging for some.
			Total	**1**	
89			Something like … *The aim was to investigate what people do on a long journey* Or, *to investigate if there are differences in the behaviour of people of different ages whilst on a long journey* Clearly written aim Attempt to write aim The candidate has not provided any creditworthy information	**Max 2** **2** **1** **0**	-Context = journey (including modes of transport – e.g. car, bus, plane, train etc), and / or any relevant related behaviours from the candidates suggested behavioural categories) -Accept answers relating to an overall aim (e.g. *to investigate what people do on a long journey*) or ones with a more specific focus (e.g. *to investigate if there are differences in the behaviour of people of different ages whilst on a long journey*) etc -For 2 marks, as a guide look for the 'what' (is being studied) and 'where' (e.g. mode of transport, such as train or car, or, just referring to a 'journey'). Example 2 mark response *To investigate if people read or text more whilst on a train*, or *To see what kind of behaviours people engage in to pass the time whilst on a journey* -Some example 1 mark responses … *To investigate boredom* *To investigate people on trains* -Cap at 1 mark if worded as a question *(e.g. will people read more on a train or use at their phones?)* **<u>Examiner's Comments</u>** Most candidates were able to state a clear aim for the study. However, some phrased what they wrote like a formal hypothesis, even with (incorrect) mention of variables at times. This highlights the importance of being able to distinguish between aims and hypotheses and recognise the types of research methodologies each is used for.

			Total	**2**	
90			A	**1**	**Examiner's Comments** Mostly correct responses for this question
			Total	**1**	
91			A	**1**	**Examiner's Comments** Mostly correct responses here, acknowledging that extraneous variables interfere with the interpretation of how the IV has effected the DV and should ideally not feature in the research.
			Total	**1**	
92			A	**1**	**Examiner's Comments** Mostly correct responses, although some confused target population with sample (the people you actually get data from), selecting option D
			Total	**1**	
93			C	**1**	
			Total	**1**	
94			C	**1**	
			Total	**1**	
95			There will not be a significant correlation / relationship between the amount of sleep (in hours or minutes) a person has and their ability to concentrate (performance in a word search puzzle) the next day. Any correlation / relationship found will be due to chance Correctly cited null with both variables operationalized Correctly cited null with reference to both variables, but only one operationalized Correctly cited null with reference to	**Max 3** **3** **2** **1** **0**	-Can be written in future or present tense. -Use of the word 'significant' is not necessary for full marks. -Award zero for citing alternate hypothesis -Award zero if reference to 'difference' -For full marks both variables must be operationalised.

			both variables, but neither operationalized The candidate has not provided any creditworthy information		
			Total	**3**	
96			**What was Milgram (1963) unable to control in his experiment into obedience?** 1 mark for A – how Mr Wallace interacted with the participant.	**1** **AO1 1b**	
			Total	**1**	
97	a		**Explain ONE strength and ONE weakness of using an opportunity sample for this study.** Up to 3 marks for one strength of opportunity sample and up to 3 marks for one weakness. For both the strength and weakness: • 1 AO3 mark for explaining the strength / weakness • 1 AO2 mark for applying the strength / weakness to an opportunity sample • 1 AO2 mark for applying the strength / weakness to the study (contextualisation). e.g. 'One strength is that the sample is quick and convenient (1) because the psychologist used people who were readily available at the nightclub, college library and leisure centre changing room being observed (1) therefore saving time and other resources which would have to be used for more complex samples (1).' e.g. 'One weakness is that samples tend to be biased (1) as similar people tend to gather in certain places (1) – for example, the college library is likely to contain mainly young people who may use personal space differently from more experienced, older people (1).' Other appropriate responses should be credited.	**6** **4 AO2 g** **2 AO3** **2b**	If a candidate offers more than one strength / weakness then credit best one. If the candidate does not clearly identify which is the strength / weakness (and it is obvious which is which through appropriate use of language) then the full range of marks can be awarded. If it is not clear, then the first point should be taken as the strength and the second as the weakness.

