

OCR A2 Psychology

Unit G544: Approaches and Research Methods in Psychology

Student Workbook

Teacher Notes

Research methods

Topic 1 Research methods and techniques.....	3
Topic 2 Investigation design.....	6
Topic 3 Data analysis and presentation of data.....	10
Topic 4 Levels of data and inferential statistics.....	12

Approaches, perspectives, issues and debates

Topic 1 Approaches and perspectives.....	15
Topic 2 Issues and debates.....	23

Introduction

These Teacher Notes accompany and complement the *OCR A2 Unit G544: Approaches and Research Methods in Psychology Workbook*. At A2, students should have a deeper understanding of psychology than at AS, and the exam requires them to demonstrate both breadth and depth of knowledge and appreciation of research methods, approaches, issues and debates in psychology.

The Unit G544 exam is in two sections:

- In Section A, students are required to design hypothetical research in response to a stimulus scenario and to answer questions describing and explaining how they would conduct their research.
- In Section B, students choose one question (in five parts) from two questions on research methods, approaches, issues and debates in psychology.

Since the exam lasts 1½ hours, students should aim to spend 45 minutes on each section.

Answering the questions in the workbook should help students to develop skills of analysis, interpretation and evaluation, and to communicate their knowledge in a clear and effective manner. Ideally, they should practise answering questions under timed exam conditions, when

they will need to write rapidly but accurately. At A2, they are required to write essay-style responses.

In questions asking the candidate to evaluate, assess or discuss, students frequently lose marks because they only describe psychological content and/or they have not learned how to make their points in an effective manner. Effective evaluation and analysis requires practice, and students need to be taught how to separate points on research methods, sampling, data collection methods, ethics of research, approaches and potential implication(s) and application(s) of research into different strands of argument.

Skills of analysis and argument can be developed. For example, you might teach students to use the 'three-point rule':

- 1** State the point (for example X lacks ecological validity).
- 2** Justify the point (say where and why X lacks ecological validity).
- 3** Explain why this point is a weakness/strength.

Students could also practise using analytical sentence starters, for example:

However there are limitations to X because...

On the other hand...

This implies that...

This is useful because...

Not all psychologists agree, for instance...

There are advantages to X because...

This breached the ethical guidelines because...

The purpose of these Teacher Notes is *not* to provide a model answer for each question, but to provide guidance on the content and characteristics of an effective answer.

The workbook is organised into two sections. In the first section on research methods, there are four topics:

- Topic 1 focuses on how to identify, describe and evaluate the most frequently used research methods.
- Topic 2 looks at the factors associated with research design, including techniques for improving validity and reliability.
- Topic 3 examines on data analysis and data presentation.
- Topic 4 focuses on inferential statistics.

In the second section on approaches, perspectives, issues and debates, there are two topics:

- Topic 1 focuses on psychological approaches and perspectives.
- Topic 2 focuses on issues and debates in psychology.

These notes will help you assess students' work. Where a question calls for a specific response, a detailed answer is provided. For those questions that elicit a range of answers, these notes include a list of the most probable responses. Use your discretion when marking unexpected responses by assessing whether the student has recognised the requirements of the question. Where students are asked to plan extended essay answers, there are suggestions as to appropriate content; as practice for the exams, you might consider asking students to write up their essays in full. Although these notes are written for teachers' use, it may be appropriate for the answers to some topics, or some questions, to be duplicated to enable students to assess and correct their own work.

Research methods

Topic 1 Research methods and techniques

Question 1

- a** A laboratory experiment takes place in a contrived setting, such as a classroom or laboratory, but a field experiment takes place in an everyday situation, such as a hospital or school. One main difference is the level of control that the researcher is able to establish — usually high in laboratory experiments and low in field experiments.
- b** Possible answers include:
- One advantage of laboratory experiments is that the experimenter is able to control variables other than the IV that could either mask the effect of the IV or have an effect on the DV. Having control helps researchers to understand cause and effect by manipulating the IV and measuring its effect on the DV.
 - One disadvantage of laboratory experiments is that the experimental setting may not be similar to situations in which the behaviour being studied occurs, in which case the findings may lack mundane realism.
- c** Possible answers include:
- One advantage of field experiments is that the experimental setting is realistic. This means that the findings have mundane realism and may apply better to real life.
 - One disadvantage of field experiments is that researchers may not be able to control extraneous variables. Variables other than the IV may have an effect on the DV, reducing experimental validity.
- d** The defining characteristic of a natural experiment is that the IV is naturally occurring, for example gender or age, and that participants cannot be randomly allocated to experimental conditions. In a natural experiment, a pre-existing IV defines the conditions of the experiment.

Note: according to Hugh Coolican, in a natural experiment the variable is not manipulated by the experimenter. Gender is not altered by anyone and therefore Coolican calls these ‘difference studies’.

- e** One advantage of the case study method is that researchers can gather rich detailed information and so build up a detailed picture of an individual to discover and explain how a person’s past may be related to his or her present behaviour.
- f** Case studies, especially retrospective case studies such as Thigpen and Cleckley, ‘The three faces of Eve’, look at a person’s life experiences, and because no two individuals have the same life experiences, the findings can only be applied to the person being studied.

Question 2

- a** The research method the teachers decide to use is a natural experiment because the children are either in the noisy classroom or the quiet classroom. Therefore because the IV is naturally occurring, children cannot be randomly allocated to the experimental conditions.
- b** The IV is whether the Year 6 classroom is noisy or quiet. The DV is the children’s score in the test.
- c** The data are quantitative because a numeric test score is collected.
- d** Students might note various factors that may affect the test score, including:
 - how hard each of the children works normally
 - individual differences in the children’s ability
 - how many absences (sickness or holidays etc.) each of the children has had
 - the effect of the different class teachers
- e** Because the children are only 10 years old, the teachers should inform their parents or guardians of their research — why they are conducting it, the procedures they will use, and how they will publish their findings — and gain the informed consent of the parents or guardians. Since the children cannot withdraw from school, the parents should be informed that they can withdraw the data for their child from the research if they wish to. When the research is completed, the teachers should debrief the parents (and, if agreed, the children) and allow them to see the results. If they decide to publish their results, they should ensure that the identity of the school and the children remain confidential.

Question 3

- a** A positive correlation is one in which as one variable increases, so does the other, for example as the temperature increases, the number of ice creams sold also increases.
- b** A scattergraph (scattergram) should be used to display a correlation.
- c** Possible answers include:
 - One advantage of using correlational analysis is that if two variables are correlated, it is possible to predict one variable from the other.
 - One disadvantage is that even if there is a significant correlation, no statements can be made about cause and effect. It is never possible to say that an increase or decrease in one variable *caused* the increase or decrease in the other.

Question 4

The notice implies that there is a cause-and-effect relationship between attending lectures and passing (or failing) the exam. However, in correlational analysis, it is not possible to exclude other variables, such as how hard each individual student works, or individual differences in ability. Therefore, no conclusions can be drawn about cause and effect because the correlation may be a chance effect.

