GCE AS MARKING SCHEME

SUMMER 2016

PSYCHOLOGY - NEW AS COMPONENT 2
B290U20-1

INTRODUCTION

This marking scheme was used by WJEC for the 2016 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

AS PSYCHOLOGY - COMPONENT 2

SUMMER 2016

MARK SCHEME

Question	AO1	AO2	AO3	TOTAL
1	4			4
2	2			2
3	4			4
4	2			2
5	8			8
6		-	10	10
7		13	7	20
8		16	3	19
9		11		11
TOTAL	**20**	**40**	**20**	**80**

Section A

Q.1 Identify what is being described in the following statements:

(a) An experimental design where participants take part in both the control and experimental conditions. [1]

Marks	AO1
1	• Repeated measures or repeated design.
0	• Inappropriate answer given. • No response attempted.

(b) The level of measurement that has an absolute or true zero point. [1]

Marks	AO1
1	• Ratio.
0	• Inappropriate answer given. • No response attempted.

(c) A type of skewed distribution, where the mode is less than the mean. [1]

Marks	AO1
1	• Positive/ Positive skew or Right skew.
0	• Inappropriate answer given. • No response attempted.

(d) A type of sampling where every 10^{th} person on a list is selected. [1]

Marks	AO1
1	• Systematic or Systematic sampling.
0	• Inappropriate answer given. • No response attempted.

Q.2 Define what is meant by a 'directional hypothesis'. [2]

Exemplar answers:

- A testable statement predicting the direction of difference between the conditions. [2 marks]
- A testable statement which predicts the direction of difference between the groups. [2 marks]
- A hypothesis that one group/condition will do better or worse than another group. [1 mark]
- Any other appropriate definition

Marks	AO1
2	• Accurate definition given
1	• Basic definition given
0	• Inappropriate answer given • No response attempted

Q.3 Outline the main features of an experiment. [4]

Credit **could** be given for:

- Measures cause and effect relationships.
- Researcher retains control over research variables.
- Random assignment of participants to conditions.
- Equal treatment of participants, except in relation to the IV.
- Presence of a control condition.
- Any other appropriate description.

Marks	AO1
3 – 4	• Thorough outline of an experiment given. • Good use of appropriate terminology.
1 – 2	• Basic outline of an experiment given. • Some appropriate terminology is evident.
0	• Inappropriate answer given. • No response attempted.

Q.4 Explain a difference between quantitative and qualitative data. [2]

Exemplar answers:

- Qualitative data can be observed but not measured, whereas quantitative data can be measured. [2 marks]
- Quantitative data is easily analysed using statistical techniques, whereas qualitative data needs to be turned into quantitative data before it is analysed with statistics. [2 marks]
- Quantitative data is easier to analyse than qualitative. [1 mark]
- Any other appropriate difference.

N.B. Where an answer **only** juxtaposes the definitions of quantitative and qualitative data, such as "Quantitative data is numerical data whereas qualitative data is non-numerical data", maximum mark awarded should be 1.

Marks	AO1
2	• Thorough explanation of a difference.
1	• Basic explanation of a difference.
0	• Inappropriate answer given. • No response attempted.

Q.5 Describe Milgram's sample and outline how he selected them for his (1963) *Behavioral Study of Obedience*. [8]

Credit **could** be given for:

Sample:

- 40 male participants.
- Between the ages of 20 and 50.
- Range of occupations, including "postal clerks, high school teachers, salesmen, engineers, and *laborers".*
- Range of educational level, from "one who had not finished elementary school, to those who had a doctorate and other professional degrees.
- Some answers may include data from 'TABLE 1: DISTRIBUTION OF AGE AND OCCUPATIONAL TYPES IN THE EXPERIMENT' on page 372 of the original article - this should receive credit if used.

Sample selection:

- Advertisement placed in a New Haven newspaper.
- Direct mail solicitation
- Participants took part in research "voluntarily".

- Any other appropriate description of the sample or how it was selected – although it must be cited in the original article.

N.B. It is likely that most detail in this answer will come from the characteristics of the sample rather than how the sample was selected.

