Qualification accredited

CAMBRIDGE OCR

Sample Assessment Material

A Level

Psychology

Cambridge OCR Level 3 Advanced GCE in Psychology

H569/01

Version 1.0

ocr.org.uk/alevelpsychology

Introduction

This sample assessment material (SAM) is an example exam paper published alongside the specification. It's designed to show the style and structure you can expect from our question papers.

As the qualification develops, we may update the question paper template. To make sure you're working with the most up-to-date information, we recommend using the latest set of past papers where possible.

To help you get the most from this SAM, we also provide two supporting resources:

- **Assessment story** – this explains the research behind the qualification and how feedback from teachers, students and schools has shaped our assessment approach.
- **Annotated SAMs** – these guide you through the key features of the assessment and highlight the different types of questions students will encounter in the exam.

Summary of updates

Section	Change	Version	Date
-	Creation of sample assessment material.	1.0	April 2026

CAMBRIDGE OCR

Accredited

Sample Question Paper

Cambridge OCR Level 3 Advanced GCE in Psychology

H569/01 Research methods

Time allowed: 2 hours

You can use:
- a scientific or graphical calculator
- a ruler (cm/mm)
- an HB pencil

Please write clearly in black ink. **Do not write in the barcodes.**

Centre number | | | | | | Candidate number | | | | |

First name(s) _____

Last name _____

INSTRUCTIONS
- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions.

INFORMATION
- The total mark for this paper is **80**.
- The marks for each question are shown in brackets **[ ]**.
- This document has **24** pages.

ADVICE
- Read each question carefully before you start your answer.

Section A

Multiple choice

For each question write the letter in the box.

A company wanted to investigate whether employees' wellbeing would improve if the company introduced a four day working week. A wellbeing questionnaire was given to employees at the end of a usual five day working week. The questionnaire was scored out of 75. The company then introduced a four day working week and after one month asked the employees to complete the same questionnaire.

The data collected from a sample of employees is shown in the table.

Participant	Wellbeing scores (max. 75)	
	Working five days per week	Working four days per week
A	45	52
B	66	68
C	43	59
D	55	55
E	42	14
F	57	60
G	22	56
H	44	41

Use this scenario to answer questions **1**, **2** and **3**.

1 The employees were **not** made aware that their scores on the wellbeing questionnaire were going to be used for research purposes.

Which ethical issue does this raise?

A Failing to maintain participant confidentiality

B Failing to obtain informed consent from participants

C Failing to offer a debrief to participants

D Failing to protect participants from physical harm

Your answer ☐ **[1]**

2 Which participant's data is an outlier in the 'working four days per week' condition?

A Participant B

B Participant D

C Participant E

D Participant G

Your answer ☐ **[1]**

3 What fraction of participants scored more than **70%** on the wellbeing questionnaire **both** times they completed it.

A $\frac{3}{8}$

B $\frac{1}{2}$

C $\frac{5}{8}$

D $\frac{3}{4}$

Your answer ☐ **[1]**

Different methods could be used to collect data about a patient with schizophrenia, including:

- Brain scan – an MRI to investigate the volume (cm^3) of different brain regions.
- Heart rate monitoring – to record heart rate in beats per minute whilst the patient was hallucinating.
- Observation – observing the patient for 10 minutes every day over a period of four weeks and recording which of four symptom types (auditory hallucinations / visual hallucinations / delusions / disorganised speech) they display on each occasion.
- Medical history – analysing the notes recorded by doctors about the patient's visits to hospital.
- Questionnaire – a variety of rating scale questions, such as rating the severity of the hallucinations experienced on a 1-100 scale.
- Symptom diary – analysing a symptom diary where the patient has described their experiences of their symptoms.

Use this information to answer questions **4**, **5** and **6**.

4 Which type **and** level of data would be used for the **observation**?

	Type of data	**Level of data**
A	Primary	Interval
B	Primary	Nominal
C	Secondary	Interval
D	Secondary	Nominal

Your answer ☐ **[1]**

5 Which method would collect **ordinal** data?

A Brain scan

B Heart rate monitoring

C Questionnaire

D Symptom diary

Your answer ☐ **[1]**

6 Which **two** methods would provide **objective** data?

A Brain scan and heart rate monitoring

B Brain scan and medical history

C Heart rate monitoring and questionnaire

D Medical history and questionnaire

Your answer ☐ **[1]**

The table displays the data from an experiment investigating the difference in memory ability between a group of younger people and a group of older people. Participants were given a list of 30 words to read and memorise.

Scores in a memory test where participants were asked to recall 30 words			
Younger people (age 16–25)		**Older people (age 65–75)**	
Participant	**Score**	**Participant**	**Score**
A	26	G	7
B	28	H	25
C	22	I	12
D	30	J	22
E	25	K	12
F	28	L	12

Use this scenario to answer questions **7** and **8**.

7 What is the value of $\overline{X}$ in the formula below when calculating the standard deviation of the memory scores for the group of **older people** in this study?

$$\sqrt{\sum \frac{(X - \overline{X})^2}{n - 1}}$$

A 12

B 15

C 18

D 90

Your answer ☐ **[1]**

8 Which of these could be a participant variable in this experiment?

A Age

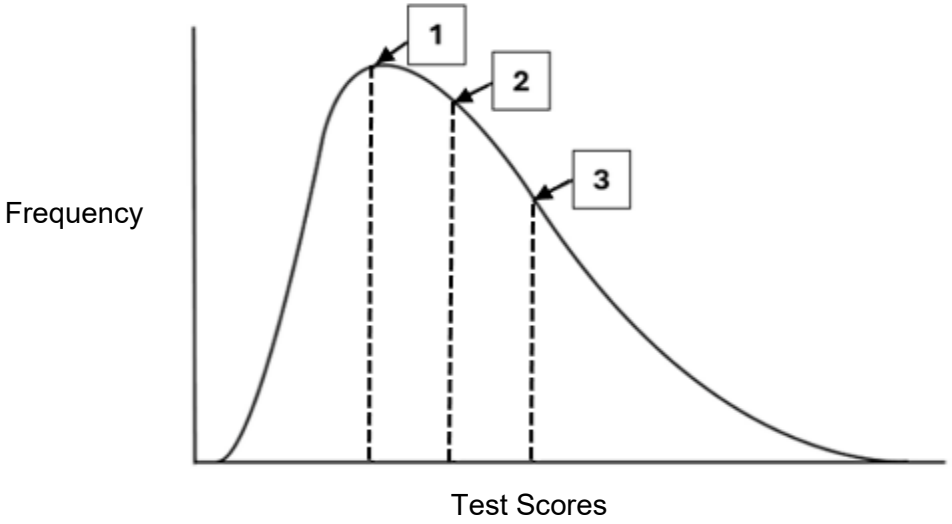
B Eyesight

C Height

D Income

Your answer ☐ **[1]**

A teacher introduced a new revision plan for students. Before the revision plan, students' test scores were normally distributed, and all three measures of central tendency were located at the same point (Line **2**). The graph shows the students' scores after the revision plan was introduced. Line **1** has moved to the left, Line **2** has remained in the same position, and Line **3** has moved to the right.



