Chapter 7

Section B: Research design and response

1 a) The target population is the (15) employees at the G and H Superstore in Littlebridge, England. [2]

b) One strength of opportunity sampling is that it is a quick and easy way to find a sample. Here all the psychologist had to do was give a questionnaire to 15 employees as they reported for work at the beginning of the 18.00 to 24.00-hours shift at the G and H Superstore in Littlebridge. A weakness of opportunity sampling is that because it involves individuals who are easily available at the time of the study, it is unlikely to be representative. The employees who work the 18.00 to 24.00-hours shift are unlikely to be representative of either employees who work other shifts at the same store or employees of other superstores. This means one should be cautious about generalising any findings. [6]

c) There will be a positive relationship between a person’s level of happiness and their level of exposure to sunlight. [3]

d) The psychologist could ask the first 15 employees who report to work for the 18.00 to 24.00-hours shift if they would be kind enough to fill in a short questionnaire on the topic of lifestyles. Completed questionnaires could then be handed straight back to the psychologist so he receives the required data quickly and easily. Questionnaires will be short – just ten questions – and the two critical questions, ‘State the number of hours you have been exposed to sunlight today’ and ‘Rate your present level of happiness using a scale of 1 to 10 (where 10 = extremely happy and 0 = extremely unhappy)’, will be hidden among eight filler questions related to lifestyles. Boxes will be placed beside each question in which participants should record their responses. Questionnaires will have standardised instructions at the top telling all participants not to provide any personal details such as their name, to answer every question as honestly and accurately as possible, that they may withdraw themselves and their data at any time, and to return the completed questionnaire to the researcher as soon as they have finished. The psychological consideration of informed consent will be upheld as participants will have sufficient knowledge about the study to decide whether or not they want to take part. The right to withdraw will also be upheld as anyone not willing to complete the questionnaire will have the opportunity to withdraw at the beginning. If anyone feels they wish to withdraw at any other time they can hand their incomplete questionnaire back to the researcher, who will tear it up immediately. Questions will be phrased so as not to cause stress or embarrassment to any participant so they will be protected from psychological harm. Although there will be an element of deception as participants will not know the true aim of the study, this can be overcome through a debrief by reporting the aim and findings in the staff magazine which every employee receives at the end of each month. [12]

e) The data gathered in this study was quantitative as it was in numerical form. Participants had to give a number in relation to the hours they had been exposed to sunlight and give a numerical rating for their level of happiness (out of 10 where 10 = extremely happy and 0 = extremely unhappy). [2]

f) Spearman’s Rho would be a suitable non-parametric inferential test that could be used to analyse the data. This is because the proposed relationship is a correlation between
the hours of exposure to sunlight experienced by the participant and their self-rating of happiness on a scale of 1 to 10 (where 10 = extremely happy). The data is ordinal and continuous.

2 a) There will be no difference in reading speed between A level Psychology students tested at 10 a.m. and A level Psychology students tested at 2 p.m.

b) The independent variable is the time of day and the dependent variable is reading speed.

c) One strength of using an independent measures design in this study is that as participants take part in only one condition, practice effects cannot influence results. Participants will be tested on their reading speed in either the morning or the afternoon only so that they will not have any chance to practise reading and thus the second time they are tested they read more quickly. Practice effects make the findings invalid. A weakness of using an independent measures design is that participant variables may influence the findings. Participants tested in the morning may naturally be either quicker or better readers than participants tested in the afternoon (or vice versa). This means the groups will not be of equal reading ability and so findings will be invalid.

d) Random sampling could be used by putting the names of all the A level Psychology students at the college in Cardiff in a hat. The first 25 names drawn out will be the participants to be tested in the morning and the second 25 names to be drawn out will be the participants to be tested in the afternoon. This way everyone who studies Psychology at A level at the college has an equal chance of being selected.

e) The dependent variable – reading speed – could be measured by making sure all participants had access to a computer/iPad, a lapel microphone attached to a tape recorder and a stop watch. Using the computers/iPads they could be asked, via a given website, to find a specific piece of psychological research, for example Milgram’s study of obedience. Once all participants have the article showing on their screens, they could be asked to turn on their tape recorder and on the word ‘Go’ start reading a section of the research aloud so it is recorded onto the tape recorder, for example the ‘Discussion’ section. As soon as they have finished, they should stop the tape recorder and rewind the tape. They could then re-play the tape and time how long it took them to complete the reading task. The time would then be noted by the researcher and used as the independent variable – reading speed: the shorter the time, the faster the reading speed.

f) An extraneous variable that could affect the results could be if any of the participants were dyslexic and needed the article to be displayed on a particular coloured background. This could be controlled for by asking participants, before they started, if they preferred material on a computer screen to be displayed on a coloured background and if so to set the background on their computer to the desired colour.

[3] g) Any student who takes part in this experiment will have given consent. However, unless the psychologist gives them some idea as to what the experiment is about, i.e. reading speeds, they will not have given informed consent. If the aim of the study is not disclosed to the students, they are being deceived. An element of deception is usually necessary in psychological research to avoid participants responding with demand characteristics or social desirability which results in unnatural behaviour and therefore invalid findings. The psychologist should tell all the students before the experiment begins that they have the right to withdraw themselves and their data at any point. Even if all the students complete the experiment, once they find out the aim of the experiment they may wish to exercise their right to withdraw by asking for their data to be removed – especially if they are a slow, or appear to be a poor, reader as they find reading out loud difficult. Some students may feel they are being put under undue stress by having to read aloud into a microphone/having their reading recorded, in which case they should be reminded that they have the right to withdraw. However, withdrawal makes findings less generalisable as the sample becomes smaller. The psychologist should inform all the students at the beginning of the experiment that all personal details and individual findings will remain confidential and only those involved in the research will hear the tape recordings, should a double-check on reading times be necessary. A debrief could be provided by gathering all the student participants together after the second group (the 2 p.m. group) has been tested. Morning participants should not be immediately debriefed as they may then tell afternoon participants the aim of the study – this may lead to the afternoon participants responding with demand characteristics, thus producing invalid findings. The debrief could disclose
not only the aim of the research but also the anticipated (hypothesised) findings. The research report, which will contain the collated and analysed findings, could then be displayed in the Psychology Department, as a further debrief, so all those in the target population (A level Psychology students in the college) can read it.

Section C: Data analysis and interpretation

1 a) One strength of using behavioural categories is that systematic observations can be made so important information is not overlooked. In this study there were eight clearly defined behavioural categories so the key aspects of classroom behaviour could be recorded. One weakness of using behavioural categories is that the identified categories may not cover all possible behaviours so some aspects of classroom behaviour, for example staring into space/daydreaming, may not have been recorded.

b) One strength of event sampling is that the task of observing behaviour is made manageable as not every single behaviour has to be recorded. The observer can concentrate on observing what has been decided are the key behaviours. A weakness of event sampling is that if too many things happen at the same time, the observer may miss key behaviours so they do not get recorded. This lowers the validity of the findings.

c) i) An overt observation is a procedure in which participants are aware they are being watched.

ii) One strength of overt observations as used in this study is that all the students knew their classroom behaviour was being observed so the ethical consideration of deception was upheld. A weakness of using overt observations is that the behaviour of participants can be influenced by social desirability. The students may have behaved in ways expected of them by society rather than how they would want to behave. For example, students know that society expects them not to eat or chew during lessons so they may have refrained from doing so when normally they might not be able to resist this temptation. If this occurs, findings are not valid as the researcher is not observing normal classroom behaviour.

d) The mode for the type of behaviour observed during the 40-minute geography lesson is 'chatting' (with 25 occurrences).

f) One conclusion that can be drawn from the findings of this study is that 'chatting' is a frequent behaviour displayed by students in geography lessons when they are not working on task. This conclusion can be drawn because 'chatting' was observed to occur the most – 25 times – during the lesson observed. Another conclusion that can be drawn from the findings of this study is that students rarely drink water or soft drinks during geography lessons. This conclusion can be drawn because 'drinking (water/soft drinks)' was seen to occur only once during the lesson observed.

2 a) One finding is that the person who had the highest stress score of 20/20 recalled 10/30 items in the short-term memory test. Another finding is that the person who had the lowest stress score of 2/20 recalled 28/30 items in the short-term memory test.

b) 2, 4, 5, 8, 10, 11, 12, 14, 15, 20. The median is the middle value in a data set so in this set it is $10 + 11 \div 2 = 10.5$.

c) One strength of the volunteer sample used in this study is that the nurses who volunteered to take part are likely to be committed to the study and will therefore fill in the stress rating scale as honestly as possible and try to complete the short-term memory test to the best of their ability. Results will therefore be valid. A weakness of the volunteer sample used in this study is that the participants will be nurses who had been to the hospital canteen and seen the poster. Therefore they may not have been representative of all the nurses from the hospital, making the sample biased. This limits the generalisability of any findings.
d) The participant was placed in a position in which he had to respond to the competing demands of two people: the experimenter and the victim/learner.

4 a) As participants were recruited by flyers posted in the university cafeteria, they were volunteers and had therefore given their consent to take part in the study. b) At the beginning of the study participants were told about their right to withdraw at any time with no penalty.

5 Bocchiaro et al.’s study tells us that what individuals think/say they and others will do in a given situation often differs from what actually happens. It was found that of the 138 comparison students who were asked to predict the behaviour of other typical students at their university, only 18.8 per cent thought an average student would obey, while they believed most other students would either disobey (43.9 per cent) or whistle-blow (37.3 per cent), yet of the 149 participants in the actual laboratory situation, 76.5 per cent obeyed the experimenter, 14.1 per cent disobeyed and 9.4 per cent blew the whistle.

6 By conducting this study in a laboratory, Bocchiaro et al. were able to follow a standardised procedure to ensure all participants had the same experience. This makes the findings more reliable. For example, each participant was greeted in the laboratory by the researcher who then proceeded with a (seemingly unjustified) request for each participant to provide a few names of fellow students, after which he presented the cover story. The researcher left the room for three minutes so the participant could reflect on the action-based decisions he was about to make. The participant was then moved to a second room where there was a computer to write a statement to convince the students he had previously indicated to participate in the study. The researcher told the participant to begin and left the room for seven minutes. He then returned and asked the participant to follow him back to the first room where he was asked to complete two personality inventories, was probed for suspicion, fully debriefed and asked to sign a fully informed consent form. This same procedure was followed with all 149 participants.

7 a) Quantitative.

8 a) A lot of detailed information can be gathered from a large number of people quickly and easily. For example, all the participants in the laboratory study were asked to complete two personality inventories, was probed for suspicion, fully debriefed and asked to sign a fully informed consent form. This same procedure was followed with all 149 participants.
b) Participants, especially those in the comparison group, may have responded in a socially desirable way. They may have purposely underestimated the number of students they thought would obey the researcher because they knew it was socially unacceptable and immoral to ask someone to knowingly allow another person to be isolated, so they are unable to see or hear anything, for more than a very brief period of time. [2]

9 These two studies both show how people influence each other. Milgram's study shows how individuals will obey others whom they consider to be legitimate authority figures even if what they are asked to do goes against their moral beliefs – participants were asked by an apparently legitimate authority figure, dressed in a grey lab coat and holding a clipboard, at Yale University to administer increasingly severe electric shocks when a learner got a question wrong. Likewise, Bocchiaro et al.'s study shows that even when given the option to take personal action against an evil system (in this study, the unethical action encouraging associates to participate in a sensory deprivation study), people tend to obey authority figures, even if the authority is unjust. [4]

10 The comparison group in both studies was to show what individuals think/say they and others will do in a given situation often differs from what actually happens. In Milgram's study, the purpose of the comparison group was so that he could compare the estimated percentage of participants who would administer the highest level of shock (mean 1.2 per cent) with the actual percentage of participants who did so (65 per cent). In Bocchiaro et al.'s study, the purpose of the comparison group was to compare the estimated percentage of participants who would obey the researcher by writing the unethical request to associates encouraging them to participate in a sensory deprivation study (18.8 per cent) with the actual percentage who did so (76.5 per cent). [4]

Section A: Practice questions linked to the studies by Piliavin et al. and Levine et al.

1 a) The sampling method was opportunity sampling. Any passenger who travelled on the A and D trains of the 8th Avenue New York subway between 59th Street and 125th Street on weekdays between 11 a.m and 3 p.m. between 15 April and 26 June 1968 may not have been representative of passengers who travelled on different lines, different subways, at different times or in different cities or countries. This therefore limits the generalisability of any findings. [2]

b) Because the experiment was repeated many times (between 15 April and 26 June 1968) there is a chance that some passengers may have witnessed the incident more than once and responded with demand characteristics and/or socially desirable behaviour, making the results invalid. If the carriage where the incident occurred was particularly crowded/a passenger got in the way, the observers’ view may have been blocked so they could not see properly what was happening, so relevant data could have been missed. [4]

3 The cost–reward matrix in relation to this study consists of costs associated with helping, for example effort, embarrassment, possible disgust or distasteful experiences, possible physical harms, etc.; costs associated with not helping, mainly self-blame and perceived censure from others; rewards associated with helping, mainly praise from self and others; and rewards associated with not helping, mainly those stemming from continuation of other activities. Participants who did not help the victim may have applied this matrix and decided that the costs of helping outweighed the rewards. [4]

a) The responsibility for behaviour is shared between those present. Here the responsibility for helping the victim would be shared among all the passengers in the carriage. [2]

b) Because the proximity of other passengers in the carriage made participants feel morally obliged to help. [2]

5 To control for gender effects, all experimenters were male. To control for experimenter effects, all experimenters were trained both on how to act their roles and how to select and score participants. [4]

6 a) By receiving both a detailed instruction sheet and on-site field training for acting their roles, learning the procedure for participant selection and scoring of participants. They also practised together. [2]

b) The procedure became standardised and all participants had the same experience. The situations of the dropped pen, hurt leg and helping a blind person across the street, and the procedure for participant selection and scoring of participants, were the same, regardless of where the experiment was conducted, for example Calcutta or New York.
Standardisation increases both the reliability and the validity of findings. [2]

7 Dropped pen: experimenters walked at a moderate pace towards a solitary pedestrian passing in the opposite direction. When 10 to 15 feet from the participant, the experimenter reached into his pocket and accidentally, without appearing to notice, dropped his pen behind him, in full view of the participant, and continued walking past the participant. Participants were scored as having helped if they called back to the experimenter that he had dropped the pen and/or picked up the pen and brought it to the experimenter.