Question 5

- a** In a structured interview, participants are asked the same questions in the same order. The research can be repeated and can be used to compare people's responses. Conducting structured interviews can be time consuming and requires skilled researchers and interviewers. In unstructured interviews, there may be a set of discussion topics but participants can answer anything freely, which provides rich and detailed information. The research is not replicable, however, and people's responses cannot be compared easily.
- b** Possible answers include:
- Self-report methods are a practical way to collect information quickly from many people.
 - Researchers can access what people think and feel rather than having to deduce this from their behaviour.

Question 6

- a** The mothers may not remember the details of their children's development, or they may answer the questions in a way they think they should (social desirability bias), in which case the data collected will lack validity.
- b** Quantitative data are objective, so statistical comparisons can be made between groups of scores.
- c** Qualitative data are subjective, often first-hand and rich in detail and description. This allows researchers to understand how participants think and feel.
- d** Possible answers include:
- Ensure parents are informed of the true purpose of the study in order to gain informed consent.
 - Protect the participants by ensuring that no embarrassing questions are asked.
 - Fully debrief the participants and ensure that they are happy to have their data included in the study.

Question 7

- a** A wide range of suggestions may be made, such as hitting others, shouting at others, snatching toys from others and fighting with others.
- b** Possible answers include:
- One advantage is that the research has high ecological validity. Behaviour can be observed in its usual setting and there are no problems with demand characteristics, thus the

observed behaviour has mundane realism. This is especially useful when researching the behaviour of children.

- One disadvantage is that only quantitative data can be collected. The observers cannot gain explanations for the observed behaviour (because they do not ask people to explain) and may misinterpret the behaviour they observe, which reduces the validity of the findings.
- c** Possible answers include:
- Ensure parents are informed of the true purpose of the study in order to gain informed consent. Also gain consent from the school or nursery school as appropriate.
 - Protect the child participants by ensuring that they are not upset to be observed by strangers.
 - Fully debrief the parents and ensure that they are happy to have their data included in the study.

Topic 2 Investigation design

Question 1

- a** The aim is to find out whether students (young people) have better memories than teachers (older people).
- b** This research would use the method of natural experiment, because the IV is whether the participants are students or teachers and this is a naturally occurring characteristic. An experimental method would be selected in order to control for other variables that might account for differences in memory.
- c** When given the same memory test, students (young people) will achieve higher scores than teachers (older people).
- d** There will be a significant difference between students' and teachers' scores in a memory test. *Note:* students could check each other's hypotheses for clarity and could check whether the IV and the DV can be identified.
- e** When given the same memory test, there will be no significant difference in the scores achieved by students and teachers.
- f** The IV in this study is whether the participants are students or teachers. This does not need to be operationalised as it is self-defining. *Note:* if students are using the terms 'older' or 'younger', they should operationalise this by stating the age range, for example 20–30 years old = younger; 60–70 years old = older.
- g** The DV in the study is how effective the memory of the participants is. This will be operationalised by administering a test in which participants will be asked to recall as many items as they can from a list of 25 words that they have learned for 2 minutes. *Note:* students could rate each other's operationalisations for clarity.

Question 2

- a** Students will probably identify an independent design. They may also suggest a matched pairs design, where students and teachers are matched on gender and IQ scores.

b Students may suggest:

Use an independent design, the advantage being that the older participants (especially teachers) might not want to participate if they are to be pre-tested. However, the disadvantage of an independent design is that other factors, such as IQ or tiredness, might interact with the IV and thus invalidate the findings.

c Possible variables to control include:

- the location and conditions in which the test will take place
- conditions in which the test will be administered

Example answer:

One environmental variable that might be controlled is that all participants must undertake the test in the same place at the same time of day, for example in the morning. One personal variable that might be controlled is the amount of stress the participants are experiencing, as stress may affect memory.

d Students may suggest:

- To increase the validity of the study, it is important to control the time of day the memory test is set. This is because the time of day might affect the performance on the memory test, such that what is being measured is how alert participants are, rather than the effect of age on memory.
- Since the test involves learning words, it is important that the conditions of the test are held constant. This avoids extraneous variables such as temperature or location being different for some participants, which could affect their performance on the test and the validity of the results.

Question 3

- a** A sample is only a random sample when every member of the target population to be studied has an equal opportunity to be selected.
- b** A sample is an opportunity sample when participants are selected by the researcher on the basis of who is available to participate at the time the research is to be conducted.
- c** A representative sample means that the sample of participants is representative of all the people in the target population to be studied. For example, if you wish to research some behavioural characteristic of A-level psychology students, you will need to study A-level psychology students and not A-level physics students.
- d** A sample is said to be biased when the participants do not represent all of the people in the target population, for example all are male, or female, or students, or share similar characteristics.
- e** A large sample is needed when the target population is large, or when the research has important implications, for example testing a new drug.
- f** In a small sample, the findings may be invalid because individual differences in the participants may have an effect on what is being measured and thus on the findings.
- g** If a researcher stops people and asks them to participate in research, the resulting sample is called

an opportunity sample *because* the researcher took the opportunity to approach people who just happened to be available at the time.

- h** A matched sample increases the validity of the findings *because* the matching process reduces the chance that individual differences will have an effect on either the IV or the DV.

Question 4

- a** A random sample is when every member of the target population has an equal chance of being asked to participate.
- b** A volunteer sample is when people are informed of the research and asked to volunteer, for example they respond to an advertisement.
- c** An opportunity sample is when researchers approach and ask people who are available if they are willing to participate in research.

Question 5

The survey would ask students about their alcohol consumption and students may not wish their teachers (or others) to know that they are engaging in underage drinking. Thus, they may respond untruthfully about whether they drink and about how much they drink. If students did answer the questions untruthfully, the findings of the study will not be a valid measure of underage drinking in students.

Question 6

- a** The population of this study will be British students and teachers. Students will be aged 16–18 and teachers aged 30–50.
- b** Example answer:
A large sample of teachers and students is required. To recruit teachers, I shall place an advertisement in a magazine that teachers read (for example the *TES*) asking for volunteer participants. To recruit students, I shall send posters for display in schools and colleges asking for students to volunteer.
- c** Possible issues include:
- The need to gain informed consent from the participants: before they participate, all participants will be given a written briefing of the true purpose of the research and of what they will be asked to do.
 - The need to ensure that all participants have the right to withdraw: they will be reminded that they can withdraw from participating in the research and also that they can withdraw their data from the research.
 - The need to protect participants from any sort of harm: ensuring that the research procedures cause no stress, embarrassment or any type of negative self-evaluation.
 - The need to ensure that participants are properly debriefed and informed about the research findings: at the end of their participation, the researcher should answer any questions from the participants truthfully, and send a follow-up letter to participants advising them of the research outcomes.

Question 7 (exam-style question)

This example answer assumes that students have chosen the research question: 'Are pictures easier to remember than words?'

