GCE AS MARKING SCHEME

SUMMER 2024

AS
PSYCHOLOGY – UNIT 2
2290U20-1

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About this marking scheme

The purpose of this marking scheme is to provide teachers, learners, and other interested parties, with an understanding of the assessment criteria used to assess this specific assessment.

This marking scheme reflects the criteria by which this assessment was marked in a live series and was finalised following detailed discussion at an examiners' conference. A team of qualified examiners were trained specifically in the application of this marking scheme. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners. It may not be possible, or appropriate, to capture every variation that a candidate may present in their responses within this marking scheme. However, during the training conference, examiners were guided in using their professional judgement to credit alternative valid responses as instructed by the document, and through reviewing exemplar responses.

Without the benefit of participation in the examiners' conference, teachers, learners and other users, may have different views on certain matters of detail or interpretation. Therefore, it is strongly recommended that this marking scheme is used alongside other guidance, such as published exemplar materials or Guidance for Teaching. This marking scheme is final and will not be changed, unless in the event that a clear error is identified, as it reflects the criteria used to assess candidate responses during the live series.

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GCE PSYCHOLOGY – UNIT 2

SUMMER 2024 MARK SCHEME

Question	AO1	AO2	AO3	TOTAL
1	10		10	**20**
2	3			**3**
3	2			**2**
4	2			**2**
5			6	**6**
6	2			**2**
7		2		**2**
8		13		**13**
9	5	7		**12**
10		16	2	**18**
TOTAL	**24**	**38**	**18**	**80**

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SECTION A

Contemporary Debate

1. With reference to psychological research and/or theories, critically consider whether eye-witness testimony is reliable. [20]

This debate is linked to the cognitive approach. However, the materials used in the response may be taken from any approach and perspective within psychology. Some reference could also be made to economic, social and political evidence (as long as it is explicitly linked to the psychological issue), as well as the consideration of social and cultural diversity.

Credit **will** be given for:

- Named research into factors that affect the reliability of EWT e.g. age of the witness (Coxon and Valentine, 1997), the role of emotion (abuse vs non-abuse cases (Goodman, 2001)), reconstructive memory (Bartlett, 1932), leading questions/post-event misinformation (Loftus and Zanni (1975), and Yuille and Cutshall (1987)), attributional biases and weapon focus (Kramer *et. al.*, 1990).
- Evidence relating to the reliability of EWT in adults and/or children e.g. Goodman et al. (2001), Cassel and Bjorklund (1995), Yuille (1988), and Loftus and Palmer (1974) etc.
- Research that considers cultural and social diversity e.g. racial stereotyping (Allport and Postman, 1945), cross race identification bias (Cohen, 1966) and the impact of the media.
- Any other appropriate content.

Marks	AO1
10	• Exemplars used are well chosen to support the points made. • Level of accuracy is thorough. • There is depth and range to material included. • Effective use of terminology throughout.
7-9	• Exemplars used are appropriate. • Level of accuracy is reasonable. • There is depth and range to material used, but not in equal measure. • Good use of terminology.
4-6	• Exemplars may not always be appropriate. • Level of accuracy is basic. • There is depth or range only in material used. • There is some use of appropriate terminology.
1-3	• Exemplars are limited and not always made relevant. • Level of accuracy is superficial. • Very little use of appropriate terminology.
0	• Inappropriate answer given. • No response attempted.

Criteria for AO3 content of this question is on the next page

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Credit **will** be given for:

- Evaluative statements and comparisons about the relative reliability of EWT.
- Evaluation of the research (must be contextualised) e.g. validity issues with lab experiments reflecting real eye-witness accounts.
- Ethical implications of unreliable EWT – Miscarriage of justice (e.g. Ronald Cotton – The Innocence Project).
- Discussion of possible economic implications inaccurate EWT may have e.g. costs of re-trials, compensation to those who are wrongly convicted etc.
- Ethical implications of allowing children to be witnesses – protection from harm, consent etc.
- Influence of the evidence on political decisions (e.g. changes in the law to protect child witnesses, or increases in the use of CCTV creating a 'Big Brother' society).
- Appropriateness of the historical evidence applied to modern society – is early research into EWT still relevant? Have newer techniques improved the reliability of EWT in the case of strategies such as the Cognitive Interview?

- Any other appropriate content.