Hurt leg: experimenters, walking with a heavy limp and wearing a large and clearly visible leg brace, accidentally dropped and unsuccessfully struggled to reach down for a pile of magazines as they came within 20 feet of a passing pedestrian. Helping was defined as offering to help and/or beginning to help without offering. [2]

8 a) Simpatia means accord, agreement and harmony in relationships, marriage, the family and society. [2]

b) Simpatia countries (such as Brazil, Costa Rica, El Salvador, Mexico and Spain) were, on average, more helpful than non-simpatia countries (for example, the USA, Singapore). [2]

9 These two studies show how individuals behave when confronted with a victim in need of assistance. Piliavin et al.’s study showed that people travelling on the New York subway were more likely to help a white victim carrying a cane than a black victim smelling of alcohol. Levine et al.’s study showed that people in simpatia countries (such as Brazil, Costa Rica, El Salvador, Mexico and Spain) were, on average, more helpful than those in non-simpatia countries (for example, the USA, Singapore) when exposed to a victim who dropped a pen/had a hurt leg: and needed assistance to cross the road. [4]

10 Both are considered field studies as they were conducted in natural environments. Piliavin et al.’s study was conducted on the 8th Avenue New York subway and Levine et al.’s study was conducted in 23 large cities around the world, including Rio de Janeiro (Brazil), Calcutta (India), Madrid (Spain), Shanghai (China), Budapest (Hungary), Rome (Italy), New York (USA) and Kuala Lumpur (Malaysia). [4]

DV = the estimated speed (in mph) given by the participant.

b) Each participant had to answer a question estimating how fast the cars were going when the accident happened. The question was: ‘About how fast were the cars going when they — each other?’ The verb was one of smashed/collided/hit/bumped/contacted. [2]

2 In Experiment 1, all participants watched the same seven clips of car accidents. In Experiment 2, all participants experienced the same time lapse of one week between watching the clip of the multiple car crash and completing the first questionnaire and returning to complete the second questionnaire. [4]

3 One strength of the experimental method as used in this study is that it gives the researcher a high level of control over variables. For example, all participants in Experiment 1 saw exactly the same seven clips of car accidents. One weakness is that ecological validity is low. For example, in real life, eyewitness testimony is not based on watching film clips and then completing questionnaires. [4]

4 The first is information gleaned during the perception of the original event, i.e. while watching the clips of the car accidents. The second is external information supplied after the event, i.e. through the leading questions in relation to the vehicular speed and/or the recollection of seeing broken glass. [4]

5 Refers to improved recall of specific meaningful material on the topic of psychoimmunology when the context present at encoding – either a noisy or a silent environment – and retrieval are the same – either a noisy or a silent environment. [4]

6 The four testing conditions were: (i) silent study/silent test, (ii) noisy study/noisy test, (iii) silent study/noisy test, (iv) noisy study/silent test. [4]

7 That participants in all groups spent roughly equal amounts of time studying/reading the article on psychoimmunology. That there was a reliable Study Condition × Test Condition interaction for both the short-answer test and the multiple-choice test, showing that studying and testing in the same environment produced better results. [4]

8 That because there was a reliable Study Condition × Test Condition interaction for both the short-answer test and the multiple-choice test, there are context-dependency effects for newly learned meaningful material. That students are likely to perform better in exams if they study for them with a minimum of background noise because although there was no overall effect of noise on performance, the fact that there was evidence for context dependency suggests they are better off studying without

Chapter 10

Section A: Practice questions linked to the studies by Loftus and Palmer and Grant et al.

1 a) IV = the verb used in the critical question: smashed/collided/hit/bumped/contacted.
background noise as it is unlikely to be present during actual testing.

9 The study by Loftus and Palmer shows the effects of information received after an event on an individual’s memory of that event. This was demonstrated through studying the effects of leading questions on eyewitness testimony in relation to car crashes and showed how memory is reconstructive in nature. Grant *et al.*’s study demonstrated that in the case of newly learned meaningful material, a student’s memory was enhanced if the material was learned and tested in matching environments. This suggested that memory may be context dependent. [4]

10 Both these studies can be considered experiments because in both studies the researcher manipulated independent variables to see their effect on dependent variables. Loftus and Palmer, in Experiment 1, manipulated the wording of the critical question relating to speed by asking participants to estimate how fast the cars were going when they hit/smashed/collided/contacted/bumped each other to see the effect of changing the verb in the question on the speed estimates given. In Experiment 2, the researchers manipulated the wording of the critical question relating to speed by asking participants to estimate how fast the cars were going when they hit/smashed/no question at all to see the effect on whether or not participants subsequently recalled seeing any broken glass. Grant *et al.* manipulated whether participants were asked to learn and recall new, meaningful material in silent study and silent test conditions/noisy study and noisy test conditions/silent study and noisy test conditions/noisy study and silent test conditions to see the effects of different learning environments on memory. [4]

**Section A: Practice questions linked to the studies by Moray and Simons and Chabris**

1 a) Participants were male and female undergraduates and research workers. [2]

b) They were either undergraduates or research workers, so they may not have been representative of the population as a whole. This makes it difficult to generalise the findings in relation to auditory attention. [2]

2 a) Participants recognised very few words from the rejected message. b) Participants recognised more words from the shadowed message than from either the new or the rejected message. [4]

3 Two groups of 14 participants shadowed one of two simultaneous dichotic messages. In some of the messages digits were interpolated towards the end of the message. These were sometimes present in both messages, sometimes only in one. The position of the numbers in the message and relative to each other in the two messages was varied, and controls with no numbers were also used, randomly inserted. One group of participants were told they would be asked questions about the content of the shadowed message at the end of each message; the other group were specifically instructed to remember all the numbers that they could. [4]

4 a) In a situation where a participant directs his attention to the reception of a message from one ear and rejects a message from the other ear, almost none of the verbal content of the rejected message is able to penetrate the block set up. b) A person will hear instructions if they are presented with their own name as part of a rejected message. [4]

5 White/Easy, White/Hard, Black/Easy, Black/Hard. [4]

6 a) A tall woman holding an open umbrella walked from off camera on one side of the action to the other, left to right. [2]

b) A shorter woman wearing a gorilla costume that fully covered her body walked from off camera on one side of the action to the other, left to right. [2]

7 a) Self-selected sampling. [1]

b) The researcher was able to use individuals, in this case undergraduates, who wanted to participate and had the time to do so. They were therefore likely to be co-operative and make every effort to ensure that the experiment went according to plan. [2]

8 a) All participants gave informed consent before taking part in any of the conditions or tasks. b) All participants were debriefed. This included replaying the video on request. [4]

9 One similarity is that almost all participants were involved in higher education/were university students. A weakness of these samples is that because they were drawn from academia, they may not be representative of the general population so findings in relation to both auditory attention and visual inattention may be difficult to generalise. [4]

10 Moray’s study focuses on auditory attention in relation to divided attention and factors that can affect attention in dichotic listening whereas Simons and Chabris’ study focuses on visual inattention/inattentional blindness when asked to focus on complex objects and events in dynamic scenes. [4]
Section A: Practice questions linked to the studies by Bandura et al. and Chaney et al.

1 a) They were matched on pre-measured levels of aggression.
   b) The children were matched to control for individual differences in levels of aggression so all the aggressive children did not end up in the same group.

2 Children are not normally escorted into a room, sat in a corner to play with stickers and potato prints while a strange adult bashes a Bobo doll in the opposite corner. Children are not normally given nice toys to play with and then told by an experimenter that they can no longer play with the toys because they must be reserved for other children.

3 The sex of the child (boy or girl). The sex of the model (male or female).

4 Children were taken individually into a third room which contained both aggressive and non-aggressive toys, such as a 3ft high Bobo doll, a mallet and dart guns, and non-aggressive toys, for example a tea set, cars and dolls. They were observed through a one-way mirror for 20 minutes while observers recorded behaviour in the following categories: (i) imitative aggression (physical, verbal and non-aggressive speech), (ii) partially imitative aggression, (iii) non-imitative physical and verbal aggression and (iv) non-aggressive behaviour.

5 Because it was conducted in the participants’ (parents’ and children’s) home environments in Australia.

6 The children’s parents completed a questionnaire about their child’s use of their current inhaler and gave informed consent. Where necessary, throughout the study parents helped in the children’s use of the inhalers. They also completed matched questionnaires after the sequential use of the normal inhaler and the Funhaler.

7 a) The design of the Funhaler attempts to link the optimal function of the toys to a deep breathing pattern conducive to effective medication. 
   b) The design anticipates children’s potential for boredom with particular incentive toys in its modular arrangement which would allow the replacement of the incentive toy module with a range of different toys.

8 Because 60 per cent more children took the recommended four or more cycles per aerosol delivery when using the Funhaler compared with the standard/small volume spacer, the use of functional incentive devices such as the Funhaler may improve children’s health.

9 a) Consent cannot be gained directly from participants if they are under the age of 16. Bandura et al.’s participants were aged between 37 and 69 months while Chaney et al.’s participants were aged between 1.5 and 6 years.
   b) Debriefing is often difficult or impossible when using young children as they may not understand what they are being told. In both these studies, because the children were so young debriefing them in relation to imitated aggression or Funhaler usage may have been beyond their understanding.

Section A: Practice questions linked to the studies by Kohlberg and Lee et al.

1 Kohlberg’s pre-conventional level of moral development usually occupies children aged 4 to 10 years. It is divided into two stages. The first stage is demonstrated through the punishment and obedience orientation when children obey rules to avoid punishment. The second stage is demonstrated through the instrumental-relativist orientation where children behave in the ‘correct’ way so that they receive rewards of one sort or another. These can be in the form of material rewards or positive reinforcement.

2 To show how, as young adolescents develop into young manhood, they move through the distinct levels and stages of moral development proposed by Kohlberg in his theory.

3 a) Because for the main focus of the study, the same American boys who were aged 10 to 16 at the start of the study were followed at three-year intervals through to the ages of 22 to 28.
   b) It allowed Kohlberg to assess the changes in moral development over time. He was able to find evidence to support his theory of moral development and show that participants progressed through the three levels and six stages one at a time and always in the same order, but that not everyone will reach the highest stage.
4 Because Kohlberg was able to show that children from different cultures such as Taiwan and Mexico also progressed through the three levels and six stages of moral development one at a time and always in the same order, even though development was a little slower. This indicates that moral development is universal and therefore is a development innate in human beings.

5 Whether the participant heard the social story or the physical story. Whether the participant heard (pro-social) stories involving a child who intentionally carried out a good deed (a deed valued by adults in both countries) or (antisocial) stories involving a child who intentionally carried out a bad deed (a deed viewed negatively in both cultures). [2]

NB. No credit can be gained for reference to either culture or age as these were not manipulated and were naturally occurring IVs.

6 a) A pro-social story involved a child who intentionally carried out a good deed – one which was valued by adults in both China and Canada. [2]

b) An antisocial story involved a child who intentionally carried out a bad deed – one which was viewed negatively in both China and Canada. [2]

7 a) Children were allocated randomly to either the social story condition or the physical story condition. [1]

b) One strength of allocating children randomly to either condition is that because the researcher was unable to influence the allocation, the sample in each condition was likely to be unbiased and so representative of the target population. This means findings in relation to lying and truth-telling can be generalised. [2]

8 a) Canadian children at each age gave similar ratings to truth-telling whereas Chinese children’s ratings became less positive as age increased. [2]

b) Chinese seven year olds rated lie-telling less negatively than older children in the physical story condition, whereas Canadian seven year olds rated lie telling less negatively than older children in the social story condition. [2]

9 Whereas Kohlberg proposed a series of universal stages of development, regardless of cultural background and cultural norms, Lee et al suggested that cultural differences change not only the context of thinking but also fundamental moral rules so that a rule such as ‘you must not tell lies’ becomes in some cultures ‘you should tell lies in certain circumstances’. [4]

10 Because they both show how moral behaviour develops and changes as individuals age and mature. Kohlberg showed how individuals over time progress through different stages of moral development and that although not everyone will reach the highest stage of development, everyone progresses through the stages in the same order, whereas Lee et al. showed that specific social and cultural norms can impact on children’s developing moral judgements and that these are modified by age and experience in a particular culture – in this study the Chinese and Canadian cultures. [4]

Chapter 12
Section A: Practice questions linked to the studies by Sperry and Casey et al.