Use this scenario to answer questions **9** and **10**.

9 Which statement describes how students' test scores changed after the revision plan was introduced?

A All students' scores improved by a similar amount

B Most students achieved higher scores, but some achieved lower scores

C Most students achieved lower scores, but some achieved higher scores

D Most students' scores stayed the same

Your answer ☐ **[1]**

10 Which option shows possible test scores shown by Lines **1**, **2** and **3** after the introduction of the revision plan?

	Line 1	**Line 2**	**Line 3**
A	12	33	57
B	62	44	10
C	17	51	22
D	19	8	31

Your answer ☐ **[1]**

A psychologist was interested in whether artificial intelligence (AI) software programs can effectively support people with mental health problems such as depression. The psychologist recruited 100 participants who currently had a diagnosis of clinical depression. The participants rated their mood on a 1–10 scale (1 = very low mood, 10 = very high mood) immediately before and after undertaking a one hour online therapy session with an AI software program. The data from five of the participants is presented in the table.

Participant	Mood rating before AI therapy session	Mood rating after AI therapy session
A	3	8
B	2	6
C	4	7
D	5	9
E	4	7

Use this scenario to answer questions **11** and **12**.

11 Which statement is **true** about the mood ratings shown before and after AI therapy?

A The mean mood rating was the same

B The median mood rating was the same

C The modal mood rating was the same

D The range of mood ratings was the same

Your answer ☐ **[1]**

12 Which inferential statistical test would be appropriate to use with this data?

A Binomial Sign test

B Chi-square test

C Mann-Whitney U test

D Wilcoxon Signed Ranks test

Your answer ☐ **[1]**

Real-life environments, such as schools, can provide the setting for psychological research.

13 Which of these is an example of an **independent measures design experiment** that could be conducted in a primary school?

A Investigating the difference in attentiveness of Year 4 children in their first activity of the day and in their last activity of the day

B Investigating the difference in attitudes to learning of all the children in school before and after an assembly on behaviour

C Investigating the difference in school attendance between the children in Reception class and the children in Year 6

D Investigating the difference in the noise levels generated by Year 1 children during a creative activity, a literacy activity, and a numeracy activity

Your answer ☐ **[1]**

14 Which of these should produce the **most representative** sample in a study of primary school children?

A An opportunity sample of 50 children from 4 primary schools

B A random sample of 50 children from 5 primary schools

C A self-selected sample of 55 children from 5 primary schools

D A snowball sample of 55 children from 4 primary schools

Your answer ☐ **[1]**

15 Which method of data presentation would be used to display the proportion of school pupils categorised as working below target, on target, or above target?

A Histogram

B Line graph

C Pie chart

D Scatter diagram

Your answer ☐ **[1]**

Section B

Research design and response

A researcher wants to investigate if there is a relationship between how artistic a person is and the tattoos they have on their body. They decided to use the correlation method to study this.

16 Write a fully operationalised null hypothesis for this study.

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..... **[3]**

17 Design a study to investigate if there is a relationship between how artistic a person is and the tattoos they have on their body. The study should provide data that can be analysed using correlational analysis.

You **must** refer to the following required features in your answer:

- how you would attempt to reduce the influence of one extraneous variable
- details of how one ethical consideration would be addressed
- how you would present the data collected in an appropriate graph.

Each required feature should be addressed with sufficient clarity and detail to enable replication.

Justify the decisions you have made for each required feature. **[12]**

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18 Explain **one** weakness of using a correlation to investigate if there is a relationship between how artistic a person is and the tattoos they have on their body.

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The researcher wanted to find out more about people's attitudes to tattoos. They decided to use the self-report method. The researcher gave a questionnaire to an opportunity sample of 30 participants who were recruited in a local shopping centre. The questionnaire contained eight closed questions with numerical rating scales. The participants completed the questionnaire immediately and handed it back to the researcher.

19 Explain **one** way that the researcher could have assessed the internal reliability of the questionnaire used in this study using the split-half method.

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20 Discuss ways the researcher could improve the **validity** of this self-report study if they were to carry it out again.

In your answer you should consider the implications of your suggested improvements.

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21 One of the questions asked before participants completed the main part of the questionnaire was 'Do you have any tattoos? Yes ☐ No ☐'

(a) State **one** reason why this question will provide quantitative data.

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..... **[1]**

(b) Identify the appropriate measure of central tendency that would be used to summarise the results for this question.

..... **[1]**

22 Think about when you carried out a practical investigation using the **observation method**.

Evaluate the type of data you collected **and** the type of observational method you used in that practical investigation.

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Section C

Data analysis and interpretation

A psychologist wanted to investigate attitudes towards masculinity.

The psychologist selected 60 behaviours and asked a sample of 52 university students to give a masculinity rating to each behaviour.

Behaviours rated by the university students included ‘independence’, ‘courage’ and ‘competitiveness’. Students rated each behaviour on a 1-10 scale, with 10 being the most masculine.

23

(a) The masculinity ratings for independence followed a normal distribution.