	b		**Name and outline ONE other sampling technique for selecting participants.** 1 AO1 mark for naming another sampling technique, e.g. random, snowball, self-selecting. 1 AO1 mark for an outline of the chosen technique, e.g. 'random sampling is when everyone in the chosen settings has an equal chance of being selected for observation'. Other appropriate responses should be credited.	**2** **2 AO1 1b**	If outline and named technique do not match then award 1 mark only. If a sampling technique is not named or is not a recognised technique then the outline may still gain credit if it is obvious what technique is being described. If a candidate offers an example (e.g. pertaining to the study) then it can still gain credit in as far as it describes the technique. The candidate does not have to explicitly relate to the study for full marks – the sampling method just has to be feasible in relation to the study.
	c		**Describe ONE strength and ONE weakness of the sampling technique you have chosen in above question.** Up to 2 marks for one strength of the technique chosen in (b) and up to 2 marks for one weakness of the technique chosen in (b). • 1 AO3 mark for describing each strength / weakness of the sampling technique identified in (b) • 1 AO2 mark for applying the strength / weakness to the sampling technique identified in (b) e.g. 'random sampling tends to give a representative sample (1) because there is no opportunity for bias when left to chance (1)'. e.g. 'random sampling can generate skewed samples (1) which makes generalisation difficult (1)'. Other appropriate responses should be credited.	**4** **2 AO2 e** **2 AO3** **2a**	If a candidate offers more than one strength / weakness and they cannot be linked then credit best one. If the candidate does not clearly identify which is the strength / weakness (and it is obvious which is which through appropriate use of language), then the full range of marks can be awarded. If it is not clear, then the first point should be taken as the strength and the second as the weakness.
			Total	**12**	
98			**Write an alternative hypothesis for your investigation.** 1 mark for the stem which should predict	**3** **AO2 d**	The 'first' and 'second' mark can be awarded independently of each other.

			a difference (whether directional or non-directional) Plus 1 mark for inclusion of the IV and DV Plus 1 further mark if the both IV and DV are fully operationalised, with both parts of the IV explicitly stated. 3 mark answers e.g. 'There is a significant difference (1) in the average distance observed between city dwellers (1) and that observed between rural dwellers (1).' e.g. 'People living in urban areas will use significantly more defensive signals (1) in the space of one hour (1) than people living in rural areas (1).' 2 mark answers e.g. 'There will be a significant difference (1) between the body language of urban dwellers and rural dwellers (1)' e.g. 'There will be a difference between city and countryside people (1) and the duration of eye contact used in 10 minutes (1)'. 1 mark answers e.g. 'There will be a significant difference (1) in the personal space of different people.' e.g. 'There will be no difference between use of personal space. (1)' Other appropriate responses should be credited.		A hypothesis which has the right 'ingredients' but lacks clarity due to its construction should be limited to 2 marks. The use of the word 'significant' is not necessary for full marks. Hypotheses can be written using future or present tense.
			Total	**3**	
99	a		**Name and briefly describe the experimental design used in this study.** 1 mark for naming independent measures (groups) or unrelated design. 1 mark for knowing this means assigning different participants to each condition. Other appropriate responses should be credited.	**2** **AO2 f**	Do not credit description if it assumes that participants are matched. Each mark can be credited without the other, e.g. correctly named design but incorrect / inadequate description, or accurate description with no design named or design misnamed.
	b		**Explain how the psychologist would have randomly allocated participants to each group.**	**2** **AO2 h (m)**	Participants do not have to be allocated numbers – for example, names could be used.

