

### Section C Psychological Research and Scientific Method

Answer all questions in this section.

This topic carries 35 marks.

#### Topic: Psychological Research and Scientific Method

In an observational study, 100 cars were fitted with video cameras to record the driver's behaviour. Two psychologists used content analysis to analyse the data from the films. They found that 75% of accidents involved a lack of attention by the driver. The most common distractions were using a hands-free phone or talking to a passenger. Other distractions included looking at the scenery, smoking, eating, personal grooming and trying to reach something within the car.

**1 8** What is content analysis? *(2 marks)*

**1 9** Explain how the psychologists might have carried out content analysis to analyse the film clips of driver behaviour. *(4 marks)*

**2 0** Explain how the two psychologists might have assessed the reliability of their content analysis. *(3 marks)*

The psychologists then designed an experiment to test the effects of using a hands-free phone on drivers' attention. They recruited a sample of 30 experienced police drivers and asked them to take part in two computer-simulated driving tests. Both tests involved watching a three-minute film of a road. Participants were instructed to click the mouse as quickly as possible, when a potential hazard (such as a car pulling out ahead) was spotted.

Each participant completed two computer-simulated driving tests:

- Test A, whilst chatting with one of the psychologists on a hands-free phone
- Test B, in silence, with no distractions.

The order in which they completed the computer tests was counterbalanced.

**2 1** Explain why the psychologists chose to use a repeated measures design in this experiment. *(3 marks)*

**2 2** Identify one possible extraneous variable in this experiment. Explain how this variable may have influenced the results of this experiment. *(3 marks)*

**2 3** Explain how one factor in this experiment might affect its external validity. *(3 marks)*

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### Question 18

AO1 = 2 marks

Content analysis is a technique for analysing qualitative data of various kinds. Data can be placed into categories and counted (quantitative) or can be analysed in themes (qualitative).

Award 1 mark for a brief statement and a further mark for elaboration.

### Question 19

AO3 = 4 marks

- The psychologist could have begun by watching some of the film clips of driver behaviour.
- This would enable the psychologist to identify potential categories which emerged from the data of the different types of distractions seen in the film.
- Such categories/themes might include: passenger distractions, gadget distractions, etc.
- The psychologists would then have watched the films again and counted the number of examples which fell into each category to provide quantitative data.

Credit variations in so far as they explain the process.

Note: maximum 1 mark if no engagement with the stem.

### AO3 Mark bands

<b>4 marks Effective</b> Effective explanation of the processes involved in content analysis referring to some or all of the above points.
<b>2 - 3 marks Reasonable</b> Reasonable accurate coverage of the processes involved.
<b>1 mark Basic</b> Basic identification of the processes involved in content analysis ('watching the films and counting').
<b>0 marks</b> No creditworthy material.

### Question 20

AO3 = 3 marks

1 mark for identification of an appropriate way of assessing reliability in this investigation. By far the most likely answers here are inter-rater reliability or test-retest reliability.

2 marks for some explanation/elaboration: 'the two psychologists could carry out content analysis of the films separately and compare their answers' or 'they could re-code the films at a later date and compare the two sets of data'.

**Question 24**

**AO3 = 4 marks**

There are several potential ethical issues here. Candidates can focus on one in detail or several in less detail.

- Protection of participants from harm whilst studying the effects of a hands-free phone on driving. Two key issues here are the use of a computer-based test with no risk attached and of an experienced sample of police drivers.
- Informed consent: Participants should be given full information about the nature of both tasks before deciding whether or not to participate.
- Debriefing: A full debriefing should take place at the end of the experiment. This should provide feedback on performance and allow participants to ask questions if they wish to.
- Freedom to withdraw: Participants should be made aware of their freedom to withdraw before and during the experiment. They should be made aware of their right to withdraw their data after the experiment.
- Confidentiality: Individuals should not be identified, but should retain anonymity (use of numbers or initials instead of names).

Lists of ethical issues with no elaboration 1 mark.

**AO3 Mark bands**

**4 marks Sound**

An appropriate ethical issue is identified and explained in detail. Material is accurate – or several issues are identified and discussed accurately in less detail.

**2 - 3 marks Reasonable**

One or more appropriate ethical issues are identified and discussed. The answer is generally accurate.

**1 mark Basic**

Basic identification of an ethical issue (e.g. 'right to withdraw') or very brief answers which lack detail.

**0 marks**

No creditworthy material.

**Question 25**

**AO3 = 5 marks**

The standardised instructions should include the following information:

- a. *You will take part in a simulated driving test which will last for three minutes.*
- b. *Your task will be to identify potential hazards on the road ahead.*
- c. *When you see a hazard, you should press the mouse button as quickly as possible.*
- d. *Whilst you are doing the test, I will chat to you on a mobile phone and I would like you to reply using the hands-free mobile phone headset.*
- e. *Do you have any questions?*

For full marks, the instructions should adopt an appropriate formal tone. Instructions which are not suitable to be read out should be awarded a maximum mark of 2.