1 a) Because they suffered from epilepsy which could not be controlled by medication. [2]

b) The sample was very small (11 participants) so one may not be able to generalise the findings to the wider population. [2]

2 a) The participant, with one eye covered, centred his gaze on a designated fixation point on a translucent projection screen. Visual stimuli were then back-projected onto the screen at one tenth of a second to the left visual field. [2]

b) Because material presented to this visual field is received by the right hemisphere, which is non-lingual. [2]

3 a) Objects put in the right hand for identification by touch alone can be described in speech and writing (using the right hand). b) If two objects are placed simultaneously, one in each hand, then removed and hidden in a scrambled pile of items/ grab bag, each hand will hunt for and select its own object. [4]

4 a) The information was sent to the left hemisphere, which controls motor movements of the right side of the body, so the participant was able to point with his right hand. [2]

b) The participant could draw with his left hand the image flashed to his LVF but reported that he had seen what had been flashed to his RVF. [2]

5 a) The IV in both experiments was whether the participant was a high delayer or a low delayer. This was a naturally occurring IV and so could not be manipulated or controlled by the researchers. [2]

b) The DV in Experiment 1 was the performance on the impulse control task – in terms of reaction times and accuracy. The DV in Experiment 2 was the performance on the impulse control task – in terms of reaction times and accuracy and imaging results using fMRI. [2]
6 The main difference was that in the ‘hot’ version of the go/no go task the faces were happy whereas in the ‘cool’ version the faces were either neutral or fearful.

7 a) Because it followed some of the original participants from the age of four years until they were in their forties. 

b) One weakness of longitudinal studies is that of participant attrition. In this study 562 participants completed the initial delay-of-gratification task at the age of four years, yet when they were in their forties and the final part of the study was conducted, only 59 took part in Experiment 1 and 27 in Experiment 2.

8 a) Experiment 1 showed there were no effects of delay group on reaction times to ‘go’ trials in both the ‘hot’ and ‘cool’ versions. b) The fMRI imaging showed that the low delays had lower activity in the inferior frontal gyrus compared with high delays for correct ‘no go’ relative to ‘go’ trials.

9 Sperry’s study is useful because it showed the importance of the corpus callosum as a pathway for internal communication between the right and left hemispheres of the brain. The corpus callosum is severed, information cannot pass between the two hemispheres of the brain and this may affect how an individual behaves. Casey et al.’s study is also useful because it shows that low delayers aged four years continue to show reduced self-control abilities as adults. If at the age of four years strategies could be developed to train the brains of low delayers, there might be a chance they could be protected from resisting unacceptable temptations in later life.

10 Sperry’s study showed the importance of the corpus callosum as a pathway for internal communication between the right and left hemispheres of the brain. Casey et al.’s study builds on this research as it demonstrates the roles of other regions of the brain in influencing human behaviour. For example, it suggests that the inferior frontal gyrus plays an important role in the withholding of the response and that the increased activity in the ventral striatum makes temptations hard to resist.

Section A: Practice questions linked to the studies by Blakemore and Cooper and Maguire et al.

1 Biological workings of the brain influence the behaviour of both human beings and animals. This study shows that, in the visual cortex of the brain, orientation-specific cells can change the kind of stimulus they respond to depending on an animal’s early visual environment. The study shows the plasticity of a kitten’s brain as neurons originally conditioned to respond to either horizontal or vertical orientation can switch to responding to the opposite orientation when required.

2 They manipulated an IV to study its effect on a DV. They manipulated whether the kittens were reared in a horizontal or a vertical environment to see whether the horizontally raised kittens could detect vertically aligned objects and whether vertically raised kittens could detect horizontally aligned objects when placed in an environment that contained both horizontally and vertically aligned objects.

3 a) When the kittens were placed in an environment that contained both horizontally and vertically aligned objects, they always followed moving objects with clumsy, jerky head movements.

b) Although it provides a lot of rich information about how the kittens behaved once placed in an environment that contained both horizontally and vertically aligned objects, there is no quantitative data, so comparisons cannot be made between the number of different behaviours displayed by the kittens reared in a horizontal environment and the kittens reared in a vertical environment. This limits both the generalisability and the usefulness of the findings.

4 Because the neurophysiological examination showed horizontal plane recognition cells did not ‘fire off’ in the kitten from the vertical environment and vertical plane cells did not ‘fire off’ in the kitten from the horizontal environment, there was distinct orientation selectivity, showing that visual experiences in the early life of kittens can modify their brains and have profound perceptual consequences.

5 a) The independent variable was whether the participant was a London taxi driver or a person who did not drive taxis. The dependent variable was the volume of the anterior, body and posterior regions of the hippocampi.

b) Taxi drivers were found to have significantly increased grey matter volume in the right and left posterior hippocampus compared with non-taxi drivers.

6 a) i) All participants (both taxi and non-taxi drivers) were right-handed.

ii) All participants (both taxi and non-taxi drivers) were male.

b) To prevent extraneous variables such as age/gender/researcher bias/handedness/environmental differences, etc. becoming confounding variables, which might actually influence results, making any differences in the distribution of grey matter in the
hippocampus being due to a variable other than whether they were a taxi driver or a non-taxi driver.

7 a) i) Voxel-based morphometry (VBM).
    ii) Pixel counting.

b) VBM analysis showed that there was relatively greater grey matter volume in the anterior hippocampi of non-taxi drivers compared with taxi drivers.

8 a) It allowed Maguire to see that there was a positive relationship between the length of time as a taxi driver and the volume of grey matter in the right posterior hippocampus.

b) Although Maguire et al.’s study found a positive correlation, one cannot state that the length of time as a taxi driver caused the change in the grey matter volume in the right posterior hippocampus, i.e. no cause and effect can legitimately be inferred.

9 One similarity is that they were both experiments. Blakemore and Cooper’s experiment manipulated whether the kittens were reared in a horizontal or a vertical environment to see whether the horizontally raised kittens could detect vertically aligned objects and whether vertically raised kittens could detect horizontally aligned objects when placed in an environment that contained both horizontally and vertically aligned objects. Maguire et al. used a quasi experiment in which the effect on the volume of the anterior, body and posterior regions of the hippocampi of the naturally occurring independent variable of being a taxi or non-taxi driver was examined. Another similarity is that both studies used objective measures to gather data. Blakemore and Cooper took neurophysiological measures of the visual neurones of the kittens and Maguire et al. analysed MRI scans of taxi and non-taxi drivers’ brains using voxel-based morphometry and pixel counting.

10 Blakemore and Cooper’s study showed that in the developing brains of kittens the visual neurones will change their preferred orientation such that a cat raised in a restricted vertically oriented environment will develop vertical vision only and a kitten raised in a restricted horizontally oriented environment will develop only horizontal vision, suggesting plasticity of the brain. Likewise, Maguire et al.’s study showed that under certain circumstances the fully developed adult brain can change and adapt as a result of environmental demands made upon it. The study showed brain plasticity in the hippocampi of London taxi drivers who had passed ‘The Knowledge’, with the anterior hippocampus reducing in volume and the posterior hippocampus increasing in volume in relation to time spent as a taxi driver.

Chapter 13

Section A: Practice questions linked to the studies by Freud and Baron-Cohen et al.

1 a) In Little Hans’ parenting fantasy, Hans became the father of his imaginary children, Hans’ mother was their mother (therefore Hans’ wife) and Hans’ father was their grandfather.

b) A Freudian explanation for Hans’ parenting fantasy could be that Hans experiences sexual desire for his mother as he fantasises about being married to her and having children with her. His fear of his father is removed as he is displaced to the role of grandfather.

2 a) Through observations of Little Hans and conversations with Hans conducted by Hans’ father and sent to Freud via letter.

b) Freud wanted evidence to support his theory of infant sexuality and so may have interpreted the data in a biased way so that it would support his theory of psychosexual development.

3 Because Hans was subconsciously experiencing the Oedipus complex so nourished jealous and hostile wishes against his father. This fear was transposed onto horses because the black on horses’ mouths and the things in front of their eyes (blinders) resembled his father’s moustache and glasses.

4 a) It allowed Freud to provide detailed descriptions of a behaviour of interest to him. He was able to gain detailed information on ‘Little Hans’ which supported his ideas on psychosexual development, the Oedipus complex and the effectiveness of psychoanalytic therapy.

b) It may have been prone to researcher bias. Freud may have purposefully or unintentionally misinterpreted the information on Little Hans to support his ideas on psychosexual development, the Oedipus complex and/or the effectiveness of psychoanalytic theory, thus making the findings invalid.

5 One group consisted of 16 adult autistics, which included four high-functioning autistics plus 12 with Asperger syndrome. Another group consisted of ten adults with Tourette syndrome who were matched by age to autistics.

6 a) Autistics did not perform as well as those with Tourette syndrome on the Eyes Task. Their mean score out of 25 was 16.3 compared with the mean score 20.4 gained by the group with Tourette syndrome.
b) Because adult autistics are less likely to possess a TOM than Tourette syndrome adults and are therefore unable to attribute mental or emotional states to other people. [2]

7 a) i) The group of ‘normal’ adults.
   ii) The group of adults with Tourette syndrome. [2]

b) The group of ‘normal’ adults was used because they had no history of any psychiatric condition, so any differences in performance on the Eyes Task (TOM test) would be due to a psychiatric disorder. [2]

8 a) The independent variable was the type of person – autistic/AS, ‘normal’, or who had Tourette syndrome. The dependent variable was the performance – score out of 25 – on the Eyes Task. [2]

b) Because the independent variable was naturally occurring and could not be manipulated by the researchers – participants were naturally either autistic/AS, ‘normal’ or had Tourette syndrome. [2]

9 Freud’s study was a longitudinal case study whereas Baron-Cohen et al.’s study was a quasi experiment. Freud studied one person, Little Hans, in great detail over about two years, gathering lots of information about his dreams, his fantasies and his phobia of horses, whereas Baron-Cohen et al. used the naturally occurring variable of type of person – autistic/AS, ‘normal’ or with Tourette syndrome – to study performance on the Eyes Task as a measure of theory of mind ability. [4]

10 Freud gathered qualitative data only whereas Baron-Cohen et al. gathered quantitative data only. For example, Freud gathered qualitative data about Little Hans’ phobia of horses and his fantasies about giraffes, plumbers and parenting roles while Baron-Cohen et al. gathered quantitative data in relation to the Eyes Task in which the mean score out of 25 for the autistic/AS group was 16.3, for the ‘normal’ group it was 20.3 and for the group with Tourette syndrome it was 20.4. [4]

**Section A: Practice questions linked to the studies by Gould and Hancock et al.**

1 One way in which the tests were biased is that questions were based on knowledge and history of American culture with which many of the recruits were unfamiliar as they were recent immigrants from various areas of Europe. Another way in which the IQ tests were biased is that both the Army Alpha and Army Beta tests required participants to be able to read and write. Many participants were black Americans who had had little or no opportunity to learn these skills. [4]

2 The Army Alpha Test consisted of eight parts. It included familiar intelligence testing items such as analogies, filling in the next number in a sequence, etc. and required a good basic understanding of English language skills and literacy. An example of the types of questions asked is: Washington is to Adams as first is to .... [4]

3 a) The average mental age of white, American, adult, males was 13.04 whereas the average mental age of black American, adult males was 10.41. [2]

b) A difference in the performance could be due to differing educational opportunities available to white and black Americans during the years leading up to the First World War. The vast majority of white Americans would have had access to at least a basic elementary level of education whereas the vast majority of black Americans, particularly those from the southern States would have had little or no formal education of any sort. [2]

4 The American Immigration Restriction Act of 1924 was shaped by Yerkes’ findings with people from southern and eastern Europe and from the Alpine and Mediterranean nations who had scored very poorly on the army tests no longer being allowed to emigrate to the USA. This was controlled by looking at data from a census of immigrants, conducted in 1890 when immigration from southern and eastern Europe was very low. It was decided that the quota of immigrants allowed into America would be 2 per cent of each recorded nation taken from the 1890 figures which obviously meant that the numbers of ‘the unwanted’ would be very low. [4]

5 The sample consisted of 52 male murderers (14 psychopathic, 38 non-psychopathic) incarcerated in Canadian correctional facilities who admitted their crime. 8 (16 per cent) had been convicted for first-degree murder, 32 (64 per cent) had been convicted for second-degree murder and 10 (20 per cent) had been convicted for manslaughter. [4]

6 a) The sampling technique used in this study was self-selected sampling. [1]

b) One strength of using self-selected sampling in this study is that the researcher was able to use individuals, in this case psychopathic and non-psychopathic male murderers, who wanted to participate. They were therefore likely to be co-operative and make every effort to ensure that they behaved in ways to support the researchers. [2]

7 At the beginning of the interview, the interviewers verbally explained the purpose of the study (to examine the manner in which homicide offenders recall their homicide offence) and the procedure that was to be followed. The interviews were
audio-taped and participants were asked to describe their homicide offences in as much detail as possible. This was an open-ended interviewing procedure in which each participant was encouraged to provide as much information about the crime as possible from the beginning to the end, omitting no details. Participants were prompted to do this using a standardised procedure known as the Step-Wise Interview. Interviews lasted about 25 minutes.

8 One conclusion that can be drawn from the findings of this study is that because the psychopath narratives averaged 2,201.5 per participant and the non-psychopath narratives averaged 2,554.3 per participant, there was no significant difference in the average number of words produced by psychopaths and non-psychopaths when describing their homicide offences.

Another conclusion that can be drawn from the findings of this study is that because psychopaths used approximately twice as many words related to basic physiological needs, including eating, drinking and monetary resources when describing their murders than non-psychopaths, psychopaths focus more on physiological needs than higher-level social needs than non-psychopaths.