			1 mark for an appropriate method – all names in and then drawn out. 1 mark for suggesting a method of selection that relates to the source. e.g. 'the participants are each given a number, the numbers are then drawn from a hat. The first 25 numbers drawn are group one and the second 25 of numbers drawn are group 2.' Accept other practical descriptions that would produce a truly random sample. Other appropriate responses should be credited.		
	c		**Discuss why this experimental design was appropriate for this study.** **AO3 (3 marks)** • reduced demand characteristics • eliminating practice effect • no need for time delay between conditions • other appropriate discussion should be credited. **AO2 (2 marks)** Candidates will receive credit for applying any reasons given to the study. e.g. 'the participants may perceive the image the same way again (1) because they have perceived it this way once already (practice effect) (1).' Other appropriate responses should be credited.	**5** **2 AO2 f** **3 AO3** **2a/2b**	**Level 3: 5 marks** **Good** application of knowledge and understanding to discuss why the experimental design was appropriate for this study. **Good** discussion of why the experimental design was appropriate for this study. **Level 2: 3–4 marks** **Good** application of knowledge and understanding to discuss why the experimental design was appropriate for this study. **Reasonable** discussion of why the experimental design was appropriate for this study. **Level 1: 1–2 marks** **Reasonable** application of knowledge and understanding to discuss why the experimental design was appropriate for this study. **Limited** discussion of why the experimental design was appropriate for this study. **0 marks –** No creditworthy response.

					Credit can be given in (c) even if no credit given in (a).
			Total	**9**	
100			**How was one of the dependent variables measured in Grant et al.'s (1998) study into context-dependent memory?** 1 mark for D – the score from multiple-choice questions based on a written passage.	**1** **AO1 1b (r)**	
			Total	**1**	
101			**In Bandura's (1961) Bobo doll study, the participants were pre-tested to assess their aggression levels. What was the main purpose of his procedure?** 1 mark for A – to allow for a matched pairs design.	**1** **AO1 1b**	
			Total	**1**	
102			**Which two groups were compared in Chaney et al.'s (2004) study into operant conditioning?** 1 mark for B – children using a standard inhaler and children using a modified inhaler.	**1** **AO1 1b (r)**	
			Total	**1**	
103			**Read the following hypothesis.** **H_1: "Women who earn above average salaries will score significantly higher on a confidence test than women who earn below average salaries."** **What is the independent variable in this hypothesis?** 1 mark for A – earnings above or below average salaries	**1** **AO2d**	
			Total	**1**	
104			**Which group of people were included as participants for Maguire's (2000) study into the hippocampi of taxi-**	**1**	

			drivers? 1 mark for C – people above 32 years of age.	**AO1 1b (r)**	
			Total	**1**	
105			B	**1**	**Examiner's Comments** Mostly correct responses
			Total	**1**	
106			C	**1**	**Examiner's Comments** Some candidates struggled with this question and it shows the importance (but also opportunity) of reinforcing learning of research methods through the core studies
			Total	**1**	
107			C	**1**	**Examiner's Comments** Mostly correct responses
			Total	**1**	
108			A	**1**	**Examiner's Comments** Some candidates incorrectly chose option B (open)
			Total	**1**	
109			For example … *The aim of this study was to investigate peoples' experiences of dreaming and the type of dreams they have* Clearly written aim Attempt to write aim The candidate has not provided any creditworthy information	**Max 2** **2** **1** **2**	Context = 'dream(s)', 'dreaming' etc **Examiner's Comments** Most candidates were able to write a clearly phrased aim for the study. However, this sometimes lacked clarity when attempts were made to write this as a hypothesis with reference to manipulated variables. This shows the importance of recognising the different types of

<table>
<tr><td></td><td></td><td></td><td></td><td></td><td>research methods / techniques and being able to recognise which have formal hypotheses and which have general aims .</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>2</td><td></td></tr>
<tr><td>110</td><td></td><td></td><td>B</td><td>1</td><td><u>Examiner’s Comments</u>