Marks	AO1
7 – 8	• Accurate and detailed description of **both** the sample **and** how the sample was selected
5 – 6	• Reasonably accurate and detailed description of **both** the sample **and** how the sample was selected
3 – 4	• Basic description of **both** the sample **and** how the sample was selected **OR** • Accurate and detailed description of **either** the sample **or** how the sample was selected
1 – 2	• Superficial description of **both** the sample **and** the sample was selected **OR** • Basic description of **either** the sample **or** how the sample was selected
0	• Inappropriate answer given • No response attempted

Q.6 Research conducted by social psychologists, such as Milgram, often has ethical issues. Analyse ethical issues that arise in social psychological research. [10]

Credit could be given for:

- **Use of deception**: Employed by Social Psychologists to avoid demand characteristics or socially desirable behaviours. Milgram told his participants that his research was on memory and learning rather than obedience to authority. If he had told the truth, many or all of his participants may have opted not to shock the learner. Milgram later talked about his use of 'technical illusions' rather than deception.
- **The risk of stress, anxiety, humiliation or pain**: In order to accurately assess our 'real' responses to situations, social psychologists may cause negative emotions or behaviours which when the participants know the truth may cause problems with self-esteem about how they behaved in the research. Many of Milgram's participants suffered greatly during the research, 3 of the participants had seizures. They were also *"observed to sweat, tremble, stutter, bite their lips, groan, and dig their fingernails into their flesh"*. However, Milgram later reported that many of his participants were actually 'gratified' to have taken part in such *important* scientific research.
- **A lack of valid consent**: Closely linked to deception as any deception means valid consent has not been attained. Milgram's participants agreed to take part in research on memory and learning not obedience to authority.
- Any other appropriate ethical issue and/or relevant social psychologist.

N.B. Where the answer *only* contains a description of the ethical issues of Milgram's study, without any attempt to analyse, the maximum mark to be awarded will be 3 marks.

Marks	AO3
8 – 10	• More than one ethical issue is analysed thoroughly. • There is an appropriate conclusion regarding ethical issues that arise in social psychological research. • There is effective use of Milgram's (1963) research or other social psychological research. • Effective use of terminology.
4 – 7	• One ethical issue is analysed thoroughly. OR • More than one ethical issue is analysed reasonably. • There is a basic conclusion regarding ethical issues that arise in social psychological research. • There is reasonable use of Milgram's (1963) research or other social psychological research. • Good use of terminology.
1 – 3	• One ethical issue is analysed reasonably. OR • More than one ethical issue is superficially analysed. • There is a superficial conclusion or no conclusion regarding ethical issues that arise in social psychological research. • There is a weak or no use of Milgram's (1963) research or other social psychological research. • Very little use of terminology.
0	• Inappropriate answer given. • No response attempted.

Section B

Q.7 A psychologist investigated if people enjoyed a film more if they had read a positive review before watching the film.

At a local cinema he selected 10 people waiting to watch a newly released film. He asked them to read a positive review of the film they were about to watch. After watching the film the psychologist asked them to report how much they enjoyed the film as a percentage rating (0% = no enjoyment to 100% = most enjoyable film they had ever seen).
The next evening, the psychologist returned to the cinema and selected another 10 people who had watched the same film. He also asked them to report a percentage rating as to how much they had enjoyed the film.

Condition One - Enjoyment rating for those who read a positive review before watching the film.

Participant Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Enjoyment percentage rating	75	75	63	80	100	45	65	70	73	70

Condition Two- Enjoyment rating for those who did not read a positive review before watching the film.

Participant Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Enjoyment percentage rating	65	80	50	75	40	55	70	60	45	68

(a) The median enjoyment percentage rating of Condition One was calculated to **be 71.5. Using the data in the above table, calculate the median enjoyment percentage rating of Condition Two. Show your calculations.** **[2]**

Credit given for appropriate answer and calculations:

40,45,50,55,60,65,68,70,75,80
(60+65)/2
= 62.5 (2 marks)

The median score for Condition Two is 62.5. (1 mark)

Marks	**AO2**
2	• Correct median value given and appropriate calculations.
1	• Correct median value given. OR • Correct calculations given, but final median given is incorrect.
0	• Inappropriate answer given. • No response attempted.