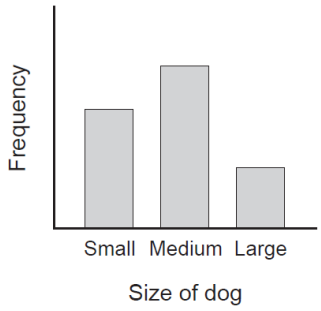
Marks	AO3
10	• A thorough discussion is made of both sides of the debate. • Evaluative comments are evidently relevant to the context. • Structure is logical throughout. • An appropriate conclusion is reached based on evidence presented.
7-9	• A reasonable discussion is made of both sides of the debate. • Evaluative comments show some relevance to the context. • Structure is mostly logical. • A reasonable conclusion is reached based on evidence presented.
4-6	• A basic discussion of both sides of the debate. **OR** • A reasonable discussion of only one side of the debate. • Evaluative comments are generic and not appropriately contextualised. • Structure is reasonable. • A basic conclusion is reached.
1-3	• A superficial discussion is made of the debate. • Evaluative comments are superficial. • Answer lacks structure. • No conclusion.
0	• Inappropriate answer given. • No response attempted.

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SECTION B - Principles of Research

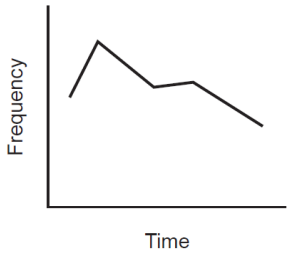
2. Identify the graphical representations shown in the figures below:

(a) [1]



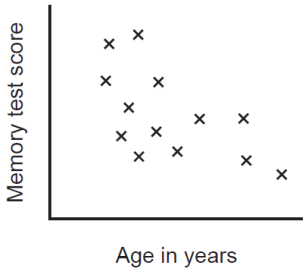
Marks	AO1
1	• A bar chart/graph is identified.
0	• Inappropriate answer given. • No response attempted.

(b) [1]



Marks	AO1
1	• A line graph/diagram is identified. • Frequency polygon is identified.
0	• Inappropriate answer given. • No response attempted.

(c) [1]



Marks	AO1
1	• A scatter diagram/graph is identified.
0	• Inappropriate answer given. • No response attempted.

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3. Define what is meant by the term 'confounding variables'. [2]

Exemplar answers: • Confounding variables are variables in a study that are not being manipulated by the researcher, but affect the results (DV) of some participants. They are inconsistent and quite difficult to control (2 marks). • Confounding variables only affect some participants (1 mark). • Any other appropriate content.	
Marks	**AO1**
2	• Clear and detailed definition.
1	• Basic definition.
0	• Inappropriate answer given. • No response attempted.

4. Identify **two** features of the participants selected by Kohlberg (1968) in his research '*The child as a moral philosopher'.* [2]

Exemplar features: • Boys/males. • Adolescents (aged between 10 and 16 at the start of the study). • From a range of cultures (America, Great Britain, Canada, Mexico, Taiwan and Turkey). • Any other appropriate content.	
Marks	**AO1**
2	• Two features of Kohlberg's participants have been identified.
1	• One feature of Kohlberg's participants has been identified.
0	• Inappropriate answer given. • No response attempted.

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5. Critically consider the strengths and weaknesses of quasi-experiments. [6]

Credit **will** be given for:

- Strengths of quasi-experiments e.g. high in ecological validity as it studies the effect of a naturally occurring IV on a DV, and thus paints a true picture of behaviour; allows the study of socially sensitive topics, where deliberate manipulation of the IV would be unethical.
- Weaknesses of quasi-experiments e.g. lack of random allocation leads to potential sample biases, or confounding/extraneous variables in the research; low on reliability because the lack of control over the IV means that replication might be difficult, causal conclusions are therefore not guaranteed.
- Comparisons to other types of experiment e.g. the relative merits/problems of quasi-experiments in comparison to laboratory experiments and natural experiments.

- Any other appropriate content.

Marks	AO3
5-6	• Consideration of the strengths and weaknesses of quasi-experiments is thorough. • There is depth and range to the material included.
3-4	• Consideration of the strengths and weaknesses of quasi-experiments is reasonable. • There is depth and range to the material but not in equal measure. **OR** • Consideration of the strengths or weaknesses of quasi-experiments is thorough.
1-2	• Consideration of the strengths and/or weaknesses of quasi-experiments is superficial.
0	• Inappropriate answer given. • No response attempted.

6. Describe **one** difference between qualitative and quantitative data. [2]

Exemplar answers:

- Quantitative data provides numerical findings for analysis, which are easier to analyse than qualitative data that provide findings in the form of words, thoughts and feelings (2 marks).
- Quantitative data generates numbers, whereas qualitative data doesn't (1 mark).
- Quantitative data generates numbers. Qualitative data generates words (0 marks).