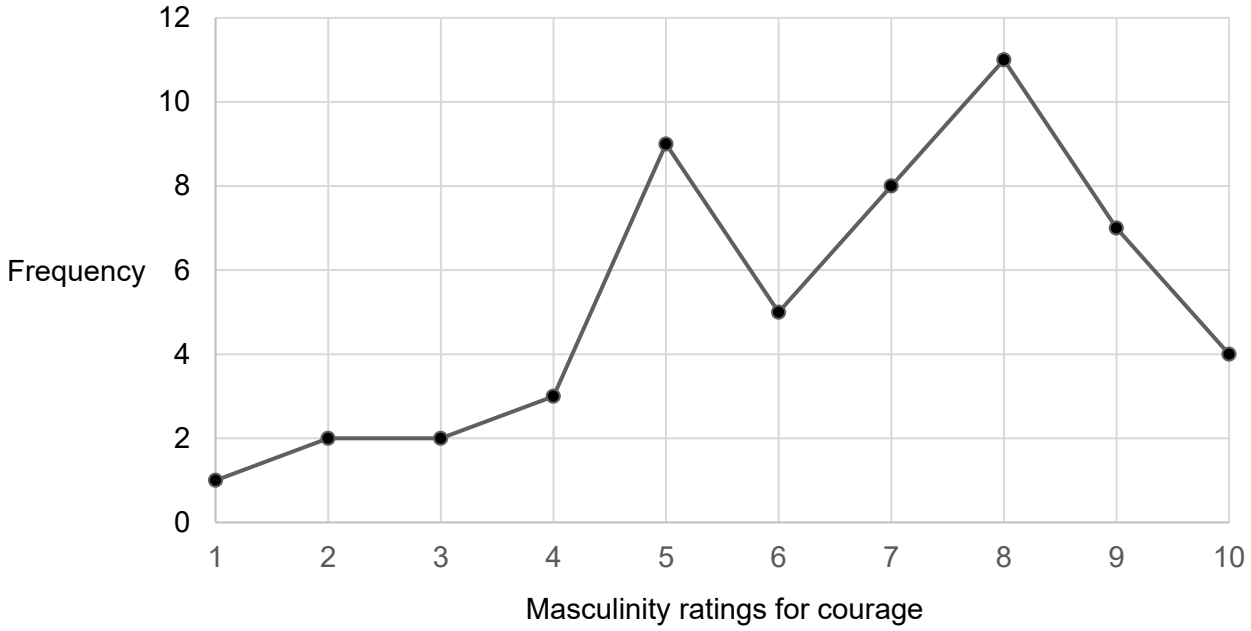
Calculate the number of masculinity ratings for independence that would fall within 1 standard deviation of the mean.

Show your working.

Write your answer to **2** significant figures.

= ..... **[2]**

The graph shows the masculinity ratings for courage in this study.



(b) Analyse the data in the graph to reach a conclusion about courage and masculinity.
Support your conclusion with **two** pieces of evidence.

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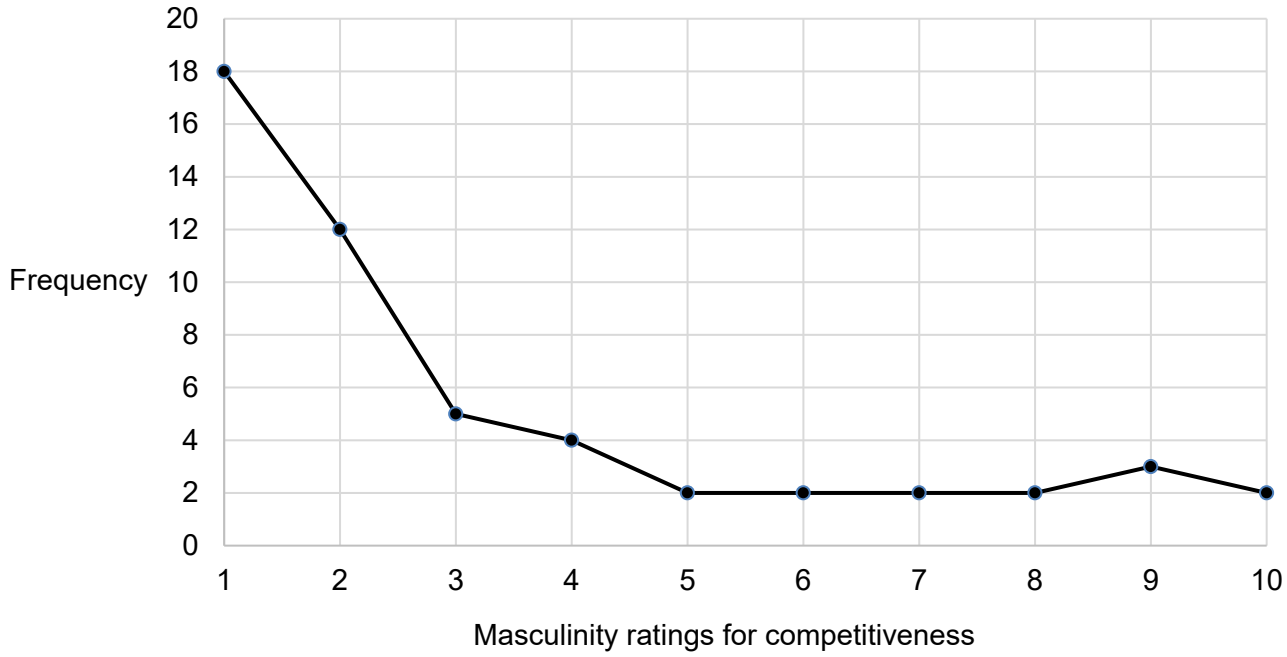
Another behaviour that was rated was competitiveness. The graph shows the masculinity ratings for competitiveness in this study.



24

(a) Calculate the percentage of students who gave a masculinity rating of 10 for competitiveness.
Write your answer to **2** significant figures.

= ..... % **[1]**

(b) Calculate the mean masculinity rating for competitiveness using the data shown on the graph.
Show your working.
Write your answer to **2** decimal places.

= ..... **[2]**

The psychologist used the median ratings for each behaviour to classify them as extremely masculine, very masculine or moderately masculine. He then recorded three 5-minute videos using a male volunteer from the student sample. In each video the student was dressed the same and was told to act in the same manner each time. In each video, the student was pretending to promote a new social media channel that he said he was planning to launch. He said the channel was going to deal with issues affecting men. In the first video, he was scripted to refer to six **extremely masculine** behaviours. In the second video, he was scripted to refer to six **very masculine** behaviours. In the last video he was scripted to refer to six **moderately masculine** behaviours.

25 The psychologist had 32 behaviours that he had classified as moderately masculine. He decided to randomly select six behaviours to use in the video.

(a) Suggest how the researcher could have randomly selected the behaviours to use in the video.

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(b) State **one** strength of using the median as a measure of central tendency for the ratings in this study.

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To investigate the difference in attitudes towards masculinity between men and boys, the psychologist conducted an experiment. He recruited an opportunity sample of 93 boys, aged 13 to 16, from a local secondary school. The boys' attitudes towards masculinity were compared with an opportunity sample of 22 men, aged 18 to 40, who worked at the school as teachers or support staff.