- a** The aim of the research is to find out whether pictures are easier to remember than words.
- b** I will use a laboratory experiment, in order to design a standardised procedure to control variables other than the way the information is presented.
- c** When shown a list of 20 words and then shown 20 pictures, participants will remember significantly more pictures than words. This is a one-tailed hypothesis because it makes a prediction that the average number of pictures remembered will be greater than the average number of words remembered.
- d** When shown a list of 20 words and then shown 20 pictures, there will be a significant difference in the average number of pictures and average number of words remembered by participants. This is a two-tailed hypothesis because although a difference is predicted, the hypothesis does not predict whether more pictures or words will be remembered.
- e** When participants are shown a list of 20 words and then shown 20 pictures, there will be no significant difference between the number of words and the number of pictures remembered.
- f** The IV is whether participants are asked to memorise words or pictures. In one condition of the IV, participants will be asked to read and memorise a list of 20 common words. In the other condition of the IV, participants will be asked to look at and memorise a set of 20 pictures.
- g** The DV is the number of words/pictures participants remember. To operationalise the DV, when participants have looked at the list of words/pictures they will be asked to write down as many as they can remember in a 1-minute 'free recall' task.
- h** A repeated measures design is chosen. This increases experimental validity because it reduces any effect of variables caused by individual differences in the participants (for example how good their memory is), since the same participants will take part in both the picture and word conditions. The disadvantage is that repeated measures can reduce experimental reliability because of order or practice effects — participants may improve on the second memory task because of practice, or lose interest because of boredom.
- i** One environmental variable that should be controlled is the time of day that the participants complete the tasks. All participants should carry out the experiment at the same time of the day.
- j** Controlling the time of day for the experiment will increase experimental validity. Later in the day, participants may be tired, and tiredness affects how effectively people learn and remember information. If some participants were tested in the morning and others in the late afternoon, tiredness may become an uncontrolled 'extra' variable that could interact with, or mask, the effect of the independent variable.

Topic 3 Data analysis and presentation of data

Question 1

- a** The aim of the research is to find out whether watching television can influence a person's mood and make them feel happier.
- b** The IV was the order in which the participants watched the two television programmes. The DV was the self-report score of the participants' mood, rated on a scale of 10–40, where high scores indicated feeling happy.
- c** The research used an independent groups design, where participants are randomly allocated to one or other of the two conditions.
- d**
- One advantage of an independent groups design is that participants can be randomly allocated between the conditions to distribute individual differences evenly.
 - One disadvantage of an independent groups design is that there may be important and uncontrolled differences between the groups of participants that are not removed by the random allocation of participants between conditions, in which case experimental validity is reduced.
- e** The aim of the research is to find out whether watching television can influence a person's mood, but if both groups of participants had watched the sad programme followed by the comedy programme, there would have been an order effect. One way that researchers control for order effects is to use a counterbalancing technique, so that the group of participants is split and half the group complete condition A (the sad programme) followed by condition B (the comedy programme) but the other half completes condition B followed by condition A.
- f** The mean is a sensitive measure of central tendency that takes into account all the values from the raw scores.
- g** Standard deviation tells us how the scores are distributed around the central point (the mean). The larger the standard deviation, the larger the spread of the scores. When scores are 'normally' distributed, about 66% of the scores will lie within one standard deviation above or below the mean.
- h** The students have only been given the mean scores, so they should draw an appropriately labelled bar chart showing the comparison of the mean scores.
- i** From the bar chart, it seems that watching television can influence a person's mood and make them feel happier, because after watching both sad and comedy television programmes, the participants who watched the comedy programme last reported, on average, feeling happier.
- j** Example answer:
An alternative method could be to design a questionnaire and conduct a survey asking people to self-report which television programmes they watch; whether and how watching different types of television programme affects their mood; and whether they choose to watch specific types of television programme to 'cheer themselves up'.

Question 2

a *Hint:* remind students to contextualise their answers.

- Questionnaires are a practical and quick way to collect a large amount of information on binge drinking in the student population, and they can be used again to replicate the research.
- However, validity is reduced if the questions suggest a 'desirable' response, because participant responses can be affected by social desirability bias. For example, in this research participants may not tell the truth about whether they engage in antisocial behaviour while drunk.

b *Hint:* remind students to contextualise their answers.

Because a questionnaire is used, a pilot study should be conducted to establish whether the participants are able to understand the questions. For example, in this research participants are asked to estimate how many units of alcohol they consume each week. A pilot study would establish whether participants understand what comprises one unit of alcohol, so that the questionnaire can be adjusted if necessary.

c One question that provides qualitative data is: 'Why do you consume alcoholic drinks?' This open question allows participants to explain, in as much detail as they like, the reasons for their behaviour.

d In opportunity sampling, the researchers would approach students on the college/university campus to ask if they might be willing to participate in the research into the drinking habits of students. The research wants to sample the opinions of local students, and without gaining access to college/university registers it would be difficult to obtain a random sample. An opportunity sample would provide a sample of students who are local and available, and face-to-face ethical briefings and debriefings can be undertaken.

e Example answer:

The question 'How many units of alcohol do you consume, on average, each week?' may cause the research findings to have low levels of validity because each participant may have a different, and inaccurate, opinion as to how much alcohol comprises one unit.

f Example answer:

One small glass of wine is 1.5 units, one half pint of beer is 1 unit and one single measure of spirits is 1 unit. Based on these measures, how many units of alcohol do you drink each week?

g Example answers:

- The researcher should gain the informed consent of the participants before they begin to complete the questionnaire. This will involve informing participants of what is being researched and that they will be asked questions about their alcohol consumption and their behaviour when they consume alcohol.
- When the participants have completed the questionnaire, they should be debriefed, any questions they have should be answered, and they should be reminded that they can withdraw the data they have provided from the research if they wish to.

Topic 4 Levels of data and inferential statistics

Question 1

- a** The level of data being collected is ordinal level data, because the data are numeric and can be ranked highest to lowest score (number of words remembered).
- b** The level of data is nominal level data, because the researchers can only count the frequencies of occurrence of male and female drivers using mobile phones.
- c** The level of data being collected is ordinal level data, because the IQ test scores are numeric and can be ranked highest to lowest score (or lowest to highest).
- d** The level of data is interval level data, because temperature is measured on a scale with fixed intervals.

Question 2

- a** Example answers:

A probability of $p = <0.01$ means that the probability is less than 1 in 100 (1%) that the results could have occurred if the null hypothesis is true, therefore we reject the null hypothesis and accept the alternative (experimental) hypothesis.

or

A probability of $p = <0.01$ means that there is only 1 chance in 100 that the measured result was caused by a variable other than the IV, so we reject the null hypothesis and accept the alternative (experimental) hypothesis.

- b** Example answer:

Because the difference in the amount of rough-and-tumble play in girls and boys was significant at a level of probability of $p = <0.01$, the null hypothesis should be discarded because there is less than a 1% chance that the difference in play behaviour was caused by some factor other than gender.