9 Gould’s study reviews the work of Yerkes who tried to create a standardised, replicable way of testing intelligence. A key feature of scientific research is the ability to repeat an original procedure in exactly the same way. Although the composition and administration of the tests was greatly flawed, the principle of replicability was upheld as Yerkes managed to test 1.75 million American army recruits using one of the three devised tests. Likewise, the study by Hancock et al. used the standardised Step-Wise Interview procedure so all 52 murderers were interviewed in the same way. The scores gained by recruits on the intelligence tests were not affected by an individual or personal viewpoint and can therefore be considered objective as can the analyses of the language of psychopaths as identified in Hancock et al.’s study which used the two text analysis tools of (i) the corpus analysis programme Wmatrix and (ii) the Dictionary of Affect in Language. Objective testing is another key feature of scientific research. These two features, present in both Gould’s and Hancock et al.’s studies allow one to view psychology as a science.

10 Gould’s study shows that it is extremely difficult to devise a reliable and valid way of measuring differences between individuals in relation to intelligence. His review of Yerkes’ attempt to develop a reliable and replicable way of measuring how individuals differ in intelligence shows how difficult it is to devise appropriate tests that are not only free from cultural bias but also suitable for individuals with different educational and social backgrounds. On the other hand, Hancock et al.’s study shows that it is possible to conduct a quantitative analysis using the objective measures of the corpus analysis programme Wmatrix and the Dictionary of Affect in Language to show how individuals [psychopathic and non-psychopathic murderers] differ in their use of language.

Chapter 15

Section B: Areas, perspectives and debates

1 a) The developmental area of psychology is the branch of psychology that is concerned with change and development in experience and behaviour over an individual’s lifespan.

b) One implication of the developmental area is that if there are clearly identifiable stages of development that individuals go through as they grow and mature, learning and experiences within any of the stages of development can have a significant positive or negative effect on subsequent behaviour.

c) Kohlberg’s study into moral development links to the developmental area as it shows how, as individuals age and mature, they pass through identifiable levels and stages of moral development. Typically, children between the ages of four and ten years progress through a pre-conventional stage of moral development by passing firstly through a punishment and obedience orientation stage and then an instrumental-relativist orientation stage. Individuals, typically in their adolescent and subsequent adult years, then move onto a conventional level of development which starts with a good boy–good girl orientation stage and advances onto a law and order orientation stage. Only about 10 to 15 per cent of people then progress to the final, post-conventional level of moral development which commences with a social contract orientation stage followed by a final, universal principles orientation stage. Kohlberg’s study showed that this six-stage theory of moral development is not significantly affected by widely ranging social, cultural or religious conditions because results showed that individuals from countries such as America, Mexico and Taiwan all progressed through this developmental sequence, the only thing that differed was the rate at which individuals progressed through the sequence.
d) Chaney et al.’s Funhaler study can be placed in the developmental area because it showed how the behaviour of young children in Australia can change over time. Having the opportunity to experience the use of the Funhaler as opposed to a normal inhaler led to developmental changes in both the children’s and their parents’ behaviours and attitudes resulting in increased adherence to prescribed medical regimes. Over time this could improve the health of children with asthma. This study can also be viewed from the behaviourist perspective because it shows clearly how behaviours can be learned. Through the process of operant conditioning which sees behaviour being learned as a result of either positive or negative consequences, the positive consequences gained from the use of the Funhaler led to its increased use and subsequently increased adherence to prescribed medical regimes in relation to inhaler usage.

e) The nature side of the debate sees behaviour being strongly influenced by genetic, biological and physical factors whereas the nurture side of the debate sees behaviour being strongly influenced through learning processes and the environment. Kohlberg’s study into moral development supports the nature side of the debate because it suggests there is an innate, predetermined sequence of stages which, regardless of the environment in which a child is brought up, will develop within each individual. Meanwhile, Chaney et al.’s Funhaler study supports the nurture side of the debate because it suggests that positive reinforcement applied through the process of operant conditioning allows individuals to learn and develop behaviours. The Funhaler gave children the opportunity to learn to use a more exciting inhaler which made them more prepared to adhere to prescribed medical regimes linked to asthma.

f) A strength of conducting socially sensitive research is that it can add greatly to our understanding of vulnerable individuals and groups. The study by Baron-Cohen et al. showed that adults with autism/AS have a core cognitive defect of an impaired theory of mind, which makes it difficult for them to read emotions from pictures of other people’s eyes. This difficulty seems to be particular to autism as Baron-Cohen’s study showed that adults with other cognitive impairments such as Tourette syndrome and ‘normal’ adults had little difficulty identifying the emotions shown through the Eyes Task. These findings added to our understanding of autism and how it can affect and influence the behaviour of autistic people.

Another strength of conducting socially sensitive research is that it can provide opportunities for governments and other agencies to devise policies and strategies for helping particular individuals and groups. The study by Freud which describes his psychoanalysis of Little Hans in relation to his phobia of horses has led to the increased use of psychoanalysis as a way of investigating reasons for individuals’ unusual or worrying behaviours. By making Hans aware that his phobia of horses was actually a projection of his subconscious fear of his father because he was experiencing the Oedipus complex, Freud was able to help Hans overcome his fear. Therefore, if we can find out that an individual’s supposedly unexplainable behaviour is heavily influenced by their unconscious mind, these influences, through psychoanalysis, can be brought to the conscious mind and identified. Once identified the concerning behaviour can be treated or managed.

A weakness of conducting socially sensitive research is that it can lead to the development of government policies that have negative impacts on particular individuals or groups. The study by Gould which reviewed the mass IQ testing of American army recruits in the First World War by Yerkes led to the 1924 Immigration Restriction Act, which prevented people from southern and eastern Europe and from the Alpine and Mediterranean nations who had scored very poorly on the army tests from emigrating to the USA. This immigration policy had horrendous consequences as well before the beginning of the Second World War, many Jews tried to escape from their homeland but there was ‘no admittance’ to America. Calculations suggest that as many as six million people from southern, central and eastern Europe were denied entry into the USA between 1924 and the start of the Second World War in 1939. The fate of many of them as a result of the Nazi regime is well known. Another weakness of conducting socially sensitive research is that participants may become ‘labelled’ and stigmatised. The findings of the research by Hancock et al. into the language of psychopaths, if not handled carefully, could lead to psychopathic murderers having an even greater negative profile, being labelled as less emotional and less positive than non-psychopathic murderers. Just the fact that as part of the study participants underwent a psychopathy assessment which allowed Hancock et al. to categorise them as either a psychopathic murderer or a non-psychopathic murderer.
may lead them to be treated both by other prisoners and prison staff in a negative way. Once given a label, individuals are often treated in a discriminatory and prejudicial way, which may limit future opportunities.  

Total marks [30]

2 a) One assumption of the area of individual differences is that every individual is unique both genetically and in their experiences, and this uniqueness is displayed through their behaviour.  

b) The study by Baron-Cohen et al. into autism in adults can be placed in the area of individual differences because it shows how individuals and groups of people may differ. The study involved three groups of participants – adults with autism/AS, ‘normal’ adults and adults with Tourette syndrome. Through the use of the Eyes Task, a specially designed test relating to theory of mind, it was found that the mean average out of 25 scored by those with autism/AS was 16.3 compared with 20.4 by those with Tourette syndrome and 20.3 by those considered ‘normal’, suggesting that adults with autism suffer from a core cognitive deficit and lack a theory of mind. This shows how groups of people can differ in their behaviour. The study also showed that even within groups individuals can behave differently. For example, the results of the Eyes Task showed that in the autistic/AS group, correct answers ranged from 13 to 23 out of a possible 25.  

c) A strength of the individual differences area is that it allows one to focus on the differences within groups of people and on how individuals differ in their behaviour and personal qualities. For example, the review study by Gould focused on Yerkes’ IQ testing of 1.75 million American army recruits during the First World War. The study showed great differences in intelligence between groups of people. For example, Yerkes found that the average mental age of white, American, adult males was 13.04, just above the edge of moronity, and that black American men had an average mental age of 10.41. Yerkes also found that in relation to black American men, intelligence was linked to skin colour, with those with lighter skin colour scoring higher than those with darker skin colour.  

d) The behaviourist perspective holds that nearly all behaviour is learned and all individuals are the products of their environments. Individuals are like a ‘tabula rasa’ – a blank slate – at birth and behaviour is learned from the environment through three main types of learning: classical conditioning (learning through association), operant conditioning (learning as a result of consequences) and social or observational learning (learning through observing and imitating the behaviour of others). The learning of a behaviour through the process of operant conditioning was shown in Chaney et al.’s Funhaler study, where through the use of positive reinforcement demonstrated through the decreased negative effects of asthma, children were encouraged to learn to use a more exciting inhaler, making them more prepared to adhere to prescribed medical regimes and improve their health status.

The psychodynamic perspective holds that behaviour is strongly influenced by the structure and drives of the unconscious mind. The perspective focuses on the role of the subconscious and past experiences as the cause of current behaviours. The perspective sees the unconscious mind containing all manner of unresolved conflicts which have a powerful effect on behaviour. This was shown in Freud’s study of Little Hans, whose phobia of horses Freud linked to his unconscious fear of his father because he was experiencing the Oedipus complex. Hans had projected his unconscious fear of his father onto horses, a fear of which he was aware and which had such a powerful effect on his behaviour that, for a time, he became frightened of leaving his home. Early childhood experiences also have profound, often unconscious, effects on subsequent behaviour and therefore atypical or concerning behaviour in adult life is seen to have its roots in early experiences.  

e) One strength of the behaviourist perspective is that it is very scientific and usually uses controlled experimental methods. This allows researchers to infer cause and effect. For example, Bandura et al.’s study on the imitation of aggression was a laboratory experiment carried out under highly controlled conditions. The researchers manipulated the independent variables of sex of model (male or female) and sex of child (boy or girl) to see the effects on the types of aggression shown later by the children. The study was conducted under controlled conditions where each child in their respective conditions (aggressive, non-aggressive, control) went through exactly the same standardised procedure. Bandura et al. were able to collect scientific, objective data, including the number of physical and verbal acts imitated by the children in the final phase of the experiment.

However, a weakness of this perspective is that because it often relies on laboratory experiment findings it may lack ecological
validity and therefore not be applicable to real-life situations. For example, in relation to Bandura et al.’s study, it is not an everyday occurrence for a child to be sat at one end of a room to play with potato prints and picture stickers while an unknown adult at the other end of the room acts aggressively towards a Bobo doll. Likewise, children do not normally have aggression levels aroused by being allowed to play with attractive toys and then after about two minutes have them taken away and told they had to be reserved for other children. These artificial situations mean the findings in relation to imitative aggression are hard to generalise to everyday life.

Another strength of the behaviourist perspective is that it has many practical applications in the real world. For example, Chaney et al.’s study showed that through the process of operant conditioning with positive reinforcement, demonstrated through the decreased negative effects of asthma, children learned to use a more exciting inhaler, making them more prepared to adhere to prescribed medical regimes and improve their health status. The findings of this study indicate that the use of other incentive devices such as fruit-flavoured medicines may modify children’s behaviour, making them more compliant to follow medical regimes.

The findings of Bandura et al.’s study also have practical applications. The study suggested that children can learn behaviour through observation. Therefore, if any society wants children to learn and demonstrate certain behaviours, they should take every opportunity to make sure children observe the desired behaviours.

A weakness of the behaviourist perspective is that it is reductionist as it ignores the influences of nature and cognition on behaviour. Although Bandura et al. tried to control levels of aggression by pre-rating the children on aggression, matching them in triplets and then randomly allocating one of each triplet to either one of the two experimental or the control conditions, there is no way one can be certain that the aggression shown in the final phase was not due to the child’s nature. The fact that the children had had their aggression levels raised in the second phase when the attractive toys were taken away from them may have brought out innate aggression, which would have led the children to be naturally more aggressive in the final phase irrespective of the model’s aggressive behaviour in the first phase. The children in Bandura et al.’s study may also have watched the model act either aggressively or passively in phase one and used their cognitive abilities to work out that when they saw a similar Bobo doll in phase three, they were expected to imitate the behaviour previously demonstrated by the model. By ignoring the possible roles of nature – e.g. hormones – and cognition – e.g. perception of a situation – the behaviourist perspective turns complex behaviours into simple ones, which may not give a full explanation.

Total marks [28]

3  a) The social area explains behaviour as the effects of other people and the surrounding environment on an individual or group of people or animals. The social area is therefore the scientific investigation of how the thoughts, feelings and behaviours of individuals or groups are influenced by the actual, imagined or implied presence of others.

b) Milgram’s study can be considered as providing a social explanation for behaviour because it shows the extent to which people’s behaviour can be influenced by other people around them. Although most participants were unhappy administering what they thought were high-voltage electric shocks to the learner, because they were encouraged to do so by a seemingly legitimate authority figure, dressed in a grey lab coat and carrying a clipboard, 26 out of 40 [65 per cent] went against their desires and normal moral code and behaved as they were asked.

c) Studies placed in the biological area are generally considered low in ecological validity because what participants are asked to do in the study rarely compares with what they may do in everyday life. For example, in Maguire et al.’s study, being put through an MRI scanner is not something that a person would do every day. Likewise, in Blakemore and Cooper’s study, kittens are not usually reared, from birth to two weeks, in a completely dark room and then up to the age of about five months in either a completely horizontally oriented or a completely vertically oriented environment. However, to study both the brain structure of taxi and non-taxi drivers and the impact of early visual experiences it was necessary to have a high level of control over the environment so that objective measures could be obtained, and therefore ecological validity was automatically low.

d) As studies in the biological area are frequently conducted in laboratories using technical equipment, participants are aware they are being studied and therefore give their consent. In Maguire et al.’s study...
all participants had to have an MRI. The taxi drivers who went to the scanning laboratory would not have been placed in an MRI scanner without their consent and the non-taxi drivers whose scans were drawn from the MRI scan database would have given their consent for their data to be used for research purposes. However, as studies in this area are frequently conducted in laboratories using technical/scientific equipment, participants may be put at risk of physical harm. Although extremely unlikely, participants who underwent an MRI scan as part of Maguire et al.’s study exposed themselves to possible risks. The magnetic field of the MRI scanner can pull on any metal-containing object in your body, such as medicine pumps and aneurysm clips. In other cases, (older-style) medical implants may heat up during the scan as a result of the technology (radio frequency energy) used for the procedure. Although all the participants were medically healthy, there is no information in the study as to what checks were carried out prior to scanning.