The participants were told that a student had made three different promotional videos for a channel that he was planning to launch. Participants viewed all three videos alone and without distractions. They viewed one video after another, and the videos were shown in a randomised order each time. At the end of the viewing, each participant was asked to choose the video that would be most likely to persuade them to view the channel.

The results from the experiment are shown in the table.

	Number of participants choosing the 'extremely masculine' video	**Number of participants choosing the 'very masculine' video**	**Number of participants choosing the 'moderately masculine' video**
Boys	33	45	15
Men	3	11	8

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(a) State **three** reasons why the Chi-square test is suitable for analysing the data in this study. Include specific features from the design of the study in your answer.

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[3]

(b) Calculate the degrees of freedom (df) for the Chi-square test used in this study.
Show your working.

= ..... df **[2]**

(c) The calculated Chi-square value in this study is 6.365.
The table shows an extract from a table of critical values for the Chi-square test.

Degree of freedom (df)	**Significance level**		
	0.10	**0.05**	**0.01**
1	2.706	3.841	6.635
2	4.605	5.991	9.210
3	6.251	7.815	11.345
4	7.779	9.488	13.277
5	9.236	11.070	15.086
6	10.645	12.592	16.812

Write a significance statement for the results of this study using the 5% level of significance.

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27 Outline **one** way that the psychologist could uphold the ethical principle of responsibility in this study.

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28 Evaluate **two** aspects of validity which apply to any part of this study.

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END OF QUESTION PAPER

EXTRA ANSWER SPACE

If extra space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).

CAMBRIDGE
OCR

Sample Mark Scheme

A Level Psychology
H569/01 Research methods

Mark Scheme

Duration: 2 hours

Maximum Mark: 80

Version
Sample

This document has **24** pages

Marking Instructions

Preparation For Marking

1. RM Assessor

- Access and complete the on-screen marking training packages: OCR Examiner Training (RMA3).
- Read the mark scheme and question paper for this component or unit.
- The mark scheme and question paper are available in RM Assessor or on your Component Page if you use the Training Platform for standardisation.
- Log in to RM Assessor and mark the **required number** of practice scripts and the **required number** of standardisation scripts.

Marking

2. General Guidance

- Mark strictly to the mark scheme.
- Marks awarded must relate directly to the marking criteria.
- If you are in any doubt about applying the mark scheme, consult your Team Leader by phone, email or via the RM Assessor messaging system.
- It is **essential** that you meet the RM Assessor 50% and 100% batch deadlines. For traditional marking this will be 40% and 100%. If you experience problems, contact your Team Leader without delay.
- Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there, then add the annotation '**SEEN**' to confirm that the work has been seen and mark any responses using the RM annotations.
- The RM Assessor **comments box** is used by your Team Leader to explain the marking of the practice responses. Use these comments when checking your practice responses. **Do not use the comments box for any other reason.**
- **Before the end of the marking period** send *a brief report on the performance of candidates to your Team Leader via email. The report should contain notes on strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.*

3. No Response and Crossed-out Answers

Using the No Response (NR) option. Only mark as NR if:

- the answer space is blank
- there is only a comment not related to the question (e.g., 'can't do', 'don't know')
- there is only a mark (e.g., a dash, a question mark) which is not an attempt at the question.

Note: Enter 0 marks for an attempt that earns no credit (including copying out the question). Do **not** use NR.

Crossed-out answers
If a candidate has crossed out an answer and written a clear alternative, do **not** mark the crossed-out answer.

If a candidate has crossed out an answer and **not** written a clear alternative, mark the crossed-out answer if it is readable.

4. Responses with more answers than needed

- **Multiple-choice question answers**
  When a multiple-choice question has only **one** correct answer and a candidate has written two or more answers (even if one of these answers is correct), do **not** award a mark.

  When a multiple-choice question asks candidates to select **more than** one option the marking guidance from your Principal Examiner will ensure consistency of approach.

- **Contradictory answers in points-based questions**
  Do **not** award any marks, even if one of the answers is correct.

- **Rubric error answers – optional questions**
  Where candidates have a choice of question/s and they provide more answers than required, all responses are marked and entered into RM Assessor. The highest mark allowable within the rubric will automatically be selected.

- **Questions that ask for a set number (including 1) of short answers or points**
  Mark only the **first set number** of answers/points. (e.g. **two** reasons for something)

  First mark the answers/points against printed numbers on the answer lines. Mark the first answer/point against each printed number. **Second**, if candidates have not followed the printed numbers, mark the answers/points from left to right on each line. **Third,** mark line by line until the set number of answers/points have been marked. Do **not** mark any remaining answers/points.

  Examiners should use their own judgement to decide if a 'second answer' on the same line is adding more detail to the first answer, or if it is a completely separate answer.

- Short Answer Questions **(requiring a more developed response, worth two or more marks**)
  If the candidates are required to provide a description of, for example, three items and four items are provided, mark line by line until the set number of descriptions have been marked (it is unlikely a candidate will provide more than one response on each line in this scenario).

- Longer Answer Questions **(requiring a developed response)**
  If a candidate has written two or more answers to a question that only requires one (developed) answer, only mark the first answer (which has not been crossed out).

5. Questions using levels of response (LOR):

To determine the **level** – start at the highest level and work down until you reach the level that matches the answer.
To determine the **mark** within the level, use the following:

Descriptor	**Award mark**
Consistently meets the criteria for this level	At top of level
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
On the borderline of this level and the one below	At bottom of level

6. Subject-specific Marking Instructions

Introduction

Your first task is to familiarise yourself with:

- the specification, especially the assessment objectives
- the question paper and any inserts or resource booklets
- the mark scheme, including annotation requirements
- the administrative procedures related to the marking process.

The administrative procedures are set out in the OCR booklet **Instructions for Examiners**.

If you are examining for the first time, please read **Appendix 5 Introduction to Script Marking: Notes for New Examiners**.

All relevant training materials are accessed from the Training Platform.

Please ask for help or guidance whenever you need it. Your first point of contact is your Team Leader.