(b) Give one conclusion that can be drawn from comparing the median enjoyment ratings of Condition One and Condition Two. [2]

Exemplar answers:

- The enjoyment rating median score for Condition One (71.5) where participants had seen a positive review before watching the film was higher than the median score for Condition Two(62.5) where participants had not been given the positive review before watching the film. [2 marks]
- The enjoyment rating median score for Condition Two (62.5) where participants had not been given the positive review before watching the film was lower than Condition One (71.5) where participants had seen a positive review before watching the film. [2 marks]
- Condition one median was higher than condition two. [1 mark]
- Two was lower than one. [1 mark]

Marks	AO3
2	• Appropriate conclusion.
1	• Appropriate, yet basic conclusion OR inferential conclusion given.
0	• Inappropriate answer given (e.g. inferential conclusion given). • No response attempted.

(c) (i) State the modal scores of Condition One and Condition Two. [2]

Exemplar answers:

- Condition One modal scores are 70 and 75 and Condition Two has no modal score [2 marks]
- Condition One modal scores was 70 and Condition Two hasn't got a mode. [1 mark]

Marks	
2	• Both modal scores for Condition One and lack of modal scores for Condition Two are correctly stated.
1	• Modal scores for Condition One. OR • Lack of modal scores in Condition Two are correctly stated.
0	• Inappropriate answer given. • No response attempted.

(c) (ii) Briefly explain why the mode may not be an appropriate measure of central tendency in this research. [2]

Credit could be given for:

- A mode is inappropriate because in Condition One there are two modes (70, 75), however in Condition Two there is no mode as all participants have selected different enjoyment percentages. This makes it impossible to compare modal values for these two conditions. [2 marks]
- As the data is at least ordinal, the mode is a less precise measure than the median. [1 mark]
- Condition One has two modes and Condition Two doesn't have any modes. [1 mark]
- Other appropriate explanations.

Marks	AO2
2	• Appropriate explanation.
1	• Appropriate, but basic explanation.
0	• Inappropriate explanation given. • No response attempted.

(**d) Describe how this research could also be conducted in a laboratory environment. [4]**

Exemplar answers

'After asking participants to come to the laboratory, the researcher could randomly assign half of the participants to read a positive review of a film. The researcher could then ask all participants to watch the film at the same time but tell them that during the film and after the film ended they would not be allowed to talk to the other participants. When the film ended, the participants could all complete a questionnaire about the film and one of the questions could ask them to rate their enjoyment. The results of the participants who read the review could be compared to those who didn't read the review'. [4 marks]

'Tell participants to come to a laboratory. Give some the good review, let them watch a film and then compare results to those who didn't read the film review'. [2 marks]

- Any other appropriate content

Marks	AO2
3-4	• Appropriate description of how this research could be applied to laboratory research.
1-2	• Appropriate, yet basic description of how this research could be applied to laboratory research.
0	• Inappropriate answer given. • No response attempted.

(**e) Explain why the psychologist should conduct his research in a laboratory rather than in the field.** **[5]**

Exemplar answers:

- The data collected in the laboratory is likely to be more scientific because it was collected in conditions which are more controlled than in the field. In his field research this researcher conducted the research on different evenings, the people who saw the film on the first evening may have been more enthusiastic and motivated to see the film. In the laboratory research the researcher can control which film is seen and that it is seen by all participants at the same time. The researcher could also use equipment to collect data from the participants in the laboratory more easily than in the field. He could measure their enjoyment when watching the film using machines like an EEG more easily than in the field. [5 marks]
- A laboratory allows the researcher to retain high levels of control over research variables such as who has and who hasn't seen the positive review of the film and assessing the enjoyment ratings. Research conducted in a laboratory also tends to be easily replicated. Finally the researcher can also use equipment more easily in the laboratory. [3 marks]
- Research done in a lab gives the researcher greater control over the research than research done' in the field'. [1 mark]

- Any other appropriate content

Marks	AO3
5	• Thorough analysis of the strength(s) of laboratory research in contrast to limitation(s) of field research.
3-4	• Reasonable analysis of the strength(s) of laboratory research with contrast to limitation(s) of field research. OR • Thorough analysis of the strength(s) of laboratory research but no contrast to limitation(s) of field research.
2-1	• Basic analysis of a strength of laboratory research with contrast to a limitation of field research. OR • Reasonable analysis of the strength(s) of laboratory research but no contrast to limitation(s) of field research.
0	• Inappropriate answer given. • No response is attempted.

