

Knowledge Check answers

Note: This document contains suggested model answers that would achieve a good mark if provided in an exam. They are designed to help guide and instruct you but should not be considered definitive.

Note: The suggested essay answers are for 12-mark answers. More evaluation is required when answering 16-mark essay questions – one or two further critical points.

Chapter 1 Social influence

Conformity: Types and explanations (pages 10–11)

1. Explain what is meant by ‘internalisation’ **and** ‘compliance’. (4 marks)

‘Internalisation’ is when a person genuinely accepts group norms. This results in a private as well as public change of opinions/behaviour. This change persists in the absence of group members.

‘Compliance’ involves ‘going along with others’ in public, but privately not changing opinions/behaviour. This results in only a superficial change and the opinion/behaviour stops as soon as group pressure ceases.

2. Outline informational social influence **and** normative social influence as explanations of conformity. (6 marks)

Informational social influence (ISI) is about information, a desire to be right. Often we are uncertain about what behaviour or beliefs are right or wrong, especially in new or ambiguous situations, so we conform to the group norm as we believe others are right. You may not know the answer to a question in class, but if most of the other students agree, you go along with them because you feel they are probably right.

Normative social influence (NSI) concerns what is ‘normal’ or typical behaviour for a social group (i.e. norms). NSI is based on the idea that people prefer social approval rather than rejection and want to ‘fit in’. It is important with people you know rather than strangers because we are more concerned about the social approval of friends.

3. Evaluate informational social influence **and** normative social influence as explanations of conformity. (6 marks)

A strength is research support for ISI. Lucas *et al.* (2006) found participants conformed more to incorrect answers when maths problems were difficult (with easy problems, participants ‘knew their own minds’). For hard problems the situation was ambiguous (unclear) so they relied on the answers they were given. This supports ISI because the results are what ISI would predict.

One limitation is individual differences in NSI. Some people are concerned about being liked by others – *nAffiliators* who have a strong need for ‘affiliation’ (a need to relate to other people). McGhee and Teevan (1967) found that students who were *nAffiliators* were more likely to conform. This shows NSI underlies conformity for some people more than for others – an individual difference not explained by a theory of situational pressures.

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4. Discuss what research has told us about why people conform. (12 marks AS, 16 marks AL)

Informational social influence (ISI) is about information, a desire to be right. Often we are uncertain about what behaviour or beliefs are right or wrong, especially in new or ambiguous situations, so we conform to the group norm as we believe others are right. You may not know the answer to a question in class, but if most other students agree, you go along with them because you feel they are probably right.

Normative social influence (NSI) concerns what is 'normal' or typical behaviour for a social group (i.e. norms). NSI is an emotional rather than cognitive process – people prefer social approval rather than rejection. It is important with people you know rather than strangers because people are concerned about the social approval of friends. Someone may be persuaded to try smoking because all their friends are, even though they know it is an unhealthy behaviour.

A strength is research support for ISI. Lucas *et al.* (2006) found participants conformed more to incorrect answers when maths problems were difficult (with easy problems, participants 'knew their own minds'). For hard problems the situation was ambiguous (unclear) so they relied on the answers they were given. This supports ISI because the results are what ISI would predict.

However, it is unclear if NSI or ISI operate in studies and real life. A dissenter may reduce the power of NSI (social support) or reduce the power of ISI (alternative source of social information). Therefore, ISI and NSI are hard to separate and operate together in most real-world situations.

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Conformity: Variables affecting conformity (pages 12–13)

1. How did Asch measure the effect of task difficulty on conformity, **and** what did he find? (4 marks)

Asch measured the effect of task difficulty by making the lines more similar in length, making the answer more ambiguous. This had the effect of increasing conformity as participants looked to the group as a source of information for the correct answer (informational social influence).

2. Referring to Asch's research, briefly explain how group size, unanimity **and** task difficulty affect conformity. (6 marks)

Group size: With two confederates, conformity to the wrong answer was 14%; with three it rose to 32%. Adding any more confederates made little difference.

Unanimity: The presence of a dissenting confederate reduced conformity, whether the dissenter was giving the right or wrong answer. Conformity reduced to less than 25% of the level it was when the majority was unanimous.

Task difficulty: Conformity increased when the task was more difficult (the standard and comparison lines were more similar in length). So informational social influence plays a greater role when the task becomes harder.