- c** Example answer:

The difference in the number of words remembered was only significant at a level of probability of $p = <0.10$, so the null hypothesis should be retained because there is a 10% chance that the difference was caused by some factor other than the age of the participants and this is higher than the standard significance level ($p = <0.05$) for psychological research.

Question 3

- a** A Mann-Whitney U test should be used because this is a test of the significance of the difference between two conditions when an independent groups design has been used and where ordinal level data are collected.

- b** Example answer:

The research described is a repeated measures design collecting ordinal level data, so a Wilcoxon matched pairs signed ranks test should be conducted to test the significance of the difference between the reported mood scores before and after the exercise.

- c** A Spearman's rho (rank order) correlation coefficient should be calculated, because the relationship between two independent variables (IQ scores and performance on the test) is being analysed.
- d** (i) These are closed questions.
 (ii) The questions collect quantitative data.
 (iii) The level of data is nominal level data, because the researchers can only count the frequencies of reports of smoker/non smoker and of smoking or non-smoking parents.
 (iv) Example answer:
 Because the researchers are looking for an association between teenagers who report that their parents smoke and smoking themselves, the Chi-square test of significance of association, which is used when nominal level data have been collected, should be used to analyse the data.

Question 4

- a** The level of data being collected is ordinal level data because the data are numeric and can be ranked highest to lowest score in the maths test (or lowest to highest score).
- b** Example answer:
 This is an independent groups design, because participants were in either the warm room or the cold room condition, and the level of data is ordinal level, so a Mann-Whitney U test should be used.
- c** Because the standard level of significance for psychological research is $p = <0.05$, this level of significance should be acceptable.
- d** Example answer:
 At a level of significance of $p = <0.001$, the researcher is more likely to make a type-2 error and decide to retain the null hypothesis, concluding that the IV (the temperature of the room) had no significant effect on the DV (the test scores). At $p = <0.001$, this allows only 1 chance in 1000 that the result was caused by a random variable other than the IV.
- e** Students may suggest:
- individual differences in the mathematical ability of the students
 - how hard the students tried in the test
 - how much sleep the students had had the night before the test
 - how much the students had revised for the test
- f** Example answer:
 The researcher could control for individual differences in the students' maths ability by conducting a prior test to assess the students' mathematical ability. He or she could then allocate the students to the test in a matched sample design, so that an equal number of high and low ability students were in the warm and the cold room condition.

Question 5 (exam-style question)

Note: this example answer could be used as a model for student practice.

- a** The research will investigate whether men are better at map reading than women.
- b** When given a street map of London, male participants can plan a pedestrian route from Trafalgar Square to Westminster Abbey in a faster time than female participants.
- c** The method I will use is a laboratory experiment. The design I will use is an independent groups design.
- d** The IV is the gender of the participants. The DV is how quickly in minutes and seconds the participants can mark a pedestrian route from Trafalgar Square to Westminster Abbey on a street map of London.
- e** The sampling method I will use is a volunteer sample, because I will advertise for participants. My sample will be 20 male and 20 female students aged 18 or over.
- f** The materials I will use will be an A4 photocopy of a street map of London compiled from the London A to Z, one copy of the map for each participant. Each participant will be given a marker pen and asked to draw a route that they could walk to get from Trafalgar Square to Westminster Abbey.
- g** The gender of the participant will determine which group he or she is in. The volunteer sample will be given individual appointments for the experiment, which will all take place in room X. An ethical briefing will be given, in which participants will be told that the aim of the experiment is to find out whether men or women are better at map reading, and also told that they will be timed while they plan a route on a map. If the participant gives consent, he or she will be seated at a desk on which the prepared map is waiting. He or she will be given a marker pen and asked to draw a route from Trafalgar Square to Westminster Abbey and to take as much time as necessary. He or she will be timed while drawing the map, and when he or she signals that he or she has completed the route, the time it took will be recorded. After they have finished, the participants will be debriefed and thanked for their time. They will also be told that they can have a copy of the results of the experiment if they wish.
- h** One control will be that all the participants will be given the same map.
- i** The recorded time it took in minutes and seconds will be the score; this is interval level data.
- j** Descriptive statistics, mean, range, and standard deviation will be calculated to enable a comparison of the male and female scores. A Mann–Whitney U statistical test will be used to analyse the significance of the difference between the male and female time scores because this test is appropriate for an independent groups design where interval level data are collected.
- k** $p = <0.05$ means that there is only a 5% chance that the difference is caused by a variable other than the IV, in this case the gender of the participants.
- l** One weakness of using an independent groups design is that there may be important differences, other than gender, between the groups, in this case how familiar the participants are with London. One way to overcome this weakness would be to advertise for participants who have never visited London before.

m Example answer:

To protect participants from the harm of stress, I would remind them that the map-reading task is not a test of their intelligence and that they can take as much time as they need to complete the task. After the task, I would tell them that they performed really well.

- n** *Note:* where the question asks students to ‘discuss’, they should write an argument based on evidence from their research.

Example answer:

In some ways, the ecological validity of the task is high because it did test the participants’ map reading ability and an actual map of London was used. However, in real life the participants would have a personal reason to ‘find a route’, so some participants might not be motivated to read the map, and it is quite unusual to be timed while map reading. The ecological validity is reduced because all the participants are 18-year-old students and some are better educated than many people, so the sample may not be representative of the wider population.

- o** There are many possible answers to this question.

Example answer:

If the research did find a difference in male and female ability to map read, I would be interested to find out whether a specific cognitive skill explains this difference. For example, I might want to investigate whether there is a gender difference in the ability to perform spatial orientation tasks.

Approaches, perspectives, issues and debates

Topic 1 Approaches and perspectives

Question 1

- a** The student may list research from the AS core studies or research he or she has studied in the applied options. It would be useful to ask students to draw up a chart to identify research studies that take a physiological approach. Students may suggest Maguire (London taxi drivers), Sperry (split brains), Dement and Kleitman (dreaming in REM sleep) or research studies from forensic psychology, health and clinical psychology, or other applied units.
- b** The physiological approach assumes that:
- behaviour can be explained and understood at the level of the functioning of physiological systems
 - there is a direct relationship between the physiology of the brain/body and human behaviour, and that behaviour and experience can be reduced to the functioning of physiological systems

- c** *Note:* students should describe the aims, methods, procedures, findings and conclusions of one study that takes a physiological approach. There are many possible answers, but an effective answer will end with a conclusion that clarifies how the study explains behaviour from a physiological approach.
- d**
- The objective nature of physiological explanations facilitates experimental research.
 - The physiological approach is scientific, and we do not need to infer metaphysical constructs, such as ‘mind’, which are difficult to study.
- e** There are several possible answers. Students may suggest:
- The physiological approach offers an objective, reductionist and mechanistic (machine-like) explanation of behaviour, which is over-simplistic and ignores the effect of past experience in our environment as an influence on behaviour.
 - Physiological explanations are deterministic, suggesting that behaviour can be predicted from the biological status of the brain/body.
- f** The physiological approach can be described as reductionist because it reduces explanations for behaviour to biological factors and ignores past experience and social and psychological factors as explanations for behaviour.
- g** *Note:* there are many different answers to this question depending on which approach/perspective the student uses as a contrast to the physiological approach.