(f) The psychologist sends his research to a psychology journal. The editor tells him the research will have to undergo peer review. Explain how 'peer review' could be completed for this research. [3]

Credit could be given for:

- Process of peer review is likely to have the following stages:

1. Researcher submits article to journal.
2. Journal assessed by editor of journal.
3. If accepted by editor, article is sent to reviewers (who is also an expert in the field).
4. Reviewers are normally kept anonymous from the article's author.
5. Reviewers submit their comments to the editor.
6. Editor may reject the article or return it to the author to make revisions.
7. Revised article is re-submitted to editor for publication.

- Any other appropriate content

N.B. As this is an AO2 question the answer must contain some application of the peer review process to this research. Links could include any research variables, such as 'enjoyment ratings'.

Marks	AO2
3	• Thorough explanation of the stages of peer review with strong links to this research.
2	• Reasonable explanation of the stages of peer review with some link to this research. OR • Thorough explanation of the stages of peer review with limited link to this research.
1	• Basic explanation of the stages of peer review, with some link to this research. OR • Reasonable explanation of the stages of peer review with no link to this research.
0	• Basic explanation of the stages of peer review with no link to this research. • Inappropriate answer given. • No response attempted.

Q.8 A researcher wanted to investigate if police officers are better at identifying lies than the general public.

After seeking permission from the chief constable, the researcher randomly selected 10 police officers from a local police force. 10 students studying at a local university were selected to represent the general public. They were all asked to come to a psychology laboratory to complete the research.
All participants were assessed individually. They were presented with a film of an actor making 10 statements (5 of the statements were true and 5 were false). The participant had to report whether each of the actor's statements was true or false.

Table 1 contains the number of correct identified responses collected from participants.

Participant	1	2	3	4	5	6	7	8	9	10
Police Officers	5	6	5	5	8	4	5	6	6	6
General Public	4	4	4	2	5	5	4	6	4	6

(a) Suggest a suitable non-directional hypothesis for this research. [2]

Credit could be given for:

- There will be a difference in the number of correctly identified responses of police officers and the general public. [2 marks]
- There is a difference between the police and public. [1 mark]
- There is a difference in the number of correctly identified responses of the two conditions. [1 mark]

No credit for directional or null hypotheses.

Marks	**AO2**
2	• Appropriate non-directional hypothesis, with clearly operationalised IV and DV.
1	• Appropriate, yet basic non-directional hypothesis, possibly with only the IV or DV clearly operationalised.
0	• Inappropriate answer given. • No response attempted.

(b) Outline one weakness of using the opportunity sampling technique to select members of the general public in this research. [2]

Credit could be given for:

- The sample is unlikely to be representative.
- Even if asked, a person selected opportunistically can still refuse to participate
- Any other appropriate weakness.