Section A: Multiple choice

Question	Marking Criteria	Marks	AO	Answer
1	B	**1**	**AO1**	Failing to obtain informed consent from participants
2	C	**1**	**AO2**	Participant E
3	A	**1**	**AO2 (M)**	$\frac{3}{8}$
4	B	**1**	**AO2 (M)**	Primary / Nominal
5	C	**1**	**AO1 (M)**	Questionnaire
6	A	**1**	**AO1**	Brain scan and heart rate monitoring
7	B	**1**	**AO2**	15
8	B	**1**	**AO2**	Eyesight
9	C	**1**	**AO2 (M)**	Most students achieved lower scores, but some achieved higher scores
10	A	**1**	**AO2**	Line **1** – 12; Line **2** – 33; Line **3** - 57
11	D	**1**	**AO2 (M)**	The range of mood ratings was the same.
12	D	**1**	**AO2 (M)**	Wilcoxon Signed Ranks test
13	C	**1**	**AO2**	Investigating the difference in school attendance between the children in Reception class and the children in Year 6.
14	B	**1**	**AO1**	A random sample of 50 children from 5 primary schools
15	C	**1**	**AO2**	Pie chart

Section B: Research design and response

<table>
<tr><td colspan="3">Q16 Write a fully operationalised null hypothesis for this study. [3]</td></tr>
<tr><th>Marking Criteria [1+1+1]</th><th>AO/ Marks</th><th>Indicative Content</th></tr>
<tr><td>1 mark: Correctly cited null hypothesis (reference to no relationship or no correlation) in the context of this study (AO2)</td><td rowspan="4">AO2 x3</td><td rowspan="4">Example 1-mark answer:
There will be no relationship between artistic ability and a person’s tattoos.

Example 3-mark answer:
There will be no relationship between artistic ability measured on a 1–10 scale (where 1 is not at all artistic and 10 is very artistic) and the number of tattoos a person has on their body.

NB.
Must refer to ‘no relationship’ or ‘no correlation’ – zero marks for citing an alternative hypothesis or a null hypothesis for an experiment (i.e. do not award credit if there is any reference to difference/cause/effect).
Artistic ability could be operationalised in many ways – e.g. rated on a scale from 1 (not at all artistic) to 10 (very artistic), number of pieces of art they create in a year, etc.
Tattoos could be operationalised in different ways – e.g. number of tattoos they have on their body, how many tattoos they had in the last year, etc.
Each variable must be operationalised to produce ordinal or interval data to be creditworthy (as can’t produce a correlation with nominal data). Refers to the data collected, not the method of data collection.</td></tr>
<tr><td>1 mark: Co-variable 1 (artistic ability) is referred to and operationalised. (AO2)</td></tr>
<tr><td>1 mark: Co-variable 2 (tattoos) is referred to and operationalised. (AO2)</td></tr>
<tr><td>0 marks: No creditworthy response.</td></tr>
</table>

Q17 Design a study to investigate if there is a relationship between how artistic a person is and the tattoos they have on their body. The study should provide data that can be analysed using correlational analysis.

You **must** refer to the following required features in your answer:

- how you would attempt to reduce the influence of one extraneous variable
- details of how one ethical consideration would be addressed
- how you would present the data collected in an appropriate graph.

Each required feature should be addressed with sufficient clarity and detail to enable replication.
Justify the decisions you have made for each required feature. **[12]**

	Marking Criteria	
	AO2 x 6	**AO3 x 6**
Level	**The candidate applies knowledge and understanding of scientific processes, techniques and procedures for the theoretical design of a practical study by:**	**The candidate analyses, interprets and evaluates scientific information, ideas and evidence to develop and refine practical design through the justification of decisions made by:**
Level 3 **(5–6 marks)**	Addressing **all three** required features (RFs) accurately, in context, and with sufficient clarity and detail to enable replication.	Providing accurate **and** detailed justification, in context, for **all three** design decisions.
Level 2 **(3–4 marks)**	Addressing **two** of the required features (RFs) accurately, in context, and with sufficient clarity and detail to enable replication.	Providing accurate justification with reasonable detail, in context, for **at least two** of the design decisions.
Level 1 **(1–2 marks)**	Addressing **one** of the required features (RFs) accurately, in context, and with sufficient clarity and detail to enable replication.	Providing accurate justification **for at least one** of the design decisions.
0 marks	No creditworthy response.	

NB. Assessment Objectives should be marked at each Level independently. For example, it is possible that a student can attain a Level 4 response for their AO2 application, but only a Level 1 response for AO3 evaluation.

Q17 Design a study to investigate if there is a relationship between how artistic a person is and the tattoos they have on their body. The study should provide data that can be analysed using correlational analysis.

You **must** refer to the following required features in your answer:

- how you would attempt to reduce the influence of one extraneous variable
- details of how one ethical consideration would be addressed
- how you would present the data collected in an appropriate graph.

Each required feature should be addressed with sufficient clarity and detail to enable replication.
Justify the decisions you have made for each required feature. **[12]**

Indicative Content

Suggestions for required features (RF) could include (AO2):

RF1: There are many extraneous variables that could be controlled in this context, including skin conditions people might have (that prevent them from being able to have tattoos), disposable income (to be able to pay for tattoos), availability of tattoo parlours, age of participants (assuming different attitudes towards tattoos among people from different generations), etc. Candidates need to be clear on how they would attempt to reduce the effect of their identified extraneous variable (most likely to be standardisation). Any appropriate response should be credited.

RF2: Relevant ethical considerations in this context could include gaining informed consent (addressed by briefing participants/informing them of the study aims), withdrawal (addressed by informing participants of their right to withdraw before, during and after the study), reducing any possible effects such as embarrassment over poor artistic ability (addressed via debrief), etc. Any appropriate response should be credited.

RF3: A scatter diagram must be suggested as the appropriate graph type. Artistic ability should be on one axis (x or y) with number of tattoos on the other. Data would be plotted for each participant at the points where the variables intersect.

Justification for decisions (AO3):
The justification provided will depend on the suggestion made. Examples include:

RF1: Many suggestions could be justified by the fact that a higher level of control increases reliability and/or validity of the data or having more confidence that the relationship between the co-variables is direct rather than indirect.

RF2: Most suggestions could be justified by the fact that ethical guidelines are being followed, maintaining/improving the reputation of psychology so people would be more likely to participate in future studies.

RF3: Use of a scatter diagram could be justified as being appropriate for the presentation of correlational data which allows for the visual representation of the type of relationship between the two co-variables.

For all required features, any appropriate suggestions and justification should be credited.