Mostly correct responses</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>1</td><td></td></tr>
<tr><td>111</td><td></td><td></td><td>C</td><td>1</td><td><u>Examiner’s Comments</u>
Same as question 7</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>1</td><td></td></tr>
<tr><td>112</td><td></td><td></td><td>D</td><td>1</td><td><u>Examiner’s Comments</u>
Some candidates response to this question suggested that they were not aware of the different types of rating scales that can be used beyond a simple numerical (e.g. 1-to-10) format</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>1</td><td></td></tr>
<tr><td>113</td><td></td><td></td><td>Something like …
The aim was to investigate how if / how much couples mimic (copy) each other’s behaviour

Clearly written aim
Clear aim, but not in context | OR attempt in context
The candidate has not provided any creditworthy information</td><td>Max 2

2
1

0</td><td>Context = couples, romance / relationship related, bar

1 mark e.g.
To see how well people’s behaviour indicates they are getting on with each other.
Or
To find out how much a people mimic each others behaviour
<u>Examiner’s Comments</u>
Most candidates performed well on this question. However, some responses were not always as clear as they could be and some tried to phrase their response as a hypothesis used for experimental research, showing a lack of understanding of the process of conducting research using the different methodologies</td></tr>
</table>

			Total	**2**	
114	a		Likely answers: greater period of time overall can be studied (could increase validity); likely to be more representative Clear description of strength of time sampling in context Attempt to describe strength of time sampling in context **OR** Clear description of strength of time sampling but not in context Brief and / or weak attempt to describe strength of time sampling (whether in context or not) The candidate has not provided any creditworthy information	**Max 3** **3** **2** **1** **0**	Context = couples, mimic / mimicking, romance / relationship related, bar Strength must be specific to the use of time sampling, not the observation method in general **Examiner's Comments** Responses from some candidates suggested they did not know the distinction between time and event sampling. Higher scoring candidates provided a clear response in context
	b		Likely answers: behaviours missed at times when observation recording not occurring Clear description of weakness of time sampling in context Attempt to describe weakness of time sampling in context **OR** Clear description of weakness of time sampling but not in context Brief and / or weak attempt to describe weakness of time sampling (whether in context or not) The candidate has not provided any creditworthy information	**Max 3** **3** **2** **1** **0**	Context = couples, mimic / mimicking, romance / relationship related, bar Weakness must be specific to the use of time sampling, not the observation method in general **Examiner's Comments** Responses from some candidates suggested they did not know the distinction between time and event sampling. Higher scoring candidates provided a clear response in context
			Total	**6**	
115	a		For example … *Are you aware that you sometimes copy the behaviour of your partner?* Appropriate open question clearly suggested in context Attempt to suggest open question in context **OR** clearly suggested open question but not in context The candidate has not provided any creditworthy information	**Max 2** **2** **1** **0**	-Context = bar / drink, couples Also accept (appropriate) behavioural categories as context? **Examiner's Comments** Most candidates were able to provide an appropriate open question, in context and clearly phrased.

<table>
<tr>
<td></td>
<td>b</td>
<td></td>
<td>For example … Do you sometimes reach for your drink at the same time as your partner? yes / no / not that I'm aware of

<table>
<tr><td colspan="2">Appropriate closed question clearly suggested in context</td></tr>
<tr><td>Attempt to suggest closed question in context</td><td>OR clearly suggested closed question but not in context</td></tr>
<tr><td colspan="2">The candidate has not provided any creditworthy information</td></tr>
</table>
</td>
<td>Max 2

2

1

0</td>
<td>-Context = bar / drink, couples
Also accept (appropriate) behavioural categories as context?

-Accept rating scales as closed question responses

-The fixed response options must be included to qualify as a closed question. For example “Do you ever mimic your partner’s behaviour?” oyes ono.
Do not credit where they are not (e.g. Just saying … “Do you ever mimic your partner’s behaviour?”
<u>Examiner’s Comments</u>
Some candidates provided responses that were not creditworthy here by not writing the fixed response options that must accompany a closed question. It should not (e.g. ‘Do you ever find yourself copying what your partner is doing?. Although this could, of course be responded to with a simple ‘yes’ or ‘no’ answer it is not restricted to this and therefore not a true closed question)</td>
</tr>
<tr>
<td></td><td></td><td></td><td>Total</td><td>4</td><td></td>
</tr>
<tr>
<td>116</td><td></td><td></td><td>Which is a null hypothesis?