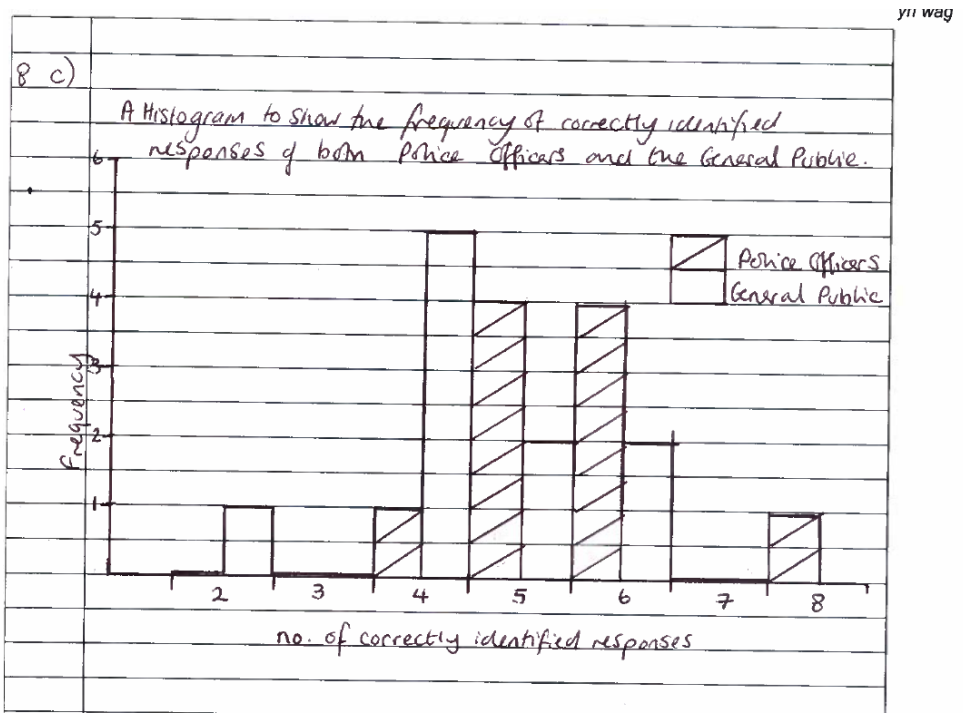
Marks	**AO2**
2	• Appropriate weakness linked to this research.
1	• Appropriate weakness, however it is not linked to this research.
0	• Inappropriate answer given. • No response attempted.

(c) Draw a histogram using the data provided in the above Table. You should ensure it is fully labelled. [4]

Credit could be given for:
Features:

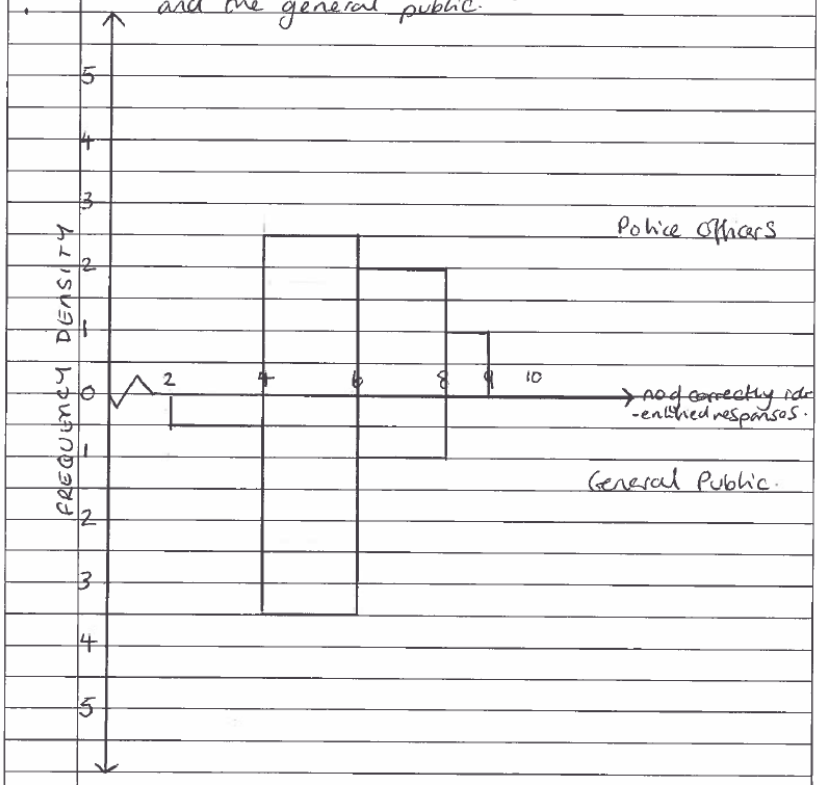
- Appropriate title for histogram (and key if appropriate)
- Appropriate label and scale of x-axis
- Appropriate label and scale of y-axis
- Appropriate accurate logical depiction of the frequency of correctly identified responses of both police and general public.
- Appropriate key or indicator of Police Officers and General Public scores.