Q18 Explain **one** weakness of using a correlation to investigate if there is a relationship between how artistic a person is and the tattoos they have on their body. **[3]**

Marking Criteria [1+1+1]	AO/ Marks	Indicative Content
1 mark: An understanding of a relevant weakness of the use of correlation demonstrated. (AO1)	**AO1 x2** **AO2 x1**	<u>Example weaknesses:</u> ▪ There is an inability to infer causation due to the problems of reverse causation [1], where it is unclear which covariable caused the change in the other. [1] For example, can't determine whether being artistic causes increased number of tattoos, or whether having more tattoos makes you more artistic. [1] ▪ There is an inability to infer causation due to the influence of 'third variables' [1], where the relationship between two covariables has been caused by other unmeasured variables. [1] For example, whether an unmeasured variable such as upbringing is responsible for the relationship between number of tattoos and artistic ability. [1] ▪ There is an inability to test for causation because variables are not directly manipulated by the researcher. [1] In correlation research, the relationship between two pre-existing covariables is measured. [1] Here, the researcher is unable to control how many tattoos a participant has or how creative they are. [1] ▪ There is a lack of qualitative data which means there is an inability to understand reasons for any relationships found. [1] So if a relationship exists between two covariables, we don't necessarily know why. [1] For example, even if a relationship between number of tattoos and artistic ability is found, there is no ability to understand participants' experiences of why this relationship exists. [1] ▪ Any other appropriate weakness.
1 mark: The weakness is further explained/elaborated. (AO1)		
1 mark: The weakness is explained within the context of the study. (AO2)		
0 marks: No creditworthy response.		

Q19 Explain **one** way that the researcher could have assessed the internal reliability of the questionnaire used in this study using the split-half method. **[3]**

Marking Criteria [1+1+1]	AO/ Marks	Indicative Content
1 mark: An understanding of a relevant way of using the split-half method to assess internal reliability is demonstrated. (AO1)	**AO1 x2** **AO2 x1**	<u>Example ways to check reliability:</u> ▪ The researcher could have split the eight questionnaire items into the four odd-numbered items and the four even-numbered items [1] and then correlated the scores achieved on each of the two halves to determine if there was a greater than 0.8 coefficient [1] on the attitudes to tattoos ratings on each half. [1] ▪ The researcher could have split the eight rating scale responses measuring attitudes to tattoos [1] into the first four rating scale responses and the second four rating scale responses [1] and then looked for a high correlation between the scores on both halves. [1] ▪ Any other appropriate point.
1 mark: The way to use the split-half method is further explained/elaborated. (AO1)		
1 mark: The way to use the split-half method is explained within the context of the study. (AO2)		
0 marks: No creditworthy response.		

Q20 Discuss ways the researcher could improve the **validity** of this self-report study if they were to carry it out again.
In your answer you should consider the implications of your suggested improvements. **[6]**

Level	Marking Criteria	AO/ Marks	Indicative Content
Level 3 **(5–6 marks)**	Relevant ways that the validity could be improved are identified. (AO1) These are discussed in terms **the extent to which** they would develop the study by considering their implications. The ideas raised are expressed clearly and in detail. (AO3)	**AO1 x2** **AO3 x4**	<u>Example 6-mark answers:</u> ▪ The study's validity could be improved by not requiring participants to write down answers in the presence of the researcher as they may believe this allows them to be personally identified. (AO1) Therefore, the participants could be given the opportunity to take the questionnaire away with them and post it back at a later date. (AO1) This would reduce the probability of socially desirable responses ensuring more truthful answers about attitudes to tattoos. However, there might still not be a guarantee that all responses are fully accurate or free from bias as the participant knows they cannot be checked or 'found out'. Allowing participants to complete the questionnaire at home would also mean participants are more likely to give a good amount of thought to responses which reflect their true attitudes towards tattoos. However, the response rate may be lower as participants cannot be relied on to complete it away from the researcher and then send it back. This would reduce population validity. (AO3) ▪ An improvement could be to use a larger sample size by asking 1000 people to complete the self-report instead of 30. (AO1) This would likely improve the population validity as a larger sample will often be more representative of the target population. However, a larger sample does not always guarantee that it will be representative of all possible participant characteristics, especially if it is just more of the same types of people from the same shopping centre, e.g. there may be an age or social class bias. (AO3) The study could also be improved by asking more than eight questions to assess attitudes. (AO1) Eight questions are likely to only give a narrow measure of participants' attitudes towards tattoos therefore affecting construct validity. However, if it is just more questions with rating scales this is still not going to give the depth that is needed to really explore attitudes in a valid way. (AO3) ▪ Any other appropriate point.
Level 2 **(3–4 marks)**	At least one relevant way that the validity could be improved is identified. (AO1) These are discussed clearly in terms of **how** they would develop the study to improve its validity. The idea(s) raised are supported with relevant detail. (AO3)		
Level 1 **(1–2 marks)**	At least one relevant way that the validity could be improved is identified. (AO1) The discussion is limited and may lack clarity and sufficient detail. (AO3)		
0 marks: No creditworthy response.			

Q21 (a) State **one** reason why this question will provide quantitative data. **[1]**

Marking Criteria	AO/ Marks	Indicative Content
1 mark: One reason why the question will provide quantitative data is clearly stated. (AO2) (M)	**AO2 x1**	Example answers: The question will provide quantitative data because: ▪ It will provide the **frequency** of yes/no responses. [1] ▪ Yes/no responses can be **counted**. [1] ▪ The **number** of yes/no responses will be recorded. [1] Any other appropriate point.
0 marks: No creditworthy response.		

Q21 (b) Identify the appropriate measure of central tendency that would be used to summarise the results for this question. **[1]**

Marking Criteria	AO/ Marks	Indicative Content
1 mark: Stating 'mode'. (AO2) (M)	**AO2 x1**	Mode. [1]
0 marks: No creditworthy response.		

Q22 Think about when you carried out a practical investigation using the **observation method**.
Evaluate the type of data you collected **and** the type of observational method you used in that practical investigation. **[6]**