In the example given, students may suggest:

Unlike the physiological approach, the cognitive approach assumes that mental processes, such as thinking and decision making, explain human behaviour; and the cognitive approach, unlike the physiological approach, assumes that people have the free will to choose how they behave.

If the student selects the social approach as a contrast, he or she could write:

Unlike the physiological approach, the social approach assumes that human behaviour is influenced by the people we are with. For example, to explain why people turn to crime, the social approach may focus on the influence of the groups people associate with rather than looking for biological differences between people who do/do not turn to crime.

Question 2

- a** The student may list research from the AS core studies or research he or she has studied in the applied options. It would be useful to ask students to draw up a chart to identify research studies that take a cognitive approach. Students may suggest Loftus and Palmer (eyewitness memory), Baron Cohen (eye task) or Savage Rumbaugh (Kanzi), or research studies from forensic psychology (for example criminal thinking), health and clinical psychology (for example cognitive explanations for depression), or other applied units.
- b** Two assumptions of the cognitive approach are:
- If we understand mental processes, we can explain why people behave as they do.
 - The mind works like a computer, inputting, storing and retrieving data, and people make decisions as to how they behave.

- c** *Note:* students should describe the aims, methods, procedures, findings and conclusions of one study that takes a cognitive approach. There are many possible answers, but an effective answer will end with a conclusion that clarifies how the study explains behaviour in terms of mental processes.
- d** Students may suggest:
- Research has found useful applications, ranging from advice about the validity of eyewitness testimony, to how to improve performance in situations requiring close attention (such as air traffic control) and successful therapies for psychological problems such as depression and stress.
 - Another advantage is that the cognitive approach is not deterministic because it proposes that humans have free will to make decisions about behaviour.
- e**
- The cognitive approach assumes that humans are rational. This underemphasises the role of human emotions, such as anger or fear, as an explanation for behaviour.
 - Research tends to be laboratory experiments using procedures that lack similarity to everyday life. For example, many memory experiments measure ‘memory for lists of facts’, but there are many different kinds of memory.
- f** *Note:* there are many different answers to this question, depending on which approach/perspective the student uses as a contrast to the cognitive approach.

In the example given, students may suggest:

Unlike the cognitive approach, the psychodynamic perspective assumes that unconscious processes, such as ego-defence mechanisms or conflict between the id, ego and superego, motivate human behaviour, and that people are unaware of, and thus cannot describe, these unconscious mental processes.

If the student selects the social approach as a contrast, he or she could write:

Unlike the cognitive approach, the social approach assumes that human behaviour is influenced by the people we are with. For example, to explain why people turn to crime, the social approach may focus on the influence of the groups people associate with rather than looking for differences in the thinking styles of criminals and non-criminals.

Question 3

- a** The student may list research from the AS core studies or research he or she has studied in the applied options. It would be useful to ask students to draw up a chart to identify research studies that take an individual differences approach. Students may suggest Thigpen and Cleckley (‘The three faces of Eve’), Rosenhan (sane in insane places) or Griffiths (fruit-machine gamblers), or any research studies from the applied units.
- b** The individual differences approach treats each person as unique and often uses case study methodology to explain the causes of unusual abilities or behaviour. The individual differences approach can be used to explain what is ‘normal’ when looking for explanations of human behaviour.

c *Note:* students should describe the aims, methods, procedures, findings and conclusions of one study that takes an individual differences approach. There are many possible answers, but an effective answer will end with a conclusion that clarifies how the study explains behaviour in terms of individual differences.

d Example answer:

One advantage of taking an individual approach is that psychologists can gain rich detailed information about unusual behaviour. This can increase our understanding of unusual behaviour and lead to the development of effective therapies for dysfunctional behaviour.

- e** ● The individual differences approach may be reductionist because it may overestimate the role of dispositional factors and ignore social and situational influences on behaviour.
- When case study methods are used, the findings can only be applied to the person being studied, and because each person has unique life experiences the findings can never be generalised to explain other people's behaviour.

f *Note:* there are many different answers to this question, depending on which approach/perspective the student uses as a contrast to the individual differences approach.

In the example given, students may suggest:

Unlike the individual differences approach, the physiological approach assumes that all members of the human species are physiologically similar and thus that the same physiology (brain structures etc.) will predict similar behaviour. This difference means that unlike the individual differences approach, the physiological approach will study groups of people looking for similarities in physiology and behaviour, rather than researching one individual in depth to explain his or her behaviour.

Question 4

a The student may list research from the AS core studies or from research he or she has studied in the applied options. It would be useful to ask students to draw up a chart to identify research studies that take a developmental approach. Students may suggest Freud (Little Hans), Samuel and Bryant (conservation) or Bandura (BoBo doll study), or any studies they have learned in the applied units.

b Students may suggest:

- The developmental approach assumes that common behaviour changes occur through a person's lifetime and tries to explain why these changes happen and whether they are caused by inherited factors and maturation (nature) or by the influence of other people and the physical environment (nurture).
- There are recognisable phases in development, such as infancy, childhood, adolescence and old age, and because people experience these common changes we can examine how these experiences affect their behaviour.

c *Note:* students should describe the aims, methods, procedures, findings and conclusions of one study that takes a developmental approach. There are many possible answers, but an effective answer will end with a conclusion that clarifies how the study explains behaviour

in terms of some aspect of development.

d Students may suggest:

- The developmental approach helps us to identify changes that are common to most people and to understand and predict age-related changes in aspects of behaviour. For example, theories of cognitive development can be applied to help improve teaching and learning situations in schools.
- By increasing our understanding of changes that take place in most people, we can recognise abnormal or dysfunctional development.

e Students may suggest:

- When longitudinal research methods are used it is difficult to control other factors that can also affect the behaviour that researchers are measuring, reducing the validity of research conclusions.
- Research may be reductionist because it may overestimate the influence of age as a cause of behaviour change and ignore social or situational influences on behaviour.

f Example answer:

- Longitudinal research findings may have low levels of validity because when studying the same people over a long period of time it is difficult to control other factors that can also affect the behaviour that is being measured.
- When conducting longitudinal research, many participants and researchers are required, as either may move or withdraw from the research. If participants withdraw from longitudinal research, this may result in a biased sample, which reduces the generalisability of the research findings.