Studies that can be placed in the physiological area are frequently conducted in laboratories so participants are unlikely to be deceived as to the aim of the study. Sperry’s participants who underwent numerous visual and tactile tests to assess the impact of having a split brain would all have been aware of the purpose of the study. They all knew they had had an operation to sever the corpus callosum to reduce the effects of severe epilepsy, and when they were asked to perform the set visual and tactile tasks would have been fully aware of why they were doing them. Likewise, Maguire et al.’s participants are unlikely to have been deceived as to the purpose of the MRI scans. Unfortunately, studies that can be placed in this area, because they take place in controlled environments, often using technical equipment, may cause participants short- and/or long-term psychological harm. The kittens in Blakemore and Cooper’s study may have suffered extreme stress when they were taken from their vertically or horizontally oriented environment and placed in a more natural environment. Similarly, participants in Maguire et al.’s study may have experienced some stress while undergoing the MRI scan, especially if they were claustrophobic. Participants in Sperry’s study may have suffered both short- and long-term psychological harm when they realised the visual and tactile limitations imposed on them as a result of having had a split brain operation.

As studies that can be placed in the physiological area are frequently conducted in laboratories, participants are aware they are being studied and can exercise their right to withdraw if, at any time, they feel they do not want to continue. Participants in Sperry’s study could easily have said they did not want to continue with the tests and asked for their data to be removed from the study’s findings. All they had to do was get up from their chair in front of the tachiscope and ask if they could withdraw. The right to withdraw was demonstrated in Casey et al.’s study of gratification delay because although 562 participants completed the initial delay-of-gratification task at the age of four years, when they were in their forties and the final stages of the study were conducted, only 59 took part in Experiment 1 and 27 in Experiment 2. There are various possible reasons for this decrease in numbers, one of which is that participants exercised their right to withdraw. One ethical consideration that is normally upheld in studies from this area is that of confidentiality. No names of any of the human participants in Maguire et al.’s, Casey et al.’s or Sperry’s studies, or the names of the kittens in Blakemore and Cooper’s study, have been disclosed.

Total marks [32]

4 a) Freewill suggests that individuals can choose how they want to behave and so have responsibility for their own behaviour, whereas determinism suggests behaviour is controlled by genes and past experiences so an individual has little or no control over their behaviour. [2]

b) Milgram’s study into obedience shows that individuals have the freewill to behave as they choose. Although all 40 participants were put under extreme pressure through the use of four persuasive prods by the authority figure in a grey lab coat, carrying a clipboard, and the majority (65 per cent) obeyed his instructions and administered ever increasing electric shocks, 14 participants refused to obey by withdrawing themselves from the study between the 300 and 450 volt levels. This shows that even in extreme circumstances individuals have the freewill to behave as they want to. [4]

c) A similarity between the cognitive and social areas is that they both offer the opportunity for researchers to gather quantitative data. For example, Milgram’s study into obedience gathered quantitative data by counting the number of participants (26) who were prepared to administer electric shocks up to the 450 volt level, while Loftus and Palmer gathered
quantitative data relating to the mean speed estimates given by participants in relation to the five different verbs used in the critical question and the number of participants in the ‘smashed’, ‘hit’ and control groups (in Experiment 2) who reported seeing broken glass. A difference between these two areas is that whereas the cognitive area relies heavily on the use of artificial, highly controlled conditions, the social area offers many opportunities to conduct studies in natural, less controlled environments. Loftus and Palmer’s study into eyewitness testimony, which can be placed in the cognitive area, was conducted under highly controlled artificial conditions. All participants were first presented with either a series of seven film clips of car accidents (Experiment 1) or a film clip of a multiple car crash (Experiment 2). After each film clip they were given a questionnaire to complete which asked them first to describe the accident and then to answer a set of questions about the incident. Piliavin et al.’s study into helping behaviour, which can be placed in the social area, was conducted in the natural environment of the A and D trains of the 8th Avenue New York subway.

**d)** The cognitive area allows psychological research to be considered scientific because most research in this area is experimental and takes place under conditions in which many extraneous variables can be controlled. For example, Loftus and Palmer’s experiment was conducted under highly controlled yet artificial conditions. All participants were first presented with either a series of seven film clips of car accidents (Experiment 1) or a film clip of a multiple car crash (Experiment 2). After each film clip they were given a questionnaire to complete which asked them first to describe the accident and then to answer a set of questions about the accident. This high level of control allowed Piliavin et al. in Experiment 1 to manipulate the independent variable – the wording of the critical question in the questionnaire relating to speed – to measure its effect on the dependent variable – the estimated speed given by participants. Likewise, in Experiment 2 the researchers were able to manipulate the independent variable – the wording or absence of the critical question relating to speed in the questionnaire – to see the effect on the dependent variable – whether or not participants recalled seeing any broken glass. In both experiments other variables such as timings, ease of viewing or noise that might have affected performance could be controlled for. Both of these cognitive studies therefore also allowed the researchers to study cause and effect, another principle of scientific enquiry.

Studies that can be placed in the cognitive area tend to be objective and gather quantitative data, another principle of scientific enquiry. The study into context-dependent memory by Grant et al. gathered quantitative data and showed that the mean number of correct answers on the short-answer test in the silent study/silent test condition was 6.7 compared with 4.6 for the silent study/noisy test, and that the mean number of correct answers on the short-answer test in the noisy study/noisy test condition was 6.2 compared with 5.4 for the noisy study/silent test. From this objective, quantitative data one may conclude that studying and testing in the same environment enhances learning.

The cognitive area can be considered scientific because studies in this area are replicable. The study by Loftus and Palmer, being highly controlled with a standardised procedure, was easily replicable. The standardised procedure in Experiment 1 – in which all participants were presented with a series of seven film clips of car accidents and after each film clip were given a questionnaire to complete which asked them first to describe the accident and then to answer a set of questions about the incident – and the standardised procedure in Experiment 2 – in which all participants watched a film clip of a multiple car crash, completed a questionnaire which asked them first to describe the accident and then to answer a set of questions about the incident and return one week later to complete a second questionnaire – were easy to replicate.

For psychological research to be considered scientific it should allow for the testing of hypotheses. Grant et al.’s study into context-dependent memory was able to test the hypothesis that environmental context will have a more positive effect on performance in a meaningful memory test (here relating to psychoimmunology) when the test takes place in the same environment in which the to-be-remembered material was originally studied (here either the silent study/silent test condition or the noisy study/noisy test condition) than when the test occurs in a different environment (here either the silent study/noisy test condition or the noisy study/silent test condition). Results supported the predicted hypothesis so Grant et al. were able to conclude that studying and testing in the same environment produced better results than studying and testing in different environments.

Total marks [31]
Section C: Practical applications

1 a) One psychological concern raised by the source is that Jane appears to have a phobia of water. When asked about this apparent fear, Jane’s mother replied, ‘She never goes into a swimming pool. She won’t even go paddling or swimming in the sea when we go on holiday. At home, she will only have a shower. I can’t get her to have a bath, even if she’s really cold.’

b) The source can be placed in the area of individual differences because it shows how individuals may differ in their behaviours. Swimming lessons would be a regular occurrence at Jane’s school and it can be presumed that the majority of students would participate. Yet Jane ‘would always try to find an excuse for not participating’, which would be considered atypical behaviour. A key assumption of the area of individual differences is that in order to understand the complexity of human behaviour and experiences it is better to focus on the differences between people rather than the similarities. This source allows us to focus on how Jane’s behaviour is different to the typical or ‘average’ behaviour shown by other students at the school.

c) Freud’s study looks to explain why Little Hans had a phobia of horses. Freud gathered data through Little Hans’ father, who observed and questioned Little Hans in his own home about his fears, dreams and fantasies. Hans’ father then sent the information by letter to Freud, who responded with advice and further questions. Freud documented the case of Little Hans and showed that his fears, dreams and fantasies were symbolic of his unconscious passing through the phallic stage of psychosexual development. It is during this stage of development that a young boy will experience the Oedipus complex. Freud thought Hans was a ‘little Oedipus’ because his conscious fear of horses was seen as a projection of his subconscious fear of his father because he was experiencing the Oedipus complex. Hans also reported a number of fantasies, such as a parenting fantasy and two ‘plumber’ fantasies, which Freud was able to link to him experiencing the Oedipus complex. Once Freud had interpreted and explained the parenting fantasy, Hans was able to overcome his phobia. This study could relate to Jane’s phobia of water because it shows how many important influences on behaviour come from a part of the mind – the unconscious – about which an individual has no direct awareness. Hans had no direct awareness that his phobia of horses was really a fear of his father. Likewise, Jane had no conscious awareness that her phobia of water could be the result of a frightening experience in early childhood in which her older brother pushed her under the water when they were playing in the paddling pool, leaving her with an unconscious fear of drowning.

d) A programme could be developed around the principles of systematic desensitisation. This is a psychological method, based on classical conditioning, that can be used to treat phobias. Individuals learn to reduce their levels of anxiety by increasing their exposure to the feared stimulus and associating it with relaxation. This use of a behaviourist method to learn a new behaviour could help Jane manage and overcome her phobia of water. Over a period of at least several weeks she could be shown how to associate her feared stimulus – water – with relaxation instead of fear so that relaxation becomes a new conditioned response. The programme could be carried out either by a psychologist/psychoanalyst or, if taught how to execute the planned programme, the swimming teacher herself. Time should be found either before or after school, when there are no other pupils around, for Jane and the ‘therapist’ to have access to the swimming pool and changing facilities. The programme could start with small activities, such as picking up brightly coloured sticks from within the shower area with no water running. The shower could then be partially turned on and Jane could be asked to pick up the sticks, which would be placed so that she would have to get at least somewhat wet. As she tries to pick up the sticks the ‘therapist’ encourages her to relax and have positive thoughts. Over time, activities can be developed so that Jane goes into a fully turned-on shower. Once she has mastered this, colourful, floatable objects could be put in the swimming pool, initially near the steps, so that Jane can, while sitting on the steps, wearing arm bands and possibly with the ‘therapist’ in the water near her to give her confidence, reach forward and collect them. Again, while she is doing this the ‘therapist’ will continue to encourage Jane to relax so she can enjoy the activity. These activities can become increasingly challenging so that eventually Jane has to get into the water and pick up objects from the bottom of the shallow end of the pool. This will mean she will have to put her head under the water. If she can learn to do this while feeling relaxed and confident she should be able to overcome her phobia of water.
e) The suggested programme could be very time-consuming. Both Jane and the ‘therapist’ have to be prepared to find the time on a regular basis to work through the therapy. However, it is very likely that both will want to make every effort for Jane to overcome her phobia. Jane will want to do so because she probably lacks self-esteem as her peers may be jeering and mocking her for continually refusing to take part in swimming lessons, and the ‘therapist’ will want to take part because their aim will be to enhance Jane’s self-confidence and self-efficacy. Getting access to the swimming pool either before or after school could be difficult as many pools are used for extra-curricular swimming lessons, clubs or ‘free’ swimming. There is, however, usually at least half an hour during a week when a pool is unused. If time schedules are extremely tight, Jane could use the designated teachers’ changing room so privacy and confidentiality could be maintained. The teacher, if they become the ‘therapist’, is unlikely to request financial remuneration; if a professional therapist is employed they will need to be paid. This may be problematic if Jane’s mother does not have sufficient funds. If this were to be the case, the school might have a special fund to help students in such situations, especially as Jane’s phobia of water is preventing her accessing the whole school curriculum. Although there may therefore be several practical problems with the suggested programme, long-term gains would outweigh the short-term difficulties. If Jane can learn to overcome her fear of water she will be able to participate in swimming lessons with her peers and take part in other water-based activities in her spare time. Where there is a will, there is a way! [10]

Total marks [34]