- Any other appropriate content.

Marks	AO1
2	• An appropriate difference is fully described.
1	• An appropriate difference is partially described.
0	• Inappropriate answer given. • No response attempted.

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7. Explain **one** way in which Milgram's (1963) '*Behavioral study of Obedience'* may have posed a 'risk to the participants' values, beliefs, relationships, status or privacy'. [2]

Exemplar answers:

- Participants values/beliefs about their own morality may have been at risk as a result of participating in this study. For example, those who continued to 450 volts may question their own identity as a 'good person' knowing that they continued to 'shock' Mr Wallace, even though they believed they had killed him (2 marks).
- Participant's values about the use of 'punishment and learning' might have been challenged by the research (1 mark).
- Participants' privacy was breached by the filming of distressing responses that they might not have anticipated prior to the research (1 mark).
- Any other appropriate content.

Marks	AO2
2	• Reasonable explanation of one risk posed to Milgram's participants' values, beliefs, relationships, status or privacy.
1	• Basic explanation of one risk posed to Milgram's participants' values, beliefs, relationships, status or privacy.
0	• An explanation of risks posed to participants' values, beliefs, relationships, status or privacy that is not contextualised. • Inappropriate answer given. • No response attempted.

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8. A criminal psychologist sent a questionnaire to every fifth driver who had been issued a speeding fine. Each questionnaire included questions designed to measure whether the drivers were high thrill-seeking or low thrill-seeking. The researcher aimed to establish whether high thrill-seeking drivers drove faster (in mph).

(a) Write an appropriate null hypothesis for this research. [2]

Exemplar answer:
- There will be no difference between the speeds (in mph) of high thrill-seeking and low-thrill seeking drivers, any difference that does occur does so by chance (2 marks).
- There will be no difference between the speeds (in mph) of drivers (1 mark).

Marks	AO2
2	• Appropriate null hypothesis is given, with both conditions clearly identified.
1	• Appropriate null hypothesis is given, with only one condition clearly identified.
0	• Inappropriate answer given. • No response attempted.

(b) (i) The researcher used a systematic sample. Briefly explain how they did this. [1]

Exemplar answer:
- They selected every fifth driver (1 mark).
- They selected every nth person (0 marks).
- Any other appropriate content.

Marks	AO2
1	• Explanation of how the systematic sample has been used in context.
0	• Inappropriate answer given. • No response attempted.

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(b) (ii) Briefly evaluate **one** strength of the sampling technique used in this research. [2]

Exemplar strength: • Avoids researcher bias as you pick every fifth driver objectively from a list or register. The researcher cannot, for example, choose people they think might be more or less thrill-seeking in advance of their selection (2 marks). • There is no researcher bias as the researcher just selects every nth person from a list (1 mark). • Any other appropriate content.	
Marks	**AO2**
2	• An appropriate strength is briefly evaluated and is contextualised.
1	• An appropriate strength is briefly evaluated but is not contextualised.
0	• Inappropriate answer given. • No response attempted.

(b) (iii) Briefly evaluate **one** weakness of the sampling technique used in this research. [2]

Exemplar weakness: • Could be affected by sample bias as every fifth driver might be male/old/young etc. and not everyone on the list had an equal chance of being in the sample, so the results may not be representative of all people who were caught speeding (2 marks). • Not everyone has an equal chance of being selected, so the sample may not be representative (1 mark). • Any other appropriate content.	
Marks	**AO2**
2	• An appropriate weakness is briefly evaluated and is contextualised.
1	• An appropriate weakness is briefly evaluated but is not contextualised.
0	• Inappropriate answer given. • No response attempted.

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Figure 1. Average speed (mph) for high and low thrill-seeking groups

	High thrill-seeking group	Low thrill-seeking group
Average speed (mean)	96.7 mph	79.2 mph

(c) Using the data in **Figure 1**, describe **one** conclusion from this research. [2]

Exemplar answers:

- Drivers in the high thrill-seeking group had a mean average speed that was 17.5mph higher/faster than the mean average speed for drivers in the low thrill-seeking group (2 marks).
- Drivers in the low thrill-seeking group had a lower mean average speed, of 79.2mph, compared to drivers in the high thrill-seeking group 96.7mph (2 marks).
- High thrill-seeking drivers drive faster than low thrill-seeking drivers (1 mark).
- Any other appropriate content.