Example histograms:



8 c)

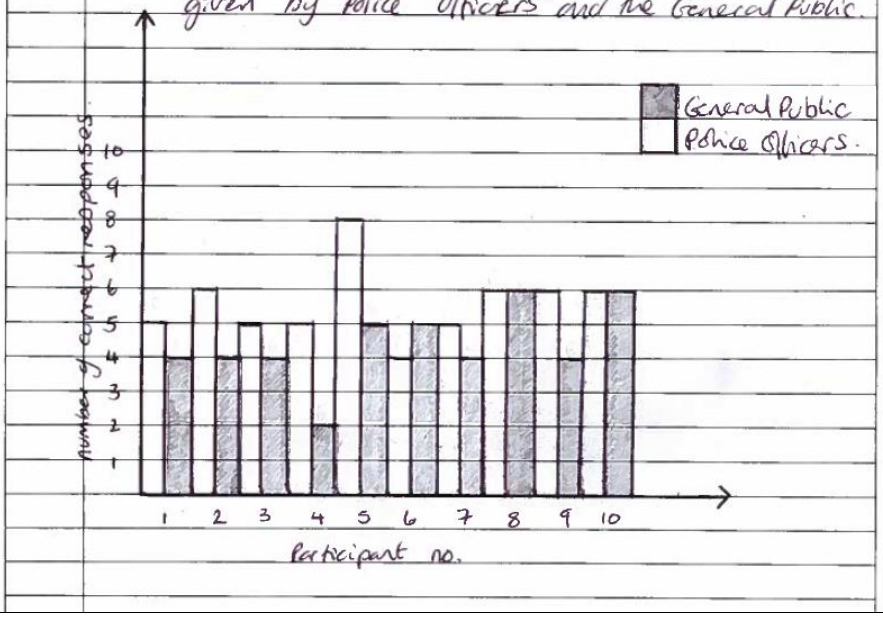
A Histogram to show the frequency density of correctly identified responses of both Police Officers and the general public.