2 a) This report can be placed in the social area because it shows the extent to which people’s behaviour can be influenced by other people around them. Simon Ford, ‘inspired by a friend’s successful battle against leukaemia’, decided to donate stem cells to save the life of a stranger. [4]

b) Piliavin et al.’s Subway Samaritan study shows how people on the New York subway were prepared to help a stranger in need. On each trial two male and two female students boarded the train using different doors. The female confederates took seats outside the critical area and recorded data as unobtrusively as possible for the duration of the ride, while the male model and victim remained standing. The victim stood next to a pole in the centre of the critical area and, as the train passed the first station (approximately 70 seconds after departing), the victim staggered forward and collapsed. Until receiving help, the victim remained supine on the floor, looking at the ceiling. If the victim received no assistance by the time the train slowed to a stop, the model helped him to his feet. At the stop, the team disembarked and waited separately until other riders had left the station. The victim either smelled of liquor and carried a liquor bottle wrapped tightly in a brown bag [drunk condition], or appeared sober and carried a black cane [cane condition]. In all other aspects victims dressed and behaved identically in both conditions. There were four different model conditions used: critical area – early, critical area – late, adjacent area – early, adjacent area – late. When the model provided assistance, he raised the victim to a sitting position and stayed with him for the remainder of the trial. This study could relate to the helping behaviours described in the source because Simon Ford decided to help other people, whom he did not know. His friend had successfully survived leukaemia, an illness that was not self-inflicted and therefore not caused by anything he himself had done, and Simon realised that people who suffer such illnesses and need stem cell treatment to survive were worthy of any help that could be given them. Piliavin et al.’s study showed that people were willing to help strangers whether they were black/white/drunk/lame, but that an individual who was lame, possibly because they believed the infliction was not self-caused, was more worthy of help than a drunk person, whom they considered responsible for their own situation. Similarly, Lucy Armstrong did not hesitate to donate her bone marrow to help a stranger because as she said, ‘It was a small price to pay for what could save another person’s life.’ [8]

c) All new undergraduates at some point during ‘Freshers’ Week’ could be expected to participate in at least one practical session to make them aware of how they could help others within the university complex. The programme could be based around developing an awareness of the cost–reward matrix, as proposed in Piliavin et al.’s study. The session leader could first explain the matrix as a model of response to emergency situations: a bystander assesses the costs associated with helping [e.g. effort, embarrassment, possible disgusting or distasteful experiences, possible physical harm, etc.], costs associated with not helping [mainly self-blame and perceived censure from others], rewards associated with helping [mainly praise from self, etc.], social reward and punishment, and finally, the situational factors that may influence one’s decision to help or not to help.
victim and others), and rewards associated with not helping (mainly those stemming from continuation of other activities). If the costs outweigh the rewards, the bystander will not offer help, whereas if the benefits outweigh the costs, they will offer help. The undergraduates could be told that they will encounter numerous situations throughout their time at university in which they can help others in need. After explanation of the cost–reward model, which for nearly everyone should really be making them aware of what they already know, a variety of practical scenarios could be presented. These could be based around situations likely to happen in or around the university – for example, a companion cross-country runner collapses in a field about three miles from the university medical centre. The first scenario could be acted out and managed through demonstration and then the ‘freshers’ could get into groups and go round a variety of scenarios, acted out by undergraduates in their final year. The ‘freshers’ would be given the opportunity in their groups to manage each scenario so they realise how they can ensure the benefits of helping outweigh the costs. Such a programme could encourage helping behaviours not only within universities but also in the wider environment.

d) New undergraduates may not be particularly interested in participating in such a programme during their first ‘fun’ week at university. It would therefore be important that the programme was given high status and kudos by both the university managers and those organising and running ‘Freshers’ Week’. The programme could help develop self-confidence in new undergraduates, both through them working with other new students who may, like them, be feeling unsure of themselves in a strange situation and through them learning that they can bring positive outcomes from what could be challenging situations. Undergraduates in their final year may have important academic work that has to be completed and may find it hard to find the time to take part in the programme. However, most university students can find time to do things if they really want to! In addition, being able to state in future job applications that they have helped in such a programme could be extremely helpful. Making the programme realistic may be an issue as many undergraduates may see the programme as frivolous and a chance to act around. However, if the programme organisers asked members of the university’s drama association to act out the scenarios, this problem could be overcome. Scenarios would have to be carefully planned so no ethical or moral issues arise. For example, no participants should be put under undue stress, and at the end of each scenario participants should be given a debrief which either tells them that they managed the situation well or gives them advice on how the situation could have been managed better. Participation in the programme may therefore not only allow new students to make friends but may also increase self-confidence and self-esteem as participants will leave the session feeling they can be a positive influence if emergency situations arise in the future.

[Total marks 34]

3 a) One psychological concern raised by the source is members of the Smith family cannot divide their attention and attend to more than one thing at a time. For example, Mrs Smith heard the announcement by the Chancellor that he was going to protect the police budget but she did not actually ‘hear’ it as she was on the telephone at the time. This inability to attend to more than one message at a time led Mr Smith to say, ‘None of you can listen to more than one thing at a time.’

b) The source can be placed in the cognitive area because cognitive psychology involves the study of all mental processes such as memory, perception, thinking, attention reasoning, problem-solving, and language. Attention is the cognitive process that enables individuals to select certain information while rejecting other information. It allows an individual to focus on one thing while blocking out or ignoring other things. Here, for example, Mr Smith’s daughter was focused on talking to her friend, Sally, about what had gone on in school that day and therefore her brain had blocked out and ignored the information it received about the Chancellor promising to protect the police budget.

c) Moray’s study into auditory attention relates to the auditory inattention shown in this source. Moray conducted three experiments, all of which involved dichotic listening tasks that required participants to shadow one message while two messages were played to them, one in each ear. The first experiment is particularly relevant to the inattention shown by Mr Smith’s family: a short list of simple words was repeatedly presented to one of the participant’s ears while he shadowed a prose message presented to the other ear. The participant was then asked to report all he could of the content of the rejected message. Findings showed that although the words in the inattended message were repeated many times, participants still could not
remember them. Moray was therefore able to conclude that ‘in a situation where a subject directs his attention to the reception of a message from one ear, almost none of the verbal content of the rejected message is able to penetrate the block set up’. The source says that Mrs Smith, for example, was directing her attention to the information coming into her brain from the telephone held to one ear and therefore blocked or rejected the information coming into her brain via the other ear from the television. None of the Chancellor’s message saying that he was going to protect the police budget therefore penetrated this attentional block and so Mrs Smith did not hear what was being said. [5]

d) Teachers could employ behaviourist techniques to improve their pupils’ auditory attention. First they could demonstrate that the best way to attend to important information is to listen carefully with both ears, making sure there are no other auditory distractions which could lead them to change the focus of their attention from the intended to the unintended messages. Through observational learning pupils could therefore learn how to maximise their auditory attention. As this procedure is demonstrated by the teacher, who will be seen by the pupils as a role model, they are likely to imitate the behaviour when given the opportunity to do so. Once the pupils are aware of how to improve their auditory attention, the teacher could employ operant conditioning strategies to encourage pupils to listen carefully to important information at all times. Operant conditioning holds that behaviour is learned as a result of consequences. If behaviour is positively reinforced, the behaviour is likely to be repeated. Therefore, through the use of rewards, children could be encouraged to improve their auditory attention. With young children this could be done by reading them a story and then asking them questions about it. The questions could be asked orally and have ‘true’ or ‘false’ answers. The children, even if they are very young, can have an answer sheet to complete on which they have to place a tick for ‘Yes’ and a cross for ‘No’. The child who gets the most answers correct gets a sticker. The children will focus their auditory attention on the story, and the sticker will act as positive reinforcement for having demonstrated good auditory attention. [10]

e) The first thing that must be considered is the children’s cognitive ability. The teacher must make sure in his demonstration and explanation of how auditory attention can be improved that the children fully understand the points he is trying to make. The use of observational learning is dependent on the observer being able to actually see the behaviour being modelled. The teacher must therefore make certain that all the children can see what he is doing. This can usually be done easily by asking the children to sit on the floor near the teacher in the classroom so their view is not blocked in any way. If this is not possible, the teacher might need to find a more suitable area. The teacher must check that any children with visual or hearing difficulties are sat in the best possible place – not always easy as young children all want to be at the front! The use of operant conditioning to encourage auditory attention may only be successful as long as the rewards are given. Research has found that once rewards are removed or become insignificant, behaviour often deteriorates. Similarly, if rewards are given out too frequently, they lose their value. The teacher may therefore find it beneficial to have a progressive rewards system where, for example, gaining a certain number of stickers leads to the awarding of a certificate which is presented in the school assembly. The strategies used by the teacher to improve auditory attention must be meaningful and seen as valuable by both the children and the school managers. The teacher should therefore ensure that his attempts to improve auditory attention are linked to the school curriculum; otherwise the children will see them as irrelevant and the school managers will see them as a waste of valuable teaching time. There should be no ethical concerns with the strategies suggested as they should be seen as ways of enhancing the pupils’ learning and subsequent achievement. However, the teacher must be aware that those young children who find the questions difficult and/or those who do not get a sticker may become stressed and upset. He must therefore be prepared to manage such situations. [10]

Total marks [33]

4 a) One psychological concern raised by the source is that children seem to be learning antisocial, aggressive behaviour from children’s television programmes. One example from the source that supports this suggestion is: ‘A teacher, who had a child of their own in the school and who had also noticed increased aggression in their child, suggested that a new television programme called “Venus Attack”, which her son loved to watch, although broadcast on a children’s
Bandura et al.’s study into the transmission of aggression relates to the source above because it focuses on the social process of how children learn about behaving aggressively. Through observation of models/significant others in their surrounding environment, children can learn both pro-social and antisocial behaviours.

Antisocial behaviour in this instance refers to aggression. In Bandura et al.’s study the children were first matched through a procedure that pre-rated them for aggressiveness. They were then placed into triplets based on the identified levels of aggression, with one child from each triplet then being randomly allocated to either the aggressive, non-aggressive or control groups. The procedure of the actual experiment then comprised three phases. In phase 1, children in the two experimental conditions were taken individually into a room and seated at a table to play with potato prints and picture stickers for ten minutes while either an aggressive model behaved in a physically and verbally aggressive manner towards a Bobo doll or a passive model assembled a tinker toy set in a quiet, subdued manner, totally ignoring the doll. In phase 2, all the children, including those in the control condition who had not witnessed the behaviour of either model, were then taken individually to another room where they were subjected to mild aggression arousal. This was done by letting the child play with some very attractive toys but after about two minutes taking the toys away and telling them they were reserved for other children but that they could play with any of the toys in the next room. In phase 3 each child was taken individually into a third room which contained both aggressive and non-aggressive toys, including a three foot high Bobo doll. They were observed through a one-way mirror for 20 minutes while two observers recorded, at five-second intervals, the following measures of aggression: (i) imitative aggression (physical, verbal and non-aggressive speech), (ii) partially imitative aggression, (iii) non-imitative physical and verbal aggression, (iv) non-aggressive behaviour. Findings showed that children in the aggressive condition showed significantly more imitation of physical and verbal aggressive behaviour than children in the non-aggressive or control conditions, suggesting that children will imitate aggressive behaviours displayed by adult models even if the model is not present and that children can learn behaviour through observation and imitation. This study relates to the source because the source suggests that young boys, like the children in Bandura et al.’s study, are observing the ‘models’ in such programmes as ‘Venus Attack’ and ‘Super Power Fighters’ and then, when given the opportunity, are imitating the aggressive behaviours shown by these models after seeing the programmes.

There are several ways the issue could be managed. One way could be that, through the use of Skinner’s theory of operant conditioning, teachers in school and parents at home could reward children through the use of a star chart for showing pro-social behaviour which, when complete, earns them some form of reward. Research has shown that positive reinforcement such as rewarding pro-social behaviour is more likely to lead to behaviour being repeated than punishing antisocial, aggressive behaviour. Infant schools/nurseries could also include half-termy class sessions in which current television programmes such as ‘Action Hero’ and ‘War Planets’ as well as other programmes such as ‘Thomas and Friends’ and ‘Bob the Builder’ are reviewed so emphasis can be placed on those that promote pro-social behaviour and children can be educated about the unacceptability of the antisocial behaviour shown in some television programmes. As such discussion would be led by teachers who would be considered as role models or significant others, the aim would be that through social learning processes the children would take the advice given and act upon it. Another way the issue of children copying aggressive behaviour from television programmes could be managed is if Ofcom, which regulates what is shown on television, instructed educational advisers to ensure television companies run more balanced programme schedules, with greater emphasis being placed on pro-social rather than antisocial behaviour. Then if, as Bandura et al.’s study suggests, children learn through observation, they are more likely to behave in pro-social than antisocial,
aggressive ways. Also, before certain programmes are aired an announcement could be made telling audiences that there will be scenes of aggression and violence and that the programme is suitable only for children above a certain age. Parents can then make an informed choice as to whether or not their child can watch the programme. A further way this issue could be managed is that parents could apply parental safeguards to their television so that their children cannot get access to undesirable programmes. They should then explain to their children why they are not allowed to watch the blocked programmes. [10]

d) A star chart to encourage pro-social behaviour is cheap and easy to construct and display. However, one problem with using such things as star charts is that if they are to be beneficial, behaviour must be monitored and recorded consistently. It will be difficult for both parents and teachers to monitor behaviour all the time and therefore there is a risk that behaviours may be missed or overlooked. The child may then feel they have either ‘got away’ with poor behaviour or not been credited for good behaviour. The former may lead to the child becoming devious, the latter to a feeling of ‘why bother?’ Using rewards to reinforce behaviours can lead to the behaviours being displayed only because they ultimately bring an extrinsic reward, but research has shown that if social rewards such as ‘well done’ accompany the material reward, motivation to adopt acceptable behaviour is increased. Parents and teachers should therefore try to make certain that social rewards are given at the same time as material rewards.