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3. Evaluate Asch's research into conformity. (6 marks)

One limitation is that the situation and task were artificial. Participants knew they were in a research study (demand characteristics). The task was trivial and there was no reason *not* to conform. Also, Fiske (2014) argued 'Asch's groups were not very groupy' (not like real-life groups). This means the findings do not generalise to everyday life (especially those situations where the consequences of conformity are important).

Another limitation is that Asch's findings have little application. Only American men were tested by Asch. Neto (1995) suggested that women might be more conformist, possibly because they are more concerned about social relationships (and being accepted). Also the US is an individualist culture and studies in more collectivist cultures (e.g. China) have found higher conformity rates (Bond and Smith 1996). This means Asch's findings tell us little about conformity in women and people from some cultures.

4. Outline and evaluate Asch's research. (12 marks AS, 16 marks AL)

Asch recruited 123 American men. Each was tested individually in a group of between six and eight people and, unknown to the genuine participant, all other members of the group were confederates. On each trial participants identified the length of a standard line. On the first few trials confederates gave correct answers but then all selected the same wrong answers. Each participant completed 18 trials. On 12 'critical trials' confederates gave the wrong answer.

The naïve participants gave a wrong answer 36.8% of the time in the critical trials (i.e. they agreed with the confederates' wrong answers). There were considerable individual differences: 25% of the participants never gave a wrong answer, so 75% conformed at least once. A few participants conformed most of the time. This suggests that participants were conforming due to normative social influence – they knew the answer was wrong but they chose to give the wrong answer to receive social approval.

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One strength is other evidence to support Asch's findings. Wijenayake *et al.* (2020) gave participants an online quiz and then showed fake results from fellow respondents. Participants were offered a chance to change their answers. The results were similar to Asch's: 78% conformed to a wrong answer at least once. This confirms Asch's original findings and that the findings are still valid in modern society.

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Obedience (pages 14–15)

1. Briefly describe the procedure used by Milgram to investigate obedience. (4 marks)

Using newspaper ads and mailshots, Stanley Milgram recruited 40 American men to take part in his study. The ad said he was looking for participants for a memory study. Participants were aged between 20 and 50 years and were given \$4.50 for just turning up. A confederate ('Mr Wallace') was always the 'Learner' while the true participant was always the 'Teacher'. The Learner was strapped into a chair in another room and wired with electrodes. The Teacher had to give the Learner an increasingly severe electric 'shock' each time the Learner made a mistake on a task (learning word pairs). The Teacher was not told that the shocks were all fake and that Mr Wallace was an actor. The Teacher was encouraged to continue by the professor/authority figure who gave a series of 'verbal prods'.

2. Explain what Milgram's research showed about obedience. (4 marks)

No participant stopped below 300 volts. Five (12.5%) stopped at 300 volts, and 65% continued to 450 volts (the highest level). Observations (qualitative data) indicated that participants showed signs of extreme tension. Many were seen to 'sweat, tremble, bite their lips, groan and dig their fingernails into their hands'. Three had 'full-blown uncontrollable seizures'. Milgram's research shows how we obey legitimate authority even if that means that our behaviour causes harm to someone else.

3. Explain **two** limitations of Milgram's research into obedience. (6 marks)

One limitation is that Milgram's study lacked internal validity. Orne and Holland (1968) argued that participants guessed the electric shocks were fake. So they were 'play-acting'. This was supported by Perry's discovery that only half of the participants believed the shocks were real. This suggests that participants may have been responding to demand characteristics.

Another limitation is that the findings are not due to blind obedience. Haslam *et al.* (2014) found that every participant given the first three prods obeyed the Experimenter, but those given the fourth prod disobeyed. According to social identity theory, the first three prods required identification with the science of the research but the fourth prod required blind obedience. This shows that the findings are best explained in terms of identification with scientific aims and not as blind obedience to authority.

4. Outline and evaluate Milgram's research. (12 marks AS, 16 marks AL)

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However, Sheridan and King's (1972) participants gave real shocks to a puppy; 54% of men and 100% of women delivered what they thought was a fatal shock. This suggests the obedience in Milgram's study might be genuine.

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Obedience: Situational variables (pages 16–17)

1. Milgram investigated the effects of situational variables on obedience. Briefly outline the findings of his research into any two of these variables. (6 marks)

In Milgram's original study, the Teacher and Learner were in adjoining rooms. The Teacher could hear the Learner but not see him. In the *proximity* variation, Teacher and Learner were in the same room and the obedience rate dropped from 65% to 40%. In the *touch proximity* variation, the Teacher had to force the Learner's hand onto a shock plate. The obedience rate dropped to 30%.