Question 5

a The student may list research from the AS core studies or research he or she has studied in the applied options. It would be useful to ask students to draw up a chart to identify research studies that take a social approach. Students may suggest Milgram (obedience), Piliavin (Subway Samaritans), Reicher and Haslam (BBC prison), or any studies they have learned in the applied units.

b Example answer:

The social approach focuses on the study of behaviour within a social context and assumes that the people we are with (the social situation) has an effect on the way we behave, how we interact with others and/or on our attitudes to other people's behaviour.

c *Note:* students should describe the aims, methods, procedures, findings and conclusions of one study that supports the social approach. There are many possible answers, but an effective answer will end with a conclusion that clarifies how the study explains behaviour in terms of some aspect of social influence. Students who are studying forensic psychology could describe research into majority/minority influence in jury decision making, or research into social explanations as to why people turn to crime.

d Example answers:

- The social approach avoids drawing reductionist conclusions as to the causes of behaviour because it helps us to focus on the situation in which behaviour is observed rather than just the dispositional characteristics of the person/people being studied.
- The social approach recognises that much behaviour takes place in a social context and helps us to gain an understanding of how being with other people influences individual behaviour.

e Students may suggest:

- Research may have low ecological validity because, especially in laboratory experiments, it is difficult to create an everyday social setting — research procedures may lack everyday realism.
- Researchers may draw determinist conclusions if they overestimate situational factors and underemphasise individual differences and the role of ‘free will’ to choose behaviour. For example, Milgram argued that all his participants could have chosen not to administer electric shocks.

f Example answer:

One problem that researchers who conduct experimental research, especially laboratory experiments, have to overcome is how to design research that has high ecological validity. This is a problem because it may be difficult to design standardised research procedures that reflect real-life social situations. For example, in the Milgram research, it can be argued that in everyday life people are not asked to pretend to be teachers who are then ordered to give electric shocks to learners. If research lacks ‘everyday realism’, it is difficult to apply the findings to explain how people behave in their everyday lives.

Question 6

a The student should list any three behaviourist studies he or she has learned. Students will probably include the Bandura social learning study (BoBo doll) as a behaviourist study, and probably the Watson and Rayner (1926) Little Albert study (learned phobia). Students who are studying educational psychology could include in their list any study of a token economy. It would be useful to ask students to draw up a chart to identify research studies that take a behaviourist perspective, and to explain whether each study looks at classical or operant conditioning or social learning theory.

b Example answers:

- Humans and non-human animals are only quantitatively different because all animals evolved from a common ancestor, so we can generalise from research on non-human animals (such as rats and pigeons) to explain human behaviour.
- Psychologists do not need to study mental processes; they need only be concerned with external and observable behaviour.
- Nurture not nature explains human behaviour. All behaviour is learned because we are born as a blank slate upon which stimulus–response (S–R) units are built.

- c** *Note:* it will be useful to steer students away from describing the Bandura BoBo doll study here and encourage them to research and then describe the Watson and Rayner Little Albert study.
- d** Students may suggest:
Based on the principle that if dysfunctional behaviour is learned then it can be unlearned, the behaviourist approach has led to the development of practical applications, such as treatments for dysfunctional behaviour such as phobias.
- e** Students may suggest:
- The behaviourist perspective is determinist because it ignores consciousness, subjective experience, emotions and the idea that humans have the free will to choose how to behave. It assumes that we are ‘programmed’ to behave the way we do because of past experience.
 - The behaviourist perspective is reductionist because it ignores the role of innate and/or physiological individual differences (nature) and focuses only on the role of environmental factors (nurture) as explanations for behaviour.
- f** The behaviourist perspective is determinist because it ignores the role of mental processes (mind) and the idea that humans have the free will to choose how to behave. It assumes that we are ‘programmed’ to behave the way we do because of past experience. According to the behaviourist perspective, all our behaviour is shaped by our past experiences.
- g** *Note:* there are many different answers to this question depending on which approach/perspective the student uses as a contrast to the individual differences approach.

In the example given, students may suggest:

Unlike the behaviourist perspective, the physiological approach assumes that nature (physiological factors) rather than nurture (interaction with the environment) explains human behaviour. This difference means that physiological psychologists will look for underlying causes such as differences in brain structure to explain behaviour, whereas behaviourist psychologists will try to discover the environmental factors that explain how behaviour has been learned.

Question 7

- a** The student should list any two studies he or she has learned. Students will probably include Freud (Little Hans) and Thigpen and Cleckley (‘The three faces of Eve’). It would be useful to ask students to suggest the factors that would identify research as taking a psychodynamic perspective.
- b** There are several possible answers.
- Childhood is a critical period of development. Infants are born with innate biological drives, and if these drives are not satisfied this can lead to personality or behavioural problems later in life.
 - Individual personality differences can be traced back to the way early conflicts were handled in infancy and childhood. These conflicts remain with the adult and exert pressure through unconsciously motivated behaviour.

- There are three parts to the human psyche (personality). The id is the primitive, innate part of personality; the ego is the conscious and intellectual part of personality; and the superego is the moral part that is learned from parents and society. These three parts develop through the five psychosexual stages: oral, anal, phallic, latent and genital.
- c** *Note:* you might encourage students to revise Freud and to take the opportunity to describe the Little Hans case study. Or students might describe the case study of ‘The three faces of Eve’.
- d** Example answers:
- Freud recognised that childhood is a critical period during human development and his theories have been enormously influential within psychology.
 - Most of the research has a high level of realism. This is because the approach focuses on the individual; by using case study methodology to study human experience, psychodynamic research provides a rich picture of individual personality.
- e**
- The theory lacks empirical support (scientific and objective research evidence), and where there is ‘evidence’, this is mostly from early twentieth-century case studies of middle-class, European women.
 - The psychodynamic perspective is deterministic. In saying that behaviour is motivated by the unconscious mind and that adult behaviour is determined by childhood experiences, it implies that people have little free will to choose their behaviour.
- f** The psychodynamic perspective is deterministic because it proposes that our experiences during the oral, anal and phallic stages of development (birth to 6 years) will determine the type of personality we have, and thus that instead of having the free will to choose our behaviour, adult behaviour is determined by childhood experiences.
- g** *Note:* there are many possible answers to this question. It might be a useful exercise to ask students to make a list of the similarities and differences before they answer this question. You might remind students that the instruction to ‘compare and contrast’ requires them to explain in which ways the two perspectives are similar and in which ways they differ. Students should write about 200 words.

Example answer:

In some ways, the behaviourist and psychodynamic perspectives are similar. Both perspectives assume that past experience motivates and explains present behaviour. Both perspectives suggest that pleasure motivates human behaviour, but behaviourists assume that behaviour that leads to pleasurable consequences will be repeated (learned), whereas the psychodynamic perspective (Freud) assumes that humans are born with an innate drive to seek pleasure (the id). Both perspectives suggest that ‘nurture’ shapes our behaviour, the psychodynamic perspective assuming that early experience determines the development of the ego and superego, and the behaviourist perspective assuming that behaviour is shaped by interaction with the environment. Both perspectives are deterministic because they give explanations for behaviour that ignore the role of human ‘free will’. However, in contrast to the behaviourist assumption that ‘from cradle to grave’ behaviour is shaped

by environmental influences, the psychodynamic perspective is deterministic because it proposes that our experiences during the oral, anal and phallic stages of development (birth to 6 years) will determine the type of personality we have, and thus that adult behaviour is determined by childhood experiences.