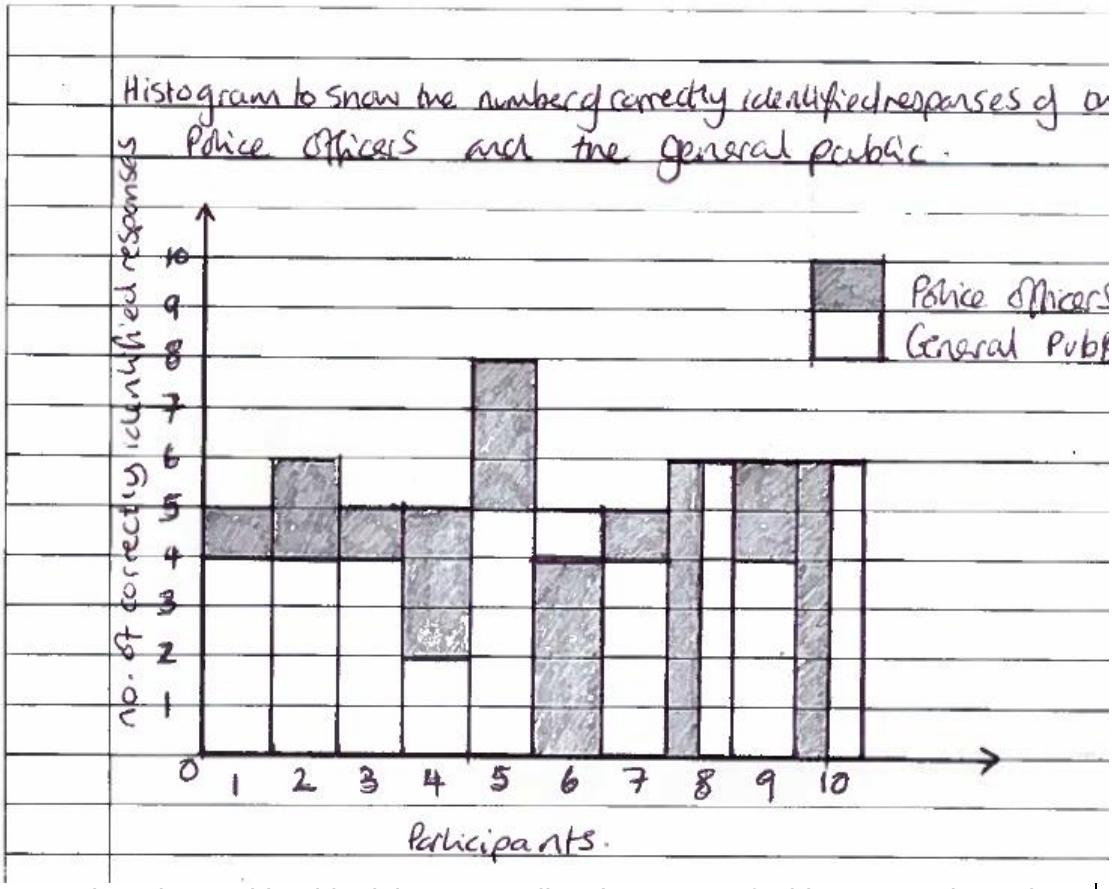
Question number

Leave Blank

Histogram to show the number of correct responses given by Police Officers and the General Public.



Question number



N.B. As there is considerable debate regarding the nature of a histogram, please be aware of different interpretations and credit appropriately.

Marks	AO2
4	• Four features noted above.
3	• Three features noted above.
2	• Two features noted above.
1	• One of the features noted above.
0	• Inappropriate answer given. • No response attempted.

(d) With reference to the data collected, justify why a Mann-Whitney U Test is appropriate in this research. [4]

Credit could be given for:

- Test of difference: Looking for a difference between police officers and the general public.
- Independent data: The scores are from participants who are either a police officer or a member of the general public, so is only part of one condition.
- Data is at least ordinal or data is ratio: the number of correctly identified responses is an example of ratio data.

Example answers:

A Mann-Whitney is appropriate because the number of correctly identified responses is at least ordinal level data. Secondly, the scores are also independent because the participant can only be in the police OR public condition NOT BOTH. Thirdly, Mann-Whitney's are used when you are looking to identify if any difference, such as the difference between police and public, is significant or not. [4 marks]

It's appropriate when investigating the number of correctly identified responses of police and public because its:
*A test of difference
*Independent data
*Ratio level of measurement. [3 marks]

Marks	AO2
4	• Answer contains all three elements to justify the use of a Mann Whitney U test and there are links to the data collected in this research.
3	• Answer contains all three elements to justify the use of a Mann Whitney U test and there is a link to the data collected in this research. OR • Answer contains two of the three elements to justify the use of a Mann Whitney U test and there are links to the data collected in this research.
2	• Answer contains two of the three elements to justify the use of a Mann Whitney U test and there is a link to the data collected in this research. OR • Answer contains all three elements to justify the use of a Mann Whitney U test but there is no link to the data collected in this research.
1	• Answer contains two of the three elements to justify the use of a Mann Whitney U test but there is no link to the data collected in this research.
0	• Inappropriate answer given. • No response attempted.

(e) (i) Briefly explain one issue of internal validity that arises in this research. [2]

Credit could be given for:

Issues of internal validity, such as:

- Artificial nature of the 10 true/false statements task.
- The use of an actor to give the statements.
- Lack of consequence for not accurately identifying true/false statement.

- Any other issue of internal validity.

Marks	AO2
2	• Appropriate explanation of an issue internal validity clearly linked to this research.
1	• Appropriate explanation of an issue internal validity not clearly linked to this research. OR • Brief identification of an appropriate internal validity issue that has been linked to this research
0	• Inappropriate answer given. • No response attempted.

(e) (ii) Outline how the content validity of this research can be assessed. [2]

Credit could be given for:

- An expert in the field of lying can be asked to review the materials and procedures of this research and if they agree it measures identification of lies, it can be said to have content validity. [2 marks]
- If a lying expert says it does then the research is valid. [1 marks]
- If an expert in the same field of research agrees the research is doing what it claims to measure then it can be said to have content validity. [1 mark]

- Any other appropriate content.

Marks	AO2
2	• Outline is appropriate and clearly linked to this research.
1	• Outline is appropriate with a basic link to this research. • Outline is appropriate but has no link to this research.
0	• Inappropriate answer given. • No response attempted.

(e) (iii) Explain how the researcher could improve the internal validity of this research. [3]

Credit could be given for:

The explanation of how the researcher could improve the internal validity depends on the issue of internal validity being discussed.

Answers may relate to a different issue of internal validity than the one described in e(i).