In the *uniform* variation, the role of the Experimenter was taken over by an 'ordinary member of the public' in everyday clothes rather than a lab coat. The obedience rate dropped to 20%, the lowest of the variations. This suggests that uniform acts as a strong visual authority symbol and a cue to behave in an obedient manner.

2. Evaluate Milgram's research into the effects of situational variables on obedience. (6 marks)

A strength is cross-cultural replication of Milgram's research. Meeus and Raaijmakers (1986) worked with Dutch participants, who were ordered to give stressful comments to interviewees. They found 90% obedience, and obedience fell when proximity decreased (person giving orders not present). This shows that Milgram's findings are not limited to American men but are valid across cultures and apply to women too.

However, Smith and Bond (1998) note that most replications have taken place in cultures not that different from the US (e.g. Spain, Australia), with similar notions of authority. Therefore, we cannot conclude that Milgram's findings about proximity, location and uniform apply to people in all (or most) cultures.

Perry (2013) suggests that only about half of the participants believed the shocks were real and most of these participants were disobedient. Perry *et al.* (2020) cited one of Milgram's assistants who said that NFBs (not full believers) gave more shocks than those classified as having 'fully believed' (FBs). This suggests that participants were 'play-acting' (i.e. they responded to demand characteristics).

3. Outline research into the effect of situational variables on obedience **and** discuss what this tells us about why people obey. (12 marks AS, 16 marks AL)

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In the *location* variation, the obedience study was carried out in a run-down building rather than the prestigious university setting where it was originally conducted (Yale University). Obedience fell to 47.5%. This indicates that the Experimenter had less authority in this setting.

In the *uniform* variation, the role of the Experimenter was taken over by an 'ordinary member of the public' in everyday clothes rather than a lab coat. The obedience rate dropped to 20%, the lowest of the variations. This suggests that uniform acts as a strong visual authority symbol and a cue to behave in an obedient manner.

In another proximity variation, orders were issued over the phone by the authority figure and obedience fell sharply (to 20.5%). This suggests that authority figures are most likely to be obeyed when there is close surveillance of the person being given the orders. This lends weight to the agentic state explanation of obedience. When participants were not in close proximity to the authority figure, they moved out of the agentic state (where they unthinkingly obey) and back into the autonomous state where they are free to act independently.

The power of other situational variables, such as the prestigious location and the presence of the uniform, support the legitimacy of authority explanation of obedience. Visible symbols of authority, such as uniform, give the person in authority, and their orders, greater credibility in the eyes of the person being asked to obey. We are brought up to respect authority figures, such as our parents, teachers and the police, and we quickly come to recognise our place in the social hierarchy. Thus, the more 'official' an authority figure appears, the more likely they are to be obeyed.

However, Smith and Bond (1998) note that most replications have taken place in societies (e.g. Spain, Australia), culturally not that different from the US. Therefore, we cannot conclude that Milgram's findings about proximity, location and uniform apply to people in all (or most) cultures.

Obedience: Situational explanations (pages 18–19)

1. Outline **one or more** explanations for obedience. (6 marks)

Milgram proposed that obedience to destructive authority occurs because a person becomes an 'agent', someone who acts for or in place of another. In an agentic state a person feels no personal responsibility for their actions. A person in an autonomous state behaves according to their own principles and feels responsible for their own actions. The shift from autonomy to being an 'agent' is called the 'agentic shift'. Milgram suggested that this occurs when we perceive someone else as an authority figure. This person has power because of their position in a social hierarchy. Binding factors are aspects of a situation that allow the person to ignore or minimise the damaging effect of their behaviour and reduce the 'moral strain' they feel. Milgram proposed a number of strategies the individual uses, such as shifting the responsibility to the victim or denying the damage they are doing to victims.

2. Briefly evaluate **one** explanation of obedience to authority. (4 marks)

Most of Milgram's participants asked the 'Experimenter', 'Who is responsible if Mr Wallace (the Learner) is harmed?' When the Experimenter replied 'I'm responsible', the participants went through

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the procedure quickly without objecting. This shows participants acted more willingly as an agent when they believed they were not responsible for their behaviour which supports the agentic state explanation.

However, this does not account for the significant number of participants who refused to continue to 450 volts, so the agentic state explanation cannot be applied to everyone. It may be that dispositional factors, such as having an external locus of control, are a bigger factor in obedience.