1 mark for D – ‘There will be no significant difference between extroverted and introverted people in terms of how well they perform in front of an audience.’</td><td>1
AO2 f</td><td></td>
</tr>
<tr>
<td></td><td></td><td></td><td>Total</td><td>1</td><td></td>
</tr>
<tr>
<td>117</td><td></td><td></td><td>What is meant by event sampling in psychological observations?

1 mark for B – every occurrence of behaviour, as specified on a predetermined checklist, is observed and recorded within a specified period of time.</td><td>1
AO1 1b</td><td></td>
</tr>
</table>

			Total	**1**	
118			**Which would give a researcher a random sample of 20 participants?** 1 mark for C – taking out 20 names from a container of 100 names.	1 AO2 f (m)	
			Total	**1**	
119			**Which will give the most representative sample of British teenagers in an investigation into the use of the internet?** 1 mark for C – a sample drawn from three secondary schools from different parts of the United Kingdom.	1 AO3 2b	
			Total	**1**	
120			**Write a closed question which could have been used to test participants' understanding of the meaning of a word.** 1 mark for any feasible example of a closed question – this is likely to be a multiple choice question given the context but examiners should be open to other forms of closed questions as long as they relate to understanding of the meaning of a word. e.g. Which word means the same as scared? a. frightened b. precious c. delighted. Other appropriate responses should be credited.	1 AO2 g	Do not judge the question on the quality of wording or on accuracy of meaning / definitions – examiners are assessing candidates on whether they can construct a closed question i.e. the mark is for structure rather than content.
			Total	**1**	
121	a		**Describe ONE strength of using a self-selected sample in this study.** 1 AO3 mark for explaining a strength of a self-selected sample. 1 AO2 mark for explaining this strength in the context of this study. 1 AO2 mark for applying the strength to the study. e.g. 'One strength is that participants are well motivated (1) because they have actively chosen to come forward	3 2 AO2 g 1 AO3 2a	If more than one strength is offered then credit the one that maximises the candidate's mark.

			(1) and therefore are likely to do their best on the two tests giving a true measure of their abilities(1)'. 'One strength is that it is more ethical than other sampling techniques (1) because participants will not have felt under pressure to take part (1) which is important when testing abilities that people might be sensitive about, such as spelling (1)'. Other appropriate responses should be credited.		
	b		**Describe ONE weakness of using a self-selected sample in this study.** 1 AO3 mark for explaining a weakness of a self-selected sample. 1 AO2 mark for explaining this weakness in the context of this study. 1 AO2 mark for applying the weakness to the study. e.g. 'One weakness is that certain types of people are likely to volunteer (1) and this gives a biased sample (1) such as people that are more confident who may overperform on the coordination tests because they like "performing" in front of others (1)'. e.g. 'One weakness is that self-selected samples are unrepresentative (1) as they often attract people who have an interest in the field of the research (1) so participants may know how they should perform and behave accordingly so do badly on the coordination task if they know they have done well on the language test (1)'. Other appropriate responses should be credited.	3 2 AO2 g 1 AO3 2a	
			Total	**6**	
122	a		Random sampling could be used by getting all the names of the 125 elderly residents who live in The Oaklands residential home and putting them in to a hat and then selecting names from it.	Max 3 3 2 1 0	Context = residents, elderly people Must include some reference to all members of the target population being involved in the selection process.