Marks	AO3
3	• Thorough explanation of how the researcher could improve the internal validity with strong links to this research.
2	• Reasonable explanation of how the researcher could improve the internal validity with some link to this research. OR • Thorough explanation of how the researcher could improve the internal validity with limited link to this research.
1	• Basic explanation of how the researcher could improve the internal validity. OR • Reasonable explanation of how the researcher could improve internal validity with no link to this research.
0	• Inappropriate answer given. • No response attempted.

Q.9 During her work, a therapist noticed that her older clients seemed to take longer to show a decrease in their symptoms compared to her younger clients. She decided to investigate this by posting a questionnaire online for people who have undergone therapy.

Below are some of the questions that appeared in the online questionnaire.

3. At what age did you start therapy?
4. At what age did you finish therapy?
5. Approximately how many sessions did you attend with your therapist?
6. Briefly explain why you decided to go to therapy

(a) Identify which of the above questions would produce qualitative data. **[1]**

Credit could be given for:

- 6. [1 mark]
- Question 6. [1 mark]
- Briefly explain why you decided to go to therapy? [1 mark]

Marks	AO2
1	• Correct identification of question 6.
0	• Inappropriate answer given. • No response attempted.

(b) Briefly explain why the question you selected in (a) would produce qualitative data. **[2]**

Credit could be given for:

- The answers provided by the participants would be non-numerical in basis.

Example answers:
The participants' explanations about why they went to therapy would produce non-numerical data, so this is qualitative. [2 marks]

The data collected would be non-numerical, so it's qualitative. [1 mark]

Marks	AO2
2	• Appropriate explanation linked to this research.
1	• Appropriate explanation not linked to this research.
0	• Inappropriate answer given. • No response attempted.

(c) Write a question that would produce qualitative data about age and the decrease of their symptoms. [2]

Credit could be given for:

Questions such as:

- Do you think the age of someone experiencing therapy has an effect on how quickly they respond therapy? Please explain your answer.
- Briefly outline your recollection of therapy. Please include approximate ages as to when you had these experiences.
- Do you think age has an effect on the amount of therapy you need to reduce symptoms? Please explain your answer.

Questions do not need to have '?'. They can be instructive statements (as second example above).

Marks	AO2
2	• Appropriate question linked to both age and decrease of their symptoms.
1	• Appropriate question, but only linked to age OR the decrease of their symptoms, not both.
0	• Inappropriate answer given. • No response attempted.

(d) Identify a method that could be used to collect more qualitative data about the amount of therapy required by older and younger people using a method other than a questionnaire. Justify your choice of method for this research. [1+2]

Credit could be given for:

Methods could include:

- Interview (structured or semi-structured).
- Case Studies.
- Observation (participant or non-participant).
- Any other appropriate method that could produce qualitative data.

Justification of choice is likely to be based on the strengths of the method selected.

Marks	AO2
3	• Appropriate method identified and justified with strong links to the data collected for this research.
2	• Appropriate method identified and justified with no link to the data collected for this research.
1	• Appropriate method identified but not justified.
0	• Inappropriate answer given. • No response attempted.

(e) Outline how the method you identified in (d) could be used by the therapist to collect qualitative data about age and the amount of therapy required. [3]

Credit could be given for:

Step-by-step, numbered or bullet points are acceptable in this answer.

Example answer:

(if Semi-structured interview was used in d) –

- *The researcher could come up with a list of questions she wanted to ask the interviewees about age and therapy.*
- *She could then ask her questions about age and the amount of therapy required and if the interviewees gave an interesting answer about their age or therapy experience she could ask them a follow-up question that wasn't from her original list of questions.*
- *The interviewees could also ask the therapist questions if they didn't understand the questions they were being asked.*
- *The researcher should probably record these interviews using either a camera or audio recorder so she can then accurately transcribe the interviewee's answers to produce qualitative data).* [3 marks]

Marks	AO2
3	• Appropriate outline of the method identified (d), with strong links to the data collected in this research.
2	• Appropriate outline of the method identified (d), with some links to the data collected in this research. • Basic outline of the method identified (d), with strong links to the data collected in this research.
1	• Appropriate outline of the method identified (d), with no link to the research.
0	• Inappropriate answer given. • No response attempted.