There should be few difficulties building half-termly discussion sessions into an infant/nursery school’s curriculum. Most classes that cover this age range have daily ‘story time’, so instead of reading or telling a story during the last day before the end of each half term the teacher would organise and run the discussion session. No valuable learning time would be lost and the initiative would have no financial implications. What is shown on television is heavily influenced by audience numbers which, in turn, affects the amount of revenue received by the television companies. If programmes such as ‘Venus Attack’ and ‘War Planets’ draw large audiences, television companies are going to be unwilling to remove them from their schedules, regardless of any advice given by educationalists. However, the suggestion referring to parents applying parental safeguards to their television so that their children cannot get access to undesirable programmes would give them a real sense of control over what their children are exposed to. Many parents seem to be unaware of what their children are watching on television because they are often so busy doing household chores that they are just pleased that their children are quiet and out of the way! Putting parental safeguards onto television programmes may have a financial implication, but the application of the cost-reward matrix may lead them to see the financial cost outweighs the chances that their children may learn aggressive behaviour, making it something they are prepared to pay for. [10]

Total marks [34]

Chapter 17

1 a) Mental disorders can be categorised using either the Diagnostic Statistical Manual/Diagnostic and Statistical Manual of Mental Disorders (DSM), used primarily in the USA, or the International Classification of Disorders (ICD), used primarily throughout the rest of the world. These manuals group mental disorders into categories and group together illnesses with similar symptoms and behaviours. [3]

b) One limitation of categorising mental disorders is that of validity. All doctors and psychiatrists must be able to apply the criteria in the DSM/ICD in the same objective way so they all use the diagnostic criteria to make true and accurate diagnoses and this does always appear to be the case as subjectivity often seems to influence diagnoses. For example, Ford and Widiger found that presenting the same symptoms to practitioners but changing the gender of the patient resulted in different diagnoses, with females more likely to be diagnosed with histrionic personality disorder and males with
Individuals admitted to psychiatric hospitals may develop feelings of depersonalisation because first, patients are deprived of many of their legal rights simply because they have been admitted to hospital with a mental illness. For example, freedom of movement is restricted and privacy is minimal, supposedly for reasons of health and safety. Because patients are deemed not to be in their right minds, their quarters can be entered and possessions examined by staff members, for whatever reason, possibly because those dealing with their treatment and care either distrust the individuals or hold ingrained negative expectations. Furthermore, individuals in psychiatric hospitals often have their personal hygiene and waste evacuation monitored, with many toilets not having any doors. All these factors serve to de-personalise the individual, making them feel that they are merely one of a group which has been given the label ‘insane’, that they are no longer considered an individual with their own personality or needs. Second, the hierarchical structure of psychiatric hospitals facilitates depersonalisation. Those who are at the top, i.e. the psychiatrists themselves, have the least to do with their patients. This lack of contact with the person who should have the closest contact with the patient influences the rest of the staff, who follow the lead of their superiors, leaving the patient with little interpersonal contact with those caring for them. Patient contact does not appear to be a significant priority in most psychiatric hospitals and so patients are left feeling depersonalised.

Humanistic therapy can be used to treat depression. This is based on person-centred counselling in which humanistic counsellors refer to individuals as clients rather than patients because the therapist and client are seen as equal partners rather than an expert treating a patient. Humanistic counsellors encourage clients to focus on and explore feelings but remain completely non-directive and refrain from asking clients to focus on or explain things they have said. They do not offer interpretations but merely encourage the client to keep on talking in the belief that they will eventually find their own answers. Humanistic therapists try to help their clients achieve personal growth and eventually self-actualisation through the adoption of a positive and optimistic view of human nature, which helps individuals recognise their strengths, creativity, self-worth and values. Individuals can then accept who they are, reconnect with themselves and develop a stronger and healthier sense of self, which, in turn, will reduce levels of depression.

The behaviourist explanation of mental illness is based on the assumption that all behaviour is learned and that therefore mental disorders are learned and then maintained through association (classical conditioning), reinforcement (operant conditioning) or imitation (social learning theory). Classical conditioning occurs when an emotional response becomes associated with a particular neutral stimulus. If a person is frequently exposed to a particular stimulus together with an unpleasant experience, the stimulus will come to elicit a fearful or disgusted response. In cases where the experience is extremely unpleasant or distressing, just one coupling with the stimulus may be sufficient to create a lasting association. It is through classical conditioning that many phobias are thought to develop. Operant conditioning can explain mental disorder because the belief is that consequences of different behaviours shape subsequent behaviour. If the behaviour is reinforced in any way, the behaviour is likely to be repeated. The process of operant conditioning can explain the development of such disorders as alcohol, drug or gambling addiction in which a voluntary behaviour becomes addictive because the consequences of the behaviour are pleasant, making the individual want to continually repeat the behaviour. Individuals with mental illnesses such as depression or addiction may be imitating behaviours they have seen displayed by others in their immediate surroundings and so learn their behaviours through social learning processes. For example, if they see others drinking alcohol and subsequently having a thoroughly enjoyable time, they may imitate this behaviour and, over time, become addicted to alcohol. Whereas a behaviourist explanation sees mental illness as the result of some type of learning process, a cognitive explanation would suggest that mental illness is due to faulty thought processes. The cognitive explanation addresses symptoms and causes of mental disorder through examining irrational or maladaptive beliefs. For example, individuals with depression have different thoughts or cognitions about themselves and their self-worth than individuals without depression; they will think negatively and make associated, irrational thinking errors or biases that warp their emotions or behaviours that can lead to anxiety disorders or depression. Beck suggested there are three main dysfunctional belief themes in people with depression: (i) ‘I am worthless or flawed’, (ii) ‘Everything I do ends in failure’, (iii) ‘The future is hopeless’. These form a negative triad which leads to depression. ‘I failed my psychology exam, I am useless and a total failure so I might as well give up as I will never make a psychiatrist.’ The behaviourist explanation therefore sees mental illness as...
a learned behaviour whereas the cognitive explanation sees mental illness as the result of faulty thinking processes. [8]

5 A strong argument can be put forward for the role of the environment and therefore nurture in what different cultures consider to be mental illness. What in one culture is considered abnormal and a deviation from social norms may be considered normal practice in another culture. For example, viewers who watch ‘I’m a Celebrity, Get Me Out of Here’ are often shocked and appalled when a contestant is asked to eat live insects, whereas in other cultures such behaviour is accepted practice. Therefore, the environment in which we live and the way in which we are nurtured affect our mental health and the treatment we receive from others. For example, Rosenhan found that once pseudopatients were labelled insane, it was difficult for them to have their normal behaviour seen as anything but abnormal. Likewise, the behaviourist explanation of mental illness is based on the assumption that all behaviour is learned and therefore the result of nurture. Mental disorders are learned and then maintained through association (classical conditioning), reinforcement (operant conditioning) or imitation (social learning theory).

The medical model, meanwhile, sees mental illness as leaning more to the nature side of the nature/nurture debate as it regards mental illness as being due to such things as genetics, abnormal brain structure and function and/or abnormal biochemistry. For example, Gottesman et al. found that the risk of schizophrenia in 270 offspring of 196 parent couples who were both admitted to a psychiatric facility with a diagnosis of schizophrenia was 27.3 per cent compared with 7.0 per cent in 13,878 offspring from 8,006 couples with only one parent ever admitted for schizophrenia and 0.86 per cent in 2,239.51 offspring of 1,080,030 couples with neither parent ever admitted, suggesting a strong genetic influence on the possibility of the development of a mental illness. The cognitive explanation, however, holds that both nature and nurture have roles to play in the development of mental illness. Faulty underlying cognitive structures which are due to nature can be heavily influenced by learning and experience gained through nurture. Similarly, the psychodynamic explanation acknowledges the importance of both nature and nurture in the development of mental illness. Freud identified the two basic instincts (nature) of Eros (the life instinct) and Thanatos (the death instinct) and explored how these interact with parenting behaviour (nurture). It therefore appears that whether we consider mental illness as a result of nature or nurture depends on the way we decide to explain it. In many cases it is likely that both play a part. For example, not all children of two schizophrenic parents will develop the illness, so nature is all-determining, and likewise not all individuals who see others enjoying excessive alcohol consumption will imitate the behaviour and through nurture become addicted to alcohol. It may well be the case that in many situations an individual may have a predisposition to mental illness which can be either encouraged or discouraged to develop through nurturing and the influences of their immediate environment. [10]

Chapter 18

1 Research by Barkley-Levenson and Galván showed that neural representations of value in adolescents were linked to increased risk-taking behaviour. This seems to be partly to do with the order in which different regions of the brain mature. It has been found that the limbic system, which is involved in the processing of social and environmental information, develops earlier than the prefrontal cortex – the region which allows individuals to anticipate possible outcomes and manage risks involved with certain behaviours. The limbic system therefore dominates the executive controls of the prefrontal cortex, making risky decisions more common in adolescents than in adults. The onset of adolescence involves the maturation of the ventral striation, the region of the brain highly sensitive to rewards, particularly those linked to risk-taking behaviour. Early maturation of the ventral striation encourages adolescents to engage in risk-taking behaviours that allow them to reap rewards. Barkley-Levenson and Galván used a sample of healthy, right-handed adolescents and adults to investigate whether adolescents attach more value to rewards than adults and are therefore more likely to engage in risk-taking behaviour, in this case in relation to gambling. The experimenters collected both neural and behavioural data. Results showed that the bigger or more risky the bet, the greater the activation in the limbic system and ventral striation, and this increased activation was much more prominent in the adolescents than in the adults. This suggests that the early maturation of the limbic system and ventral striation increases the likelihood of risk-taking behaviour in adolescents. This was the case even when the two groups of participants were matched on income and overall acceptability of gambles, suggesting that adolescents do not have a special preference for money that could have explained the difference and that the difference was due to stages in brain development. Furthermore, even when similar gambling behaviour was
exhibited by both adults and adolescents, ventral striation activation was still much greater in the adolescents, further suggesting a link between brain development and risk-taking behaviour. [10]

Research into brain development and risk taking tends to rely on laboratory-based procedures which are highly controlled and use objective scientific measurements via brain-scanning techniques and computer simulations. Considering psychology as a science allows researchers to demonstrate causal relationships by manipulating independent variables to observe and measure the effect on a dependent variable. Although Barkley-Levenson and Galván’s research was a quasi experiment as they could not manipulate the independent variable – being an adult or an adolescent was a naturally occurring variable – they were able to demonstrate that difference in stages of brain development (age) were linked to risk-taking behaviour, with adolescents having increased activation in the limbic system and ventral striation compared with adults as expected values of gambles became greater. Scientific research should be replicable as this allows researchers to check for reliability. Barkley-Levenson and Galván used a computerised gambling program which allowed them to observe and collect both neural and behavioural data on 19 adults and 22 adolescents. The procedure could easily be replicated with the expectation that the same findings would be obtained. Seeing psychology as a science allows for hypothesis testing through empirical research. Barkley-Levenson and Galván’s research collected, analysed and evaluated data which supported their three hypotheses: (i) adolescents will exhibit greater behavioural sensitivity [accept more gambles] to increasing EV than adults; (ii) neurobiologically, VS activation will modulate in proportion to increasing EV more for adolescents than for adults; (iii) adults who behave like adolescents in terms of gambling behaviour will not exhibit hyperactive striatal activation. Their research also used a standardised procedure through the application of the computerised gambling task and produced quantifiable measurements through the data produced by the fMRI scans.

Research that allows one to consider psychology as a science in relation to biological aspects of pre-adult brain development does, however, tend to lack ecological validity and realism. Although Barkley-Levenson and Galván’s research used a computerised gambling program to measure brain activity and as such did not necessarily reflect the activation of an individual’s limbic system and ventral striatum in a real-life gambling situation. The procedure was highly controlled and many variables that may also influence risk-taking behaviour were eliminated, for example the presence of peers, light/sounds/visual displays. Scientific research therefore, although highly objective and empirical, tends to lack ecological validity and realism. [15]

The government could introduce a graduated driver licensing (GDL) scheme which restricts the influence of social and environmental factors that can influence risk-taking behaviours in young drivers. Newly qualified drivers should not be issued with a full licence until they have completed a probationary period during which their driving rights are limited. Research has shown that adolescent brains are more sensitive to social and emotional information, which makes young drivers more likely than adults to drive dangerously when in the presence of peers because, due to the increased activation of the ventral striation area of the brain, their presence makes the rewarding aspects of risky situations extremely appealing. Young drivers could therefore be banned from carrying passengers under the age of 30 unless at least one of the passengers is older than this. Night-time driving is also known to increase the likelihood of risk-taking behaviour in young people, so night-time curfews could be implemented which prohibit newly qualified adolescents from driving during certain hours, for example 22.00 hours and 05.00 hours during summer months and 19.00 and 07.00 hours during winter months. Restrictions could also include limiting the maximum speed limit for young drivers, having a zero blood alcohol limit, and immediate suspension for any speeding offence. The probationary period could last up to five years, with one restriction being removed each year. This would allow the prefrectal cortex time to mature so the young driver can better anticipate the possible outcomes and manage the risks involved with behaviours that increase their chances of being involved in traffic accidents. [10]

Chapter 19

1 Biological explanations of crime suggest that an individual’s brain, nervous system, hormones and genes predispose them to criminality. It has been observed for a long time that damage to the brain and nervous system and/or brain malfunction can have a significant effect on behaviour and experience. Raine had previously found a relationship between low levels of activity in the prefrontal cortex and violent behaviour and suggested that in violent offenders, the prefrontal cortex fails to suppress the urge to behave aggressively. He also suggested that abnormal brain function in the areas of the brain associated
with violent behaviour could help to explain why individuals commit murder. Raine et al. used an experimental group of 39 men and 2 women, all charged with either murder or manslaughter, who were pleading not guilty through reason of insanity (NGRI) and compared their brain activity with a control group of 41 people, matched by age, gender and schizophrenia who had not committed murder. All participants undertook a 32-minute continuous performance task (CPT) and were then transferred to a PET scanning machine which measured brain activity in both the cortical and subcortical regions of the brain. Results showed that although there were no differences between the two groups in performance on the CPT, there were significant differences in brain metabolism in a number of brain regions. For example, it was found that those pleading NGRI had lower levels of activity than non-murderers in areas previously linked to violence, e.g. the prefrontal cortex, the left angular gyrus, the amygdala, the hippocampus, the thalamus. This allowed Raine et al. to suggest that murderers pleading NGRI have significant differences in brain activity to non-murderers and that because these differences were shown to be in brain regions linked to violent behaviour, the biology and brain function of murderers may explain their criminal behaviour. [10]