Marks	AO2
2	• An appropriate and accurate descriptive conclusion is stated and fully contextualised.
1	• An appropriate and accurate descriptive conclusion is stated but not fully contextualised. **OR** • An inferential conclusion is stated.
0	• Inappropriate answer given. • No response attempted.

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(d) Give **one** strength and **one** weakness of using the mean as the measure of central tendency in this research. [2 + 2]

Exemplar strengths:

- The mean is the most sensitive measure of central tendency because it uses all scores in the data set and there is always a mean value (unlike mode), making it the most reliable measure to make comparisons between the high and low thrill-seeking groups' average speeds (2 marks).
- The mean is the most reliable measure of central tendency (1 mark).

Exemplar weaknesses:

- Anomalous results can skew the mean score e.g. one participant in the high thrill-seeking group could have had a much higher speed than the remaining members which could have skewed the mean upwards (2 marks).
- The mean does not always provide a value found in the original data set making it a non-sense value, in some cases (1 mark).

- Any other appropriate content.

Marks (per strength/ weakness)	**AO2**
2	• An appropriate strength/weakness is outlined and contextualised.
1	• An appropriate strength/weakness is outlined but not contextualised.
0	• Inappropriate answer given. • No response attempted.

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9. Two psychologists undertook research into human-cat relationships. This involved the 'secure base' test with 45 cat owners, where both the cat and owner were placed in a room (in a laboratory) and the behaviour of the cat was observed under three stages:

Stage 1 – The cat and owner are together in the room.
Stage 2 – The cat is alone in the room.
Stage 3 – The cat and owner are reunited in the room.

(a) Describe the main features of research conducted in a laboratory environment. [3]

Exemplar features:

- Research conducted in an unnatural/novel setting (lacks mundane realism).
- Research in a highly controlled environment.
- Procedures are standardised.
- Higher levels of reliability / repeatability than in field environments.
- More likely to use quantitative methods, e.g. controlled observations, experiments etc., or larger equipment that might not be practical in non-lab settings.

- Any other appropriate content.

Marks	AO1
3	• Description and level of accuracy is thorough.
2	• Description and level of accuracy is reasonable.
1	• Description and level of accuracy is superficial.
0	• Inappropriate answer given. • No response attempted.

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(b) Briefly describe **one** ethical guideline that must be followed by psychologists when working with animals. [2]

Credit **will** be given for:

- Replacing the use of animals e.g. only using actual animals if no other form of testing (such as computer simulation etc.) could be used.
- Choice of species and strain e.g. using only species that are ethically and scientifically suitable to the subject matter being studied.
- Number of animals e.g. use only the smallest number of animals that are necessary to accomplish the research goals.
- Procedures e.g. ensuring any tasks/research does not cause unnecessary death, harm or illness to the animal, obtaining relevant licences from the Home Office for research with protected species etc.
- Type of animal e.g. use of only captive bred animals wherever possible.
- Care of the animal e.g. housing of animal whilst not being studied and humane disposal of animals after use.
- Following relevant legislation e.g. the Animals (Scientific Procedures) Act 1986.

- Any other appropriate content.

Marks	AO1
2	• Clear and detailed description.
1	• Basic description.
0	• Inappropriate answer given. • No response attempted.

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(c) Explain how the psychologists in this research could have collected their participants via snowball sampling. [3]

Exemplar answers:

- The psychologists could have found cat owners via friends or family, or by visiting locations cat owners might usually go e.g. in the petfood aisle at a supermarket. They would then ask this small initial group of cat owners if they knew other members of the public who also owned cats and would like to participate, and they would then ask others, and so on, until 45 participants had been attained (3 marks).
- The psychologists could have found cat owners by visiting the petfood aisle at a supermarket. They would then ask this small initial group if they knew other friends who would be willing to participate, and they would then ask others, and so on, until a large enough sample had been attained (2 marks).
- A psychologist initially asks a small group of participants if they would be willing to take part. Those participants then recruit further participants and, they in turn, recruit others, and so on (1 mark).
- Any other appropriate content.

Marks	AO2
3	• A reasonable explanation of snowball sampling is given that has been fully contextualised.
2	• A reasonable explanation of snowball sampling is given that has been partially contextualised. **OR** • A basic explanation of snowball sampling is given that has been fully contextualised.
1	• A basic explanation of snowball sampling is given that has been partially contextualised. **OR** • A reasonable explanation of snowball sampling is given, but it has not been contextualised.
0	• Inappropriate answer given. • No response attempted.