Level	Marking Criteria	AO/ Marks	Indicative Content
Level 3 **(5–6 marks)**	Clear and developed evaluation of **both** relevant features of the student's own practical investigation (type of data collected **and** type of observational method used). The features are analysed and thoroughly evaluated to reach a conclusion. The ideas presented expressed clearly and supported with detailed justification. (AO3)	**AO3 x6**	<u>Example 6-mark answers:</u> ▪ Firstly, it was easy to compare the different types of behaviours on the bus to find the most common ones because I had collected quantitative data by tallying the behaviours I have identified beforehand. This also made it more objective as I was simply describing what I saw as I went along. However, I was not always able to easily categorise behaviours (like if someone was being unsociable) and I also noticed relevant behaviours which weren't on my tally chart. Secondly, conducting the observation covertly on the bus by pretending to be a passenger was somewhat unethical as participants didn't consent to being observed. However, as they were in a public space and no information that personally identified participants was collected, it remains ethical. ▪ One feature was the use of participant observation. Because I was a student in the class that was being observed it meant that I had direct experience of how well the teacher was involving all students. However, it was challenging to participate in the lesson and keep an accurate record of the teacher's behaviour at the same time. This means I may have missed some important behaviours. Another feature was the use of time sampling. I focused on the teacher's behaviour for 2 minutes at a time, with a 5 min interval in between each observation. This was more efficient as it allowed me to participate in my lesson for some of the time. I decided that this would give me an overall idea of what was happening in the lesson without having to observe the teacher for an entire hour. However, I do recognise that important behaviours may have happened in the intervals which I did not get a record of. This means my observation may not truly represent the whole lesson. ▪ Any other appropriate points of evaluation.
Level 2 **(3–4 marks)**	Clear but brief evaluation of **both** relevant features of the student's own practical investigation (type of data collected **and** type of observational method used). The features are evaluated with some development to reach a reasonable conclusion. The ideas presented are expressed clearly with relevant detail. (AO3)		
Level 1 **(1–2 marks)**	An attempted evaluation, that is unclear in places, of one or more relevant features of the student's own practical investigation (type of data collected **and/or** type of observational method used). The evaluation is limited and the ideas presented may lack clarity and detail. (AO3).		
0 marks: No creditworthy response.			

Section C: Data analysis and interpretation

Q23 (a) The masculinity ratings for independence followed a normal distribution.
Calculate the number of masculinity ratings for independence that would fall within 1 standard deviation of the mean. Show your working. Write your answer to **2** significant figures.
[2]

Marking Criteria [1+1]	AO/ Marks	Indicative Content
1 mark: Accurate number of ratings calculated and presented as a whole number (35) (AO2) (M)	**AO2 x2**	Workings: 52 x 68% = 35.36 [1] **OR** 52 x 68.2% = 35.464 [1] = 35 [1] **ALLOW** 36 only with full working 52 x 68.27% = 35.5 **ALLOW** 1 mark where students have only calculated the response for 1 SD above or below the mean, i.e. using 34% rather than 68% in their calculation. **NB:** If correct answer (35) given on the answer line, award 2 marks even if no workings shown.
1 mark: Some accurate workings shown. (AO2) (M)		
0 marks: No creditworthy response.		

<table>
<tr><td colspan="3">Q23 (b) Analyse the data in the graph to reach a conclusion about courage and masculinity.
Support your conclusion with two pieces of evidence. [3]</td></tr>
<tr><th>Marking Criteria [1+1+1]</th><th>AO/
Marks</th><th>Indicative Content</th></tr>
<tr><td>1 mark: Stating a clear and accurate conclusion based on the data presented in the graph. (AO3) (M)</td><td rowspan="4">AO3
x3</td><td rowspan="4">Example answers:

▪ Most participants view courage as a highly masculine behaviour. [1] This is supported by the modal score of 8 / most participants rated courage as 8 out of 10 in terms of masculinity. [1] Only eight participants (out of 52) rated courage at 4 or lower for masculinity. [1]

▪ Courage is seen as more of a masculine behaviour than not. [1] Over 50% of the sample rated courage as 6 out of 10 or higher. [1] Four times as many people rate courage at 10 for masculinity as those who rate it 1. [1]

▪ Any other appropriate judgements based on analysis of the data are creditworthy.</td></tr>
<tr><td>1 mark: One piece of evidence to support the conclusion presented. (AO3) (M)</td></tr>
<tr><td>1 mark: A second piece of evidence to support the conclusion presented. (AO3) (M)</td></tr>
<tr><td>0 marks: No creditworthy response.</td></tr>
</table>

Q24 (a) Calculate the percentage of students who gave a masculinity rating of 10 for competitiveness. Write your answer to **2** significant figures. **[1]**		
Marking Criteria	**AO/ Marks**	**Indicative Content**
1 mark: Accurate percentage calculated and presented to 2 significant figures (3.8%). (AO2) (M)	**AO2 x1**	Workings (for information, not required in answer): 2/52*100 = 3.8% [1]
0 marks: No creditworthy response.		

Q24 (b) Calculate the mean masculinity rating for competitiveness using the data shown on the graph. Show your working. Write your answer to **2** decimal places. **[2]**		
Marking Criteria [1+1]	**AO/ Marks**	**Indicative Content**
1 mark: Accurate mean rating calculated and presented to 2 decimal places (3.31). (AO2) (M)	**AO2 x2**	Workings: (1*18) + (2*12) + (3*5) + (4*4) + (5*2) + (6*2) + (7*2) + (8*2) + (9*3) + (10*2) OR 172/52 [1] = 3.31 [1] **NB:** If correct answer (3.31) given on the answer line, award 2 marks even if no workings shown.
1 mark: Some accurate workings shown. (AO2) (M)		
0 marks: No creditworthy response.		

Q25 (a) Suggest how the researcher could have randomly selected the behaviours to use in the video. **[2]**

Marking Criteria [1+1]	AO/ Marks	Indicative Content
1 mark: For an appropriate way of collating all (32) potential behaviours. (AO2) (M)	**AO2 x2**	Example answer: ▪ They could put all 32 behaviours on separate pieces of paper and place in a hat [1] and then the first 6 behaviours drawn from the hat are used. [1] ▪ They could input all 32 behaviours into random number-generator software [1] and then use the software to select 6 of the behaviours entered. [1] ▪ Any other appropriate point.
1 mark: For referring to how the (6) chosen behaviours are selected. (AO2) (M)		
0 marks: No creditworthy response.		

Q25 (b) State **one** strength of using the median as a measure of central tendency for the ratings in this study. **[2]**

Marking Criteria [1+1]	AO/ Marks	Indicative Content
1 mark: Relevant strength of the using the median for the ratings is stated. (AO2) (M)	**AO2 x2**	Example 2-mark answers: ▪ The data is ordinal as the behaviour ratings are subjective rather than objective [1] and so can't be analysed using the mean because it is not interval data. [1] ▪ The data for courage and competitiveness have outliers that would skew results if the mean was calculated [1] so the median is more appropriate because it won't be affected by these extreme scores. [1] ▪ Any other appropriate point.
1 mark: The strength is applied to the ratings collected in the study. (AO2) (M)		
0 marks: No creditworthy response.		