3. Outline 'legitimacy of authority' as an explanation for obedience. (4 marks)

Most societies are structured hierarchically. People in certain positions hold authority over the rest of us. Parents and caregivers, teachers, police officers, nightclub door supervisors, all have some kind of authority over us at times. The authority they wield is legitimate in the sense that it is agreed by society. Most of us accept that authority figures should exercise social power over others because this allows society to function smoothly. One consequence of legitimate authority is that some people are granted the power to punish others. We give up some of our independence to people we trust to exercise their authority appropriately. We learn to accept authority from caregivers and teachers during childhood.

4. Discuss explanations for obedience. (12 marks AS, 16 marks AL)

Milgram proposed that obedience to destructive authority occurs because a person becomes an 'agent', someone who acts for or in place of another. In an agentic state a person feels no personal responsibility for their actions. In contrast, a person in an autonomous state behaves according to their own principles and feels responsible for their own actions. The shift from autonomy to being an 'agent' is called the agentic shift. Milgram suggested that this occurs when we perceive someone else as an authority figure. This person has power because of their position in a social hierarchy.

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One strength is that the agentic state explanation has research support. Most of Milgram's participants asked the Experimenter, 'Who is responsible if Mr Wallace (the Learner) is harmed?'. When the Experimenter replied 'I'm responsible' the participants went through the procedure quickly without objecting. This shows participants acted more easily as an agent when they believed they were not responsible for their behaviour.

One limitation is the agentic shift cannot explain Milgram's variations. The agentic shift explanation predicts high levels of obedience regardless of the situation. However, obedience rates varied from 0% to 100% in the different variations of Milgram's procedure (Birney *et al.* 2024). This suggests that the whole situation explains obedience (not just an agentic shift in response to orders).

Another limitation is that, in the second world war, the men of Battalion 101 did not have direct orders to shoot civilians in a Polish town (Mandel 1998). Even so, they carried out the massacre, behaving autonomously. This suggests that the agentic shift is not required for destructive behaviour.

One strength is legitimacy can explain cultural differences. Research shows that countries differ in obedience to authority. For example, 16% of Australian women obeyed (Kilham and Mann 1974), whereas 85% of German participants obeyed (Mantell 1971). This shows that authority is more likely to be seen as legitimate in some cultures, reflecting upbringing.

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Obedience: Dispositional explanation (pages 20–21)

1. Explain what is meant by 'Authoritarian Personality' in relation to obedience. (2 marks)

Authoritarian Personality forms in childhood through harsh parenting and extremely strict discipline. Adorno *et al.* suggested that people with an Authoritarian Personality have exaggerated respect for authority and express contempt for people of 'inferior' social status.

2. Describe **one** dispositional explanation for obedience. (6 marks)

Adorno *et al.* (1950) believed that unquestioning obedience is a mental health condition, and tried to find its causes in the individual's personality. Adorno *et al.* concluded that people with an Authoritarian Personality are especially obedient to authority. They have exaggerated respect for authority and submissiveness to it. They express contempt for people of 'inferior' social status. Authoritarians tend to follow orders and view 'other' groups as responsible for society's ills.

Authoritarian Personality forms in childhood through harsh parenting – extremely strict discipline, expectation of absolute loyalty, impossibly high standards, and severe criticism. It is also characterised by conditional love – the caregiver's love depends entirely on how their child behaves. These experiences create resentment and hostility in the child, but they cannot express these feelings directly against their parents or caregivers because they fear reprisals. So, the feelings are displaced onto others who are weaker – this is scapegoating. This is psychodynamic explanation.

3. Evaluate the Authoritarian Personality explanation for obedience. (6 marks)

One strength is evidence that authoritarians are obedient. Elms and Milgram (1966) interviewed 20 fully obedient participants from Milgram's original obedience studies. They scored significantly higher on the F-scale than a comparison group of 20 disobedient participants. This suggests that obedient people may share many of the characteristics of people with an Authoritarian Personality.

However, subscales of the F-scale showed that obedient participants had characteristics that were unusual for authoritarians. For example, they did not experience high levels of punishment in childhood. This suggests a complex link and means that authoritarianism is not a useful predictor of obedience.

One limitation is authoritarianism can't explain a whole country's behaviour. Millions of individuals in Germany displayed obedient and antisemitic behaviour – but can't all have had the same personality. It seems unlikely that the majority of Germany's