Topic 2 Issues and debates

Question 1

a Students may suggest:

If people have 'free will', it means that they can choose how they behave, for example whether to commit a crime, or whether to be afraid of spiders, or whether to obey orders. If behaviour is 'determined', that means it is chosen for you, for example the physiological approach sees behaviour as being caused by biological factors. If this is the case, behaviour is biologically determined and the individual does not have the choice to behave differently.

b Example answers:

- The behaviourist perspective is deterministic because it explains behaviour in terms of stimulus–response learning caused by past experience. If this is the case, the individual has no free will to choose to behave differently, because behaviour is determined by past experiences.
- The psychodynamic perspective is determinist because it explains behaviour in terms of unconscious forces that the individual can neither escape nor explain. In addition, because the unconscious forces are the result of early childhood experience, behaviour is determined by two factors — by the past and by unconscious motivation — so the individual has no free will to choose his or her behaviour.

c *Note:* this might be a good topic for a class debate.

Example answer:

One advantage of taking a determinist approach to explain human behaviour is that if people do not have the free will to choose their behaviour, because they cannot be held responsible for the consequences of their behaviour, scientists would focus on finding out what causes unacceptable behaviour to recommend changes to society (for example to remove the causes of criminal behaviour). One disadvantage of taking a determinist approach to explain human behaviour is that if people do not have the free will to choose their behaviour, they cannot be blamed for the consequences of their behaviour, and cannot be expected to change the way they behave.

Question 2

a Students may suggest:

If behaviour is caused by 'nature', this means it is caused by characteristics we are born with (innate), usually physiological. If behaviour is caused by 'nurture', this means it is caused by life experiences, usually environmental or social factors.

b Example answer:

The developmental approach often proposes that behaviour change is caused by nature, for example caused by age, in which case behaviour is determined by maturation (nature). For example, Piaget suggests that children's thought processes change at predetermined ages.

c Example answer:

Behaviourists believe that when we are born we are a 'blank slate', and from the moment of birth we learn our behaviour by interaction with the environment.

d Students may suggest:

- One advantage is that psychologists who take a nature approach can explain the extent to which behaviour is caused by individual characteristics such as genetic code and thus cannot be changed.
- One disadvantage is that research may be reductionist because it ignores the psychological and social factors that also influence how people behave. Another disadvantage of explaining human behaviour from the nature approach is that it is impossible to separate the effect of nature from the effect of nurture, and most researchers agree that nature and nurture interact to influence behaviour.

e Students may suggest:

- One advantage is that psychologists who take a nurture approach can explain the extent to which nurture affects the development of personality, language, aggression, gender and dysfunctional behaviour or criminal behaviour. This is useful because the research findings can be used to generate applications in the areas of educational, sport, health and criminal psychology.
- One disadvantage is that research may be reductionist because it ignores the physiological differences between people that also influence behaviour, such as brain structure or genetics.

Question 3 (exam-style question)

Example essay:

Some research suggests that behaviour is caused by biological factors. If this is the case, behaviour is caused by nature. For example, Raine found that physiological differences in the brains of murderers who had pleaded 'not guilty by reason of insanity', compared with non-murderers, might explain why they behaved more aggressively and impulsively. However, research by Maguire found that the structure of the hippocampus in the brains of taxi drivers changed as a result of their environment, which suggests that an interaction between nature and nurture affects brain structure.

An example of the nature–nurture debate in cognitive psychology is the question of how children acquire the ability to use human language. On the nature side of the argument is Noam Chomsky, who proposes that we are born with an innate, biological language acquisition device that facilitates, during a critical period, the development of language. Behaviourists, such as Skinner, disagree with the nature explanation for language development and propose that children learn

human language by imitation and reinforcement (nurture). To test the behaviourist theory, there have been many attempts to teach non-human primates to communicate using human language, such as the Savage Rumbaugh study of Kanzi, but no non-human primate has been shown to develop language in the same way as a human child and there is still no definite answer to the question as to whether nature or nurture has the most influence on language development.

From the developmental approach, some research explains that changes in age (nature) are associated with changes in behaviour. For example, Piaget suggests that children's thought processes change in four age-related predetermined stages: the sensorimotor, pre-operational, operational and formal operational stages. However, the developmental approach does not always take the nature side of the debate, and Bandura found evidence that aggressive behaviour is not innate, because children who observe adult role models behaving aggressively learn from what they see and imitate aggressive actions.

Much social research also takes the nurture side of the debate, showing that behaviour is influenced by the social environment. For example, research by Piliavin et al. demonstrated that it was not the nature of the passengers that influenced whether they helped, but the situation of the victim that motivated helping behaviour.

Finally, the psychodynamic perspective recognises the influence of both nature and nurture. According to Freud, the id is the innate (nature) part of the human personality, driving us to seek pleasure and avoid pain, but the ego and superego are developed as a result of early experiences (nurture).

The evidence suggests that an understanding of both nature and nurture, and the interaction between nature and nurture, is needed to explain human behaviour.

Question 4

- a** Reductionism is the principle of analysing complex things into simple constituents or the use of simple principles, for example explaining complex human behaviour in terms of simplistic single factor causes, such as inherited genes. Research that takes a reductionist approach will look at one factor to explain complex human behaviour. Holism is the principle that complex phenomena cannot be understood through an analysis of the constituent parts alone, because the behaviour of the whole system cannot be explained in terms of the sum of the behaviour of all of the different parts.
- b** *Note:* students should be encouraged to describe the aims, methods, procedures and findings of a study other than the AS core studies. It might be useful for students to make a chart of three or four reductionist studies, giving the explanations for why each study is described as reductionist.
- c** *Note:* remind students to write an explanation, not just a statement.

Example answer:

The physiological approach may be described as reductionist because when psychologists explain behaviour in terms of biological factors, for example genetic explanations for dysfunc-

tional behaviour, they reduce explanations of complex behaviour to physiological factors and ignore psychological and social factors that may also influence the behaviour.

The behaviourist perspective may be described as reductionist because behaviourists reduce the concept of the mind to behavioural components, for example stimulus–response links, and they ignore the influence of innate biological differences that may help explain the way people behave.

- d** *Note:* this question is another opportunity for student debate — you might ask half the class to suggest advantages and half the class to suggest disadvantages.

Example answers:

- One advantage of explaining human behaviour in reductionist terms is that reductionist hypotheses (looking at the effect of one variable on behaviour) are easier to test, and the fact that they can be ‘proven’ (or not) makes them more scientific and believable.
- Explaining human behaviour in reductionist terms may be an advantage to psychologists who wish to be seen as ‘scientists’. This is because one of the basic goals of science is to reduce all phenomena to separate simple parts to understand how things work, so reductionism in psychological research may be necessary if psychology is to be seen as a science.
- One disadvantage of explaining human behaviour in reductionist terms is that reductionist explanations distract psychologists — simple explanations for behaviour prevent further attempts to find more complex but less clear-cut explanations.