			Clear description of how random sampling could be used in context Clear description of how random sampling could be **used** but not in context **OR** Attempt in context Brief and / or unclear description of random sampling (whether in context or not) No creditworthy response		**Examiner's Comments** Strong responses described a process that would include all members of the target population in response to this question. Those that struggled with the previous question (to identify what the target population was) often did not do this.
	b		More representative of the target population; able to generalise the findings about the effect of pets on loneliness more accurately to the target population; less bias in the selection / recruitment of participants etc Good evaluation with reference to 2 or more points in context Reasonable evaluation. Two (or more) points made, but one is weaker / less clear than the other, or not in context Limited evaluation whether in context or not	Max 6 5-6 3-4 marks 1-2 marks	-Context = pets, loneliness, features of the residents of the home (e.g. elderly) -Accept strengths and / or weaknesses for evaluation points made e.g. selecting participants in a way that any elderly resident of the home could be chosen to participate enables the findings about the effect of pets on loneliness to be generalised more accurately to all the residents). Comments here could refer to being more representative of the target population; ability to generalise the findings about the effect of pets on loneliness more accurately to the target population; less bias in the selection / recruitment of participants etc **Examiner's Comments** The best responses here were characterised by outlining two separate evaluation points related to the use of random sampling in context of the research outlined. Candidates who had struggled with the concept of what a target population is and how to obtain a random sample on the previous related questions found this more difficult.
			Total	**9**	
123	a		The IV is being in contact with, and / or caring for an animal.	Max 1	

<table>
<tr><td></td><td></td><td></td><td></td><td></td><td><u>Examiner's Comments</u>
Generally well answered. However, some candidates were too vague / ambiguous in their responses by simply referring to 'pets' as the independent variable, without clarifying what aspect of pets was specifically manipulated (the 'care' of pets).</td></tr>
<tr><td></td><td>b</td><td></td><td>The DV is loneliness.</td><td>Max 1</td><td><u>Examiner's Comments</u>
Generally well answered. However, some candidates incorrectly stated that emotion in general, or 'mood' more specifically was the dependent variable rather than explicitly referring to 'loneliness' as the variable that was measured.</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>2</td><td></td></tr>
<tr><td>124</td><td></td><td></td><td>The experimental design used in this study was independent measures design. This could have lowered the validity of the data collected as the ratings given about the crisps may not have been based on brand, but individual differences between the participants in each condition in terms of simply whether they liked crisps or not in general (regardless of brand). The validity could also have been lowered as the different participants in each of the conditions may have interpreted and used the rating scale differently.

Clear and detailed explanation of how the experimental design may have influenced the validity of the data collected

<table><tr><td></td><td></td></tr><tr><td>Clear and detailed outline of how the experimental design may have influenced the validity of the data collected not in context</td><td>OR clear brief outline of how the experimental design may have influenced the validity of the data collected in context</td></tr></table></td><td>Max 4

3-4

2

1

0</td><td>-Context = crisps, premium and / or budget brand and tasty / tastiness

-Both strengths and weaknesses of the use of independent measures designs are creditworthy

<u>Examiner's Comments</u>

Two bits of knowledge were required in order to perform well on this question (about what is involved in an independent measures design and what validity refers to). The best responses here began with a general definition of what validity refers to before discussing how the use of an independent measures design could affect this (in either a positive or negative way) in the context of the research provided. Some candidates became confused with reliability and made comments exclusively, or at least in part to do with this instead of validity).</td></tr>
</table>