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(d) Briefly explain why this research may lack internal validity. [2]

Exemplar responses:
- When the cat was being observed there may have been extraneous variables such as noises outside of the lab that could have affected its behaviour making it more 'stressed' (2 marks).
- Researcher bias could have affected the results because the psychologists could have only looked for specific cat behaviours (1 mark).

- Any other appropriate content.

Marks	AO2
2	• Clear explanation that is fully contextualised.
1	• Clear explanation that is partially contextualised.
0	• Inappropriate answer given. • No response attempted.

Researchers found that cats left alone in the room showed a stress response and were less willing to explore the room unaccompanied than when their owners were present.

(e) Explain **one** reason why operationalising 'stress response' would be important in this research. [2]

Exemplar responses:
- If the researcher uses specific behavioural categories to measure stress response (e.g. clawing at the door, meowing etc.) this allows for closer replication of the research in the future, improving external reliability (2 marks).
- As there are two psychologists, it is important that they agree in advance of the observation what is and isn't considered 'stress' so that they have inter-rater reliability and are measuring the cat's behaviour in the same way, improving internal reliability (2 marks).
- Operationalisation would allow the psychologists to accurately turn the abstract concept of 'stress' in cats into something that is measurable and comparable across the three conditions (2 marks).
- Operationalisation reduces subjectivity and minimises the potential for researcher bias, reducing validity issues (1 mark).

NOTE: Inter-rater reliability is not a requirement of the AS specification but is an acceptable response if/when used.

- Any other appropriate content.

Marks	AO2
2	• Clear explanation that is contextualised.
1	• Clear explanation, with no contextualisation.
0	• Inappropriate answer given. • No response attempted.

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10. A cognitive psychologist was interested in studying 'photo-taking memory impairment'. This is the idea that people have a poorer memory of something if they take a photo of it, rather than just observing it.
To test this idea, participants were taken to an art gallery to look at ten sculptures. They were then split into one of two groups:

Group one participants were not allowed to take any photos.
Group two participants were allowed to take five photos of each sculpture.

All participants were then asked two questions about each of the sculptures they had seen. Results for the two groups were as follows:

Figure 2. Results for participants in group one

Participant	Number of questions answered correctly /20
A	18
B	15
C	17
D	13
E	12
F	17
G	16
H	14
I	13

Figure 3. Results for participants in group two

Participant	Number of questions answered correctly /20
J	13
K	12
L	10
M	11
N	9
O	13
P	10
Q	11
R	10

(a) Identify and explain the experimental design that has been used in this research. [2]

Exemplar answer:
- An independent groups design has been used, where different participants are used in the two groups/conditions. For example, the participants in group one who never took a photo, were different people to those participants in group two who took five photos of each sculpture (2 marks).
- Independent groups (1 mark).

- Any other appropriate content.

Marks	AO2
2	• An appropriate experimental design is identified and explained in context.
1	• An appropriate experimental design is identified, but is not explained in context.
0	• Inappropriate answer given. • No response attempted.

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(b) Explain how the psychologist in this research may have gained valid consent from their participants. [3]

Exemplar answers:

- The cognitive psychologist could have made the aims of the research clear to the participants in a briefing or instruction sheet. This would likely have included details about the aim of the study (to test photo-taking memory impairment using two conditions) and asking them if they are willing to participate in the research. If they agree to have their memory tested and compared, their consent is valid (3 marks).
- It is unlikely that the psychologist will share their hypothesis at the beginning of the study. Therefore, to ensure consent is 'valid' a debrief, telling the participants they expected memory to be poorer in the photo taking groups, would be needed to confirm their wish for their data to be used (2 marks).
- The psychologist would tell the participants the aims of the study and then ask them whether they are willing to participate (1 mark).

NOTE: For full marks the concepts of consent **and** how they ensure that consent is 'valid' are required.

- Any other appropriate content.

Marks	AO2
3	• A reasonable explanation of valid consent that is fully contextualised.
2	• A basic explanation of valid consent is given that is fully contextualised. **OR** • A reasonable explanation of valid consent that is partially contextualised.
1	• A basic explanation of valid consent is given that is partially contextualised. **OR** • A reasonable explanation of valid consent that is not contextualised.
0	• Inappropriate answer given. • No response attempted.

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(c) (i) Using the data in **Figure 2**, calculate the range of scores for group one. Show your workings. [2]

- One mark to show workings (highest score, minus lowest score = 18 – 12).
- One mark for the correct answer (6).