2 The nature versus nurture debate is concerned with whether heredity, i.e. genetics, or the environment most impacts human behaviour. Nature is what we think of as pre-wiring and is influenced by genetic inheritance and other biological factors. Nurture is generally taken as the influence of external factors after conception, for example the product of exposure, experience and learning on an individual. The nature/nurture debate is concerned with the relative contribution that both influences make to human behaviour. Although Raine et al.’s study suggested behaviour is due to nature because findings showed that murderers pleading NGRI had lower levels of activity than non-murderers in areas previously linked to violence such as the prefrontal cortex, the amygdala and the hippocampus, they did note that it should not be stated categorically that violent and/or criminal behaviour is determined by biology alone. Raine et al. note that there are a number of other factors, linked to nurture, which should be taken into account. For example, social experiences, situational factors and learned responses will all have their part to play and perhaps the physiological (nature) elements may only produce predispositions to extreme forms of violent behaviour rather than being a cause in themselves. One should therefore be cautious about attributing the reason why individuals commit murder simply to the fact that they are found to have mental disorders and thus presuming their behaviour is due to nature alone. Furthermore, one should be cautious about making generalisations in relation to saying that all criminal behaviour is due to biological factors as Raine et al.’s study contained only one particular group of criminals – murderers pleading NGRI – and other criminals may not show such differences in brain metabolism. [15]

3 A biological strategy to reduce the chances of Gary reoffending could be to arrange for him to have plastic surgery on his face to improve his appearance. He could undergo reconstructive surgery to correct his misshapen nose and reduce the scarring on his face. An improved appearance is likely to not only boost Gary’s self-esteem but also prevent negative responses from others. Research has shown that plastic surgery has had a positive effect on the behaviour of prisoners both while in prison and after release. The close contact Gary will have with doctors, nurses and other healthcare practitioners is likely to increase his feeling of worth and enhance his self-esteem and self-perception, he will receive care and attention and be treated as an individual rather than a mere criminal. After surgery Gary’s increased self-confidence may make him feel more inclined to socialise and take part in prison activities. His morale will be raised and he may sign up to take courses and/or learn a trade, activities that may lead him gaining qualifications which will make him more employable on release. In addition, his enhanced self-esteem and confidence will allow him to interact more positively and successfully with others once he leaves prison and this, in turn, will mean he can make new friends who behave in moral and socially acceptable ways and consequently he will not be drawn back into crime. [10]

Chapter 20

Ulrich’s study into the impact of the built environment on health and well-being informs us that, particularly for patients recovering from a common type of gall bladder operation, if they can see a natural view, such as trees in full foliage, from their hospital window they tend to have shorter post-operative hospital stays than patients who have only featureless views such as brick walls – one result of a built environment. In the study they found that patients with window views of trees spent on average, 7.69 days in hospital compared with patients with views of brick walls who spent an average of 8.70 days in...
hospital. Therefore, patients’ recovery and well-being can be enhanced if they are able to look at pleasant, natural scenes. This study also found that patients able to see natural views displayed more positive behaviours than patients who had only featureless views. Nurses reported more positive comments such as ‘in good spirits’ in relation to patients with a tree view than patients who could only see a brick wall. This again suggests that well-being can be enhanced if an individual can see pleasant, natural scenes. Ulrich’s study also tells us that patients who can see a natural view from their hospital window take significantly fewer moderate and strong analgesic doses and tend to experience fewer minor post-operative complications (though this difference was found to be insignificant) than patients who have only featureless views, suggesting that pleasant, natural views have a more positive effect on an individual’s health than built environments, particularly in relation to the post-operative recovery process. [10]

2 Research that has the potential to improve people’s lives can be considered useful. Ulrich’s research is useful because it showed the restorative power of the natural environment and this knowledge could be very useful for architects and landscape gardeners designing such buildings as hospitals, care/residential homes, special schools and rehabilitation centres, who can make efforts to ensure individuals accommodated in such establishments have plenty of opportunities to both see and experience the natural world. Other research has shown that if property developments contain true cul-de-sacs with no ‘easy get away, dark footpaths’, fewer crimes seem to be reported than if housing estates allow easy connectivity and through movement. Such research can be extremely useful for property developers, who should aim to design and build housing developments that offer opportunities for crime reduction. Research has also suggested that the colour of the surrounding environment can affect the well-being of individuals. For example, light-coloured rooms are often seen as more peaceful and spacious. This is useful as it indicates that interior decorators can paint rooms in colours that enhance feelings of well-being and reduce the likelihood of people becoming stressed and aggressive.

Although research into the effects of the built environment in relation to health and well-being can be seen to be useful, one must be cautious when making conclusions. Ulrich’s study was conducted in America and had a relatively small sample (46 in total), which may imply a cultural bias and reduced reliability. The hospital in which the study was conducted was in a suburban area so patients may have been used to viewing the natural world from their windows anyway and therefore found the view of a brick wall more depressing than individuals who normally live in high-density, built-up areas. The research into road layout and its potential for crime reduction was conducted in Greater Manchester, the West Midlands and Kent, areas of high population density, indicating that factors other than road layout may have led to the lowering of crime rates. One must therefore be aware that findings about the built environment may be culturally specific. Even so, one cannot doubt that any research into the built environment which may lead to enhanced health and well-being could be useful. [15]

3 Based on psychological research, Alex could make two obvious suggestions. First he could suggest that careful thought be given to the road layout and design around and within the estate. People living in true cul-de-sacs seem to experience less crime than people living along main, through roads. Alex could therefore suggest that the estate be designed with no direct through-road leading from one main road to another and that as many cul-de-sacs as possible should be incorporated into the design. He could suggest that footpaths be built to link areas within the development but recommend that these should be short, direct, wide and well lit as such features reduce the potential for crime and enhance feelings of well-being and safety. Second, Alex could suggest that several areas of open, natural space be incorporated into the development plan. These could be landscaped, planted with trees and wild flowers and include special play areas for children. Such features could improve residents’ health and well-being by providing opportunities for them to go into and view a natural environment. Alex could also suggest that no high-rise buildings be built on the proposed estate and that all houses, whether they be detached, semi-detached or terraced, have their own gardens. This would allow residents not only to mark and defend their own space, increasing their sense of security and well-being, but also to plant and grow their own flowers, shrubs and trees, which will then surround them with attractive vegetation, another recommended enhancement to health and well-being. [10]

Chapter 21

1 Research has shown that anxiety and depression are the two most common psychological disorders suffered by the elderly and those with Parkinson’s (PD). Lewis et al. conducted an experiment to test whether dance would enhance mood in a group of older people and to
see whether this effect was different for those suffering from PD. The independent variables were [i] whether participants were sufferers of PD or whether participants did not suffer with PD, [ii] whether participants took part in the long cycle time (baseline test at the beginning of the experiment and test to measure changes in mood a few days after the experiment was complete, using POMS – Profile of Mood States) or the short cycle time (test of mood before and after class on the ninth one-hour dance session using BRUMS – Brunel University Mood Scale). The dependent variables were the participants’ mood scores on each of the tests.

A sample of 37 participants, aged 50 to 80 years (M = 65.5 years), took part in the study. Of these, 22 participants (12 males, 10 females) had been diagnosed with mild to moderate PD while the remaining 15 participants (7 males, 8 females) acted as age-matched controls. The sample was self-selecting and participants were recruited through local advertisements and through contact with local PD support groups. At the beginning of the study, all participants completed a demographics questionnaire, a POMS and the Mini Mental State Examination (MMSE) at baseline. Results showed comparisons between mean scores of the PD and control groups revealed no significant differences between the two groups for age, MMSE scores or baseline mood scores. Therefore, at the start of the study mood states were very similar for both those with PD and those without PD. All participants were then asked to attend a weekly dance class for a period of ten weeks. Dance classes lasted for 50 minutes and consisted of a ten-minute warm-up, 30 minutes of dancing and a five-minute cool-down. A five-minute break was given midway. Each class was based on rhythmic dancing to a strong beat, designed to be appropriate for the age, mobility and constraints of people with mild to moderate PD. They completed the classes standing, with the option to sit down if desired. The style of dancing changed every two weeks, e.g. Tango, Cheerleading, Old Time Music Hall.

In relation to the long cycle time, results showed the total mood disturbance (TMD) scores were lower for both participants with PD and those without PD (the controls) after ten weeks of dance classes. For both groups, Anger declined the most significantly, with Anxiety–Tension also declining significantly and Vigour increasing slightly, though not to a significant level. In relation to the short cycle time, results showed that all participants recorded improvement in mood after a single dance class. Using BRUMS, measures of Tension–Anxiety and Vigour were significantly improved; although other improvements, e.g. depression, did not reach significance. These results suggest that dance improves mood in older people and people suffering with PD.

2 There is great concern over the physical and mental health status of many people worldwide, so any research that can help maintain or improve an individual’s physical, mental or social well-being can be seen to be useful. Lewis et al.’s research showed that elderly people and people with Parkinson’s who took part in a series of dance sessions reported significant improvements in mood, especially in relation to anger, tension–anxiety and fatigue. In fact, the study found a significant short-term improvement after just a single dance session. Other research has shown that other forms of exercise can also improve mental health states. A study conducted in the Netherlands showed that adults who exercised regularly reported significantly lower symptoms of anxiety and depression. Research conducted in Finland showed that those who exercised twice or more a week scored significantly better on measures of depression, anger cynicism and distrust. Therefore, not only was regular exercise improving or at least maintaining levels of physical health, it appeared to be increasing mental health. Mental health benefits have also been found in relation to yoga. West et al. used a sample of 69 healthy college students. They took part in an African dance class, a yoga session and a biology lecture. Results showed a significant reduction in perceived stress after both the dance and yoga session, again suggesting that exercise can have positive effects on mental health.

There are, however, methodological issues that may limit the overall usefulness of research into exercise and mental health. Although Lewis et al.’s research had a control group of elderly people who did not suffer from PD, there was only one experimental group – those who suffered from PD. Findings in relation to the benefits of regular dance sessions in relation to mental health should therefore be generalised with caution as individuals with other mental illnesses, such as epileptics (who do not cope well with the flashing lights, etc. that accompany some forms of dance), may not find such exercise beneficial. On the plus side, in relation to Lewis et al.’s study, several kinds of dance were incorporated within the programme, so for sufferers of PD and ‘normal’ elderly people, had one form of dance been ineffective in improving their mental health, this was compensated for by the other kinds of music. Another problem is related to the samples used. Lewis et al.’s experimental group of adults with PD was only 17 in total and
their control group of ‘normal’ elderly people contained only 13 participants. This is a very small number from which to generalise any findings in relation to the benefits of dance on mental health. Likewise, West et al.’s research into the benefits of dance and yoga used college students as participants. It is highly likely that these two forms of exercise would automatically lead to a significant reduction in perceived stress when compared with participating in a biology lecture! The study conducted in the Netherlands asked participants to complete questionnaires about their mental health and exercise patterns and the study conducted in Finland asked participants to complete a range of psychometric tests which involved applying rating scales to mood states. Likewise, Lewis et al.’s study asked all participants to complete the POMS twice and the BRUMS once. The use of any form of self-report may lead to invalid findings as participants may give dishonest or socially desirable answers/ratings.

A mental illness in the UK accounts both for millions of lost days to the economy and a huge cost to the National Health Service, any research that could lead to improvements in these situations could be viewed as useful. [15]

3 As research has shown that exercise can improve mental health by reducing perceived levels of stress, anxiety and depression, the students could, as a group, sign up to join the university’s gym. Here they could take part in a variety of vigorous aerobic exercises, such as running on a treadmill, working on a rowing machine or using an exercise bicycle, with each activity being undertaken for ten minutes. Research by Hansen et al. showed that after exercising in ten-minute bursts, confusion, fatigue and negative emotions were found to decline significantly. The coach/trainer in charge of the gym could devise an appropriate exercise programme for each of the students which would require them to report to the gym twice a week for the four weeks before their exams to undertake the devised exercise programme. As part of their first session they could be asked, as in Lewis et al.’s study, to complete a Profile of Mood States (POMS) after each ten-minute activity. This would establish a baseline for their mood at the beginning of the programme and would be held by the trainer in a confidential file. A POMS could then be completed after each activity in the final training session and the trainer could compare the total mood disturbance scores from both POMS to see whether the six measures (Tension–Anxiety/Vigour–Activity/Depression–Dejection/Anger–Hostility/Fatigue–Inertia and Confusion–Bewilderment) had improved as a result of the exercise programme. Based on research into the effects of exercise on mental health, the health practitioner who suggested they take part in more exercise would be expecting the students’ perceived levels of stress, anxiety and depression to be reduced. If the students could arrange to take part in the sessions at the same time they would have the moral support and encouragement of their friends throughout, which will make them feel relaxed and enhance their social well-being. The exercise programme, if undertaken seriously, will improve the health of their cardiovascular system, making them feel better and healthier. As they progress through the programme they should find that they can improve their muscular strength, stamina, etc., which will lead to improved self-confidence, self-efficacy, self-image and general well-being. [10]