			Brief and / or weak attempt to describe how the experimental design may have influenced the validity of the data collected (whether in context or not) The candidate has not provided any creditworthy information		
			Total	**4**	
125			A	1	**Examiner's Comments** Mostly correct answers, although some candidates did choose option D ('independent measures design')
			Total	**1**	
126			B	1	**Examiner's Comments** Mostly correct answers, although some candidates did choose option A ('opportunity' sampling)
			Total	**1**	
127			D	1	**Examiner's Comments** Mostly correct answers
			Total	**1**	
128			B	1	**Examiner's Comments** Mostly correct answers
			Total	**1**	
129			For example … There will be a positive correlation between the amount of TV watched (average hours viewed per week) and the number of items of snack foods (crisps, peanuts and chocolate) eaten. 3 marks are awarded for correctly citing an appropriate alternative hypothesis for this study with increasing level of detail in terms of reference to the variables studied. 1 mark for the stem, which should predict a correlation plus 1 mark for the inclusion of each of the variables, plus a further mark if both variables are fully operationalised.	Max 3 3	-Can be written in future or present tense. -Use of the word 'significant' is not necessary for full marks. -Award zero if reference to a difference and / or cause-and-effect (rather than relationship or correlation) -For full marks both the variables must be operationalised. -can state positive or negative correlation will be found -Zero marks if cited as two-tailed (must be one-tailed - i.e. state a positive OR negative correlation) -If phrased as an experimental, rather than correlational hypothesis = zero

			Correctly cited one-tailed alternative hypothesis with both variables operationalised Correctly cited one-tailed alternative hypothesis with reference to both variables, but only one operationalised Correctly cited one-tailed alternative hypothesis with reference to both variables, but neither operationalised The candidate has not provided any creditworthy information Explain how you would conduct a study using the correlation technique to investigate if there is a relationship between the amount of TV watched snack foods eaten. Justify your decisions as part of your explanation. You must refer to: - how the participants would be obtained - how data for each of the measured variables would be obtained - the control of at least one extraneous variable You should use your own experience of practical activities to inform your response.	2 1 0	**Examiner's Comments** Many candidates performed poorly on this question, probably as a combination of two things: a lack of understanding of directional hypotheses (especially allied to correlational research); and, a failure to operationalise variables. The best responses were characterised by the citation of a positive or negative prediction about the two variables that were quantified in a way that would produce continuous data for use in a correlation analysis and in context.
			Total	**3**	
130			C	1	**Examiner's Comments** Mostly correct
			Total	**1**	
131			B	1	**Examiner's Comments** Mostly correct
			Total	**1**	
132			The target population is the (125) elderly residents of the Oaklands residential home.	**Max 1**	Do not accept 'elderly people' in general as creditworthy (must refer to the elderly in the one specific home identified). **Examiner's Comments** Many candidates struggled with the concept of a target population in response to this question and were unable to identify the specific home ('The Oaklands') referred to as the focus of the research.
			Total	**1**	

<table>
<tr>
<td>133</td>
<td></td>
<td></td>
<td>There will not be a significant difference in the ratings of feelings of loneliness (on a scale 1 to 10) experienced by elderly people in a care home between those who take care of a cat for a month and those who do not.
Correctly cited null with both IV and DV operationalised
Correctly cited null with reference to both variables, but neither or only one operationalized.
<table><tr><td>Simply stating ‘no difference’</td><td>OR a null with reference to just one variable</td></tr></table>The candidate has not provided any creditworthy information</td>
<td>Max 3

3

2

1

0</td>
<td>-Can be written in future or present tense. -Use of the word ‘significant’ is not necessary for full marks.
-Award zero for citing alternative hypothesis
-Award zero if reference to relationship’ or ‘correlation’
-For full marks both the IV and DV must be operationalised.

<u>Examiner’s Comments</u>
Most candidates correctly attempted to state a null hypothesis, with just a few citing an alternative. The best responses were characterised by candidates who fully operationalised both variables (the IV and DV). Quite a lot neglected to operationalise the DV (simply referring to it by name only (‘loneliness’).</td>
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<tr>
<td></td><td></td><td></td><td>Total</td><td>3</td><td></td>
</tr>
<tr>
<td>134</td><td></td><td></td><td>A</td><td>1</td><td><u>Examiner’s Comments</u>
Mostly correct responses with occasional incorrect choices of repeated measures design</td>
</tr>
<tr>
<td></td><td></td><td></td><td>Total</td><td>1</td><td></td>
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