NOTE: Accept 18 – 12 = 6 + 1 = 7 (plus one is the standard correction factor to include both the top and bottom values).

- Any other appropriate content.

Marks	AO2
0	• Inappropriate answer given. • No response attempted.

(ii) Using the data in **Figure 3**, calculate the modal score for group two. Show your workings. [2]

- One mark to show workings (tally of scores = 13 13 (2), 12 (1), 11, 11 (2), 10, 10, 10 (3), 9 (1)).
- One mark for the correct answer (10).

- Any other appropriate content.

Marks	AO2
0	• Inappropriate answer given. • No response attempted.

(iii) Briefly evaluate **one** advantage of using the mode as a measure of central tendency. [2]

Exemplar advantages:

- The mode is not distorted by anomalous results e.g. an extremely high or low score could distort other measures of central tendency such as the mean (2 marks).
- The mode can be used for non-numerical data sets e.g. to tally nominal data such as the number of grades achieved at each level A – E (2 marks).

- Any other appropriate content.

Marks	AO3
2	• An advantage is given that is fully evaluated.
1	• An advantage is given, but it is not fully evaluated.
0	• Inappropriate answer given. • No response attempted.

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(d) Explain **one** issue of validity that may have arisen in this research. [2]

Exemplar answers:

- Poor research design, measurement of variables e.g. did all groups have the same amount of time to view each sculpture, if not this could explain the differences in memory scores, where those who had longer recalled more? (2 marks)
- Other factors that could have affected memory on the day e.g. it was noisy in the gallery, which meant the participants weren't able to properly concentrate on the detail of the sculptures, impairing memory for all groups (extraneous variable) (2 marks).
- Perhaps some participants were art enthusiasts and had seen similar works in the past with which they could associate the new sculptures, aiding their memory and improving their individual scores (confounding variable)? (2 marks)

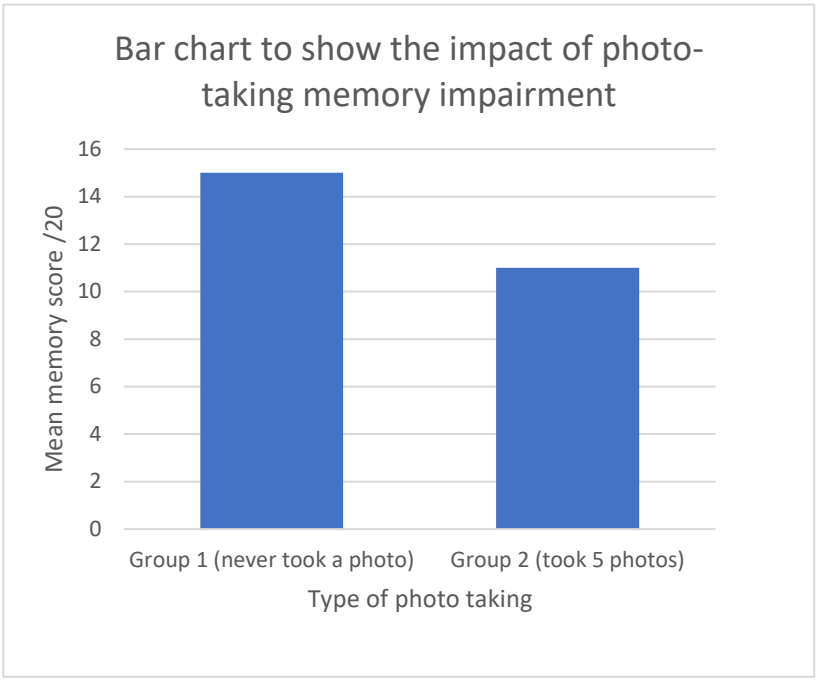
- Any other appropriate content.

Marks	AO2
2	• Explanation of an issue of validity that has been fully contextualised.
1	• Explanation of an issue of validity that has not been contextualised. **OR** • Issue of validity identified and contextualised, but not explained.
0	• A validity issue is identified, but not explained or contextualised. • Inappropriate answer given. • No response attempted.

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(e) The mean memory score was 15 for group one (no photos taken), and 11 for group two (five photos taken). Draw and label a bar chart to display the mean scores for each group. [5]

Exemplar bar chart:



AO2

1 mark given for:
- Correct labelling of axes
- Suitable Scale
- Title

Accurate plotting of data (2 marks)
Mostly accurate plotting of data (1 mark)

Marks	AO2
0	• Inappropriate answer given. • No response attempted.

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