Q26 (a) State **three** reasons why the Chi-square test is suitable for analysing the data in this study. Include specific features from the design of the study in your answer. **[3]**		
Marking Criteria [1+1+1]	**AO/ Marks**	**Indicative Content**
1 mark: Contextualised reference to the study investigating a difference. (AO2) (M)	**AO2 x3**	<u>Example reasons for using a Chi-square test:</u> ▪ The study was investigating a difference between the attitudes of boys and men. [1] ▪ The study used an independent measures design where each condition contained either boys or men. [1] ▪ The study used nominal data where the data was recorded in categories based on the video's characteristics (extremely, very, or moderately masculine). [1]
1 mark: Contextualised reference to the study using an independent measures design. (AO2) (M)		
1 mark: Contextualised reference to the study using nominal data. (AO2) (M)		
0 marks: No creditworthy response.		

Q26 (b) Calculate the degrees of freedom (df) for the Chi-square test used in this study. Show your working. **[2]**		
Marking Criteria [1+1]	**AO/ Marks**	**Indicative Content**
1 mark: Accurate degrees of freedom calculated, i.e. df = 2. (AO2) (M)	**AO2 x2**	(2-1) x (3-1) [1] df = 2 [1] **NB.** Degrees of freedom are calculated as: (Number of rows–1) x (Number of columns–1)
1 mark: Accurate workings shown, i.e. (2-1) x (3-1). (AO2) (M)		
0 marks: No creditworthy response.		

Q26 (c) Write a significance statement for the results of this study using the 5% level of significance. **[4]**

Marking Criteria [1+1+1+1]	AO/ Marks	Indicative Content
1 mark: For stating that the results are significant (at the $p<0.05$ level). (AO2) (M)	**AO2 x4**	The elements of the significance statement may be written in any order (not necessarily in the order shown in the marking criteria). Accept alternative wording where appropriate, e.g. the critical value (5.991) is smaller than the calculated value (6.365). Context: Refers to support for the alternative hypothesis which predicted there would be a significant difference in attitudes towards masculinity between boys and men. **NB.** Apply **ECF** from Q26(b) if students calculate the incorrect df value.
1 mark: Stating that the calculated value (6.365) is greater than the critical value (5.991). (AO2) (M)		
1 mark: Therefore, the null hypothesis is rejected. (AO2) (M)		
1 mark: For contextualising the statement. (AO2)		
0 marks: No creditworthy response.		

Q27 Outline **one** way that the psychologist could uphold the ethical principle of responsibility in this study. **[3]**

Marking Criteria [1+1+1]	AO/ Marks	Indicative Content
1 mark: A relevant way of upholding responsibility is briefly outlined. (This may be shown through a brief statement that demonstrates understanding of how the psychologist could uphold the ethical principle of responsibility.) (AO1)	**AO1 x2** **AO2 x1**	Example answers: ▪ The psychologist could have debriefed the participants [1] at the end of the study that the aim [1] was to investigate the difference in men and boys' attitudes towards masculinity. [1] ▪ The psychologists could have protected the participants from harm [1] by ensuring that the content of the videos were age appropriate. [1] For example, by not containing behaviours such as violence and aggression. [1] ▪ Any other appropriate point.
1 mark: The way of upholding responsibility is further outlined/elaborated. (AO1)		
1 mark: The way of upholding responsibility is applied within the context of the study. (AO2)		
0 marks: No creditworthy response.		

Q28 Evaluate **two** aspects of validity which apply to any part of this study. **[6]**

Level	Marking Criteria	AO/ Marks	Indicative Content
Level 3 **(5–6 marks)**	Clear and developed evaluation of **two** relevant aspects of validity in this study. The aspects are analysed and thoroughly evaluated to reach a conclusion. The ideas presented are expressed clearly and supported with detailed justification. (AO3)	**AO3 x6**	<u>Example 6-mark answers:</u> ▪ Population validity could be an issue in this study because of the men selected to take part. As they all worked in a school their attitudes towards masculinity may not be representative of people who work in different industries. In addition, there is an age bias as older men (those over 40) were not represented yet they may have different/more traditional views about masculinity. Construct validity is another issue. The experiment aimed to measure attitudes towards masculinity but did this in a very narrow way. Participants' attitudes towards masculinity were judged by the video that they choose, but this was a single measure of attitude which may not be a true reflection of their broader attitudes. ▪ Demand characteristics may arise in this study. Rather than making valid choices about the video, they may have recognised the differences between the videos and responded accordingly. If the school staff realised that the actor was expressing quite stereotyped views in one video, they may have been reluctant to choose this because they thought they were expected to be open-minded. Meanwhile the boys may have chosen the more stereotyped video because they thought this is what they were supposed to be attracted to. The study can also be criticised for a lack of ecological validity. If the actor was not very convincing or if the script was not very natural, then the videos may not have seemed very realistic to the participants. It's also not realistic to ask participants to make a choice about a video in a short space of time and under pressure. In real life, people may ponder a video for longer or watch it again and may discuss it with people they know before deciding to follow a person further. ▪ Any other appropriate evaluation of other aspects of validity are creditworthy.
Level 2 **(3–4 marks)**	Clear but brief evaluation of **two** relevant aspects of validity in this study. The aspects are evaluated with some development to reach a reasonable conclusion. The ideas presented are expressed clearly with relevant detail. (AO3)		
Level 1 **(1–2 marks)**	An attempted evaluation, that is unclear in places, of one or more relevant aspects of validity in this study. The evaluation is limited and idea(s) presented may lack clarity and detail. (AO3)		
0 marks: No creditworthy response.			

H569/01 Assessment Objectives Grid

	Question	AO1	AO2	AO3	Total mark for question
Section A MCQs (15)	1	1			**1**
	2		1		**1**
	3		1		**1**
	4		1		**1**
	5	1			**1**
	6	1			**1**
	7		1		**1**
	8		1		**1**
	9		1		**1**
	10		1		**1**
	11		1		**1**
	12		1		**1**
	13		1		**1**
	14	1			**1**
	15		1		**1**
Section B Research Design (35)	16		3		**3**
	17		6	6	**12**
	18	2	1		**3**
	19	2	1		**3**
	20	2		4	**6**
	21a		1		**1**
	21b		1		**1**
	22			6	**6**
Section C Data Analysis (30)	23a		2		**2**
	23b			3	**3**
	24a		1		**1**
	24b		2		**2**
	25a		2		**2**
	25b		2		**2**
	26a		3		**3**
	26b		2		**2**
	26c		4		**4**
	27	2	1		**3**
	28			6	**6**

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