Question 5 (exam-style question)

Example essay:

Reductionism is the principle of explaining complex human behaviour in terms of simplistic single-factor causes. Holism is the principle that complex phenomena cannot be understood through an analysis of the constituent parts alone, because the behaviour of the whole system cannot be explained in terms of the sum of the behaviour of all of the different parts. Reductionism is a goal of science, but simple explanations rarely explain the richness of human experience and may prevent the search for more complex answers.

Many psychological approaches and research studies give reductionist explanations for human behaviour. For example, in their study that looked at dreaming, Dement and Kleitman drew a reductionist conclusion because they explained dreaming as the result of the desynchronised activity of the brain during REM sleep and concluded that we dream every time we are in REM sleep. This explanation is useful because it allows us to find out when people are dreaming, but is reductionist because it reduces the psychological experience of dreaming to biological facts. A more holistic explanation of dreaming might be able to explain why some dreams are pleasant while others are nightmares.

An approach that can be described as reductionist is the cognitive approach, which proposes a computer-like information processing approach to explain behaviour. For example, the Loftus and Palmer study of eyewitness memory can be described as reductionist because it suggests

that false memories are created when the meaning of a leading question becomes integrated with the memory of an event. However, this explanation ignores how meaningful the original event was to the witness, and research by Yuille and Cutshall suggests that witnesses to shocking events do have reliable memories that are not distorted by leading questions. This suggests that a more holistic approach to understanding human memory is needed to explain how emotional factors may affect whether and how people remember their experiences.

The behaviourist perspective can be described as reductionist because behaviourists ignore physiological and cognitive factors when they explain human behaviour in terms of learned stimulus–response associations. This reductionist approach is useful because it has led to the development of effective therapies for phobias, for example systematic desensitisation. However, when psychologists suggest reductionist explanations for people turning to crime, for example differences in brain structure or function, these simplistic explanations are less useful because they may preclude attempts to find more holistic explanations that could be used to prevent crime.

Question 6

a Example answer:

Ethnocentrism refers to the tendency of people to view the world from the perspective of their own particular cultural or social group, which leads to overestimating the importance and ‘normality’ of people who are in one cultural group and to underestimating the importance, worth and ‘normality’ of people who are not in that group.

b Psychological research often involves student participants, but university students are usually younger and better educated than the general population, and their lifestyles could be described as a subculture. When psychological research findings are based on a culturally biased sample of people, but are then applied to explain the behaviour of all people, the research can be criticised as being ethnocentric.

c *Note:* there are many possible answers to this question. Students should describe the aims, methods, procedures, findings and conclusions of one study whose conclusions may be culturally biased. An effective answer will end with a conclusion that clarifies why the research conclusions are culturally biased.

d Example answers:

- One advantage of cross-cultural research is that it can identify behaviour that is either common in all cultures or that differs between cultures. This is useful because if research identifies behaviour that is common in all cultures, this behaviour is likely to be innate and thus provides evidence for the nature–nurture debate.
- One disadvantage of cross-cultural research is that cross-cultural studies are expensive and time consuming, and the results can be used to suggest that one culture is superior or ‘normal’.

Question 7

a *Note:* there is an opportunity for students to produce a wall chart here.

Features of the scientific method include:

- the use of controlled methods
 - collection of observable evidence
 - recording of measurable data
 - construction of theoretical explanations of how things work
 - generation of hypotheses and experiments to test these hypotheses
 - publishing research findings so that other scientists can check the reliability of conclusions
- b** *Note:* students should revise the advantages and disadvantages of using experimental methods before they answer this question.

Research findings have a high level of experimental validity because scientific methods use high levels of control and standardised procedures, so that extraneous variables that might affect what is being measured are minimised. This means that the researcher can be sure that any change in what is being measured is the result of change in the controlled experimental conditions.

c Example answers:

- When human behaviour is studied in controlled laboratory conditions, the findings may have low levels of validity. Aspects of the experiment may act as cues to behaviour that cause the participants to change the way they behave (demand characteristics) because of what they think is expected. This can mean that the true effect of the IV is not being measured, which invalidates the results.
 - Research procedures may not realistically replicate an everyday social environment. If this is the case, scientific methods may have low levels of ecological validity because the way people behave in the laboratory does not reflect the way they behave in their everyday lives.
- d** *Note:* this is a challenging essay to write and students should be encouraged to make a plan, as outlined in the workbook.

Example essay:

Several psychological approaches, especially the behaviourist, cognitive and physiological approaches, have used scientific methods to increase our understanding of human behaviour in everyday life. Pavlov's discovery of classical conditioning, when dogs were found to salivate to the sound of a bell, took place in a laboratory, and the behaviourists who followed Pavlov to demonstrate that human behaviour is also learned through stimulus–response association increased our understanding of how phobias may develop, and went on to develop therapies to cure phobias. Cognitive psychologists such as Loftus and Palmer demonstrated, through scientific methods, that human memory is fallible because memories are always reconstructions, which increased our understanding of why eyewitness testimony may be unreliable. More recently, Maguire, using scientific methods, demonstrated that everyday life experience

changes the structure of the human brain, and this important discovery may lead to the development of treatments for brain injury. All these psychologists used laboratory experiments, set up operationalised hypotheses, collected quantitative data under controlled conditions and then published their useful findings for replication by others.

However, some human behaviour is difficult to study using scientific methods. A disadvantage of using scientific methods to conduct research into social behaviour is that procedures may not realistically replicate the everyday social environment. For example, the Reicher and Haslam prison experiment arguably took place in conditions unlike those in a real prison environment. If this is the case, scientific methods may have low levels of ecological validity because the way people behave in the laboratory may not reflect the way they behave in their everyday lives.

It can also be argued that although quantitative evidence describes ‘what’ people do and is useful for scientific comparison and statistical analysis, qualitative data is required if psychologists want to find out the ‘why’ of behaviour, to capture the richness of human experience. To collect qualitative data, psychologists may conduct case studies, and/or ask participants questions to collect ‘opinions’, but these methods are seen as unscientific because science deals in objective fact not subjective opinion.

Perhaps the best, and most famous, example of psychology that is unscientific is Freud’s theory of how the human psyche develops through five psychosexual stages. In proposing three hypothetical components of the human psyche — the id, ego and superego — Freud set up a hypothesis that cannot be falsified and is thus unscientific. Nonetheless, Freud’s theory was useful as it highlighted the importance of early childhood experience, and few psychologists would argue that Freud’s theories, though derived from unscientific methods, did not have a huge, and lasting, influence on the way we understand everyday life.

© Philip Allan Updates 2010

ISBN 978-1-4441-0851-4

All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of Philip Allan Updates or a licence permitting restricted copying in the United Kingdom issued by the Copyright Licensing Agency Ltd, Saffron House, 6–10 Kirby Street, London, EC1N 8TS.

Hachette UK's policy is to use papers that are natural, renewable and recyclable products and made from wood grown in sustainable forests. The logging and manufacturing processes are expected to conform to the environmental regulations of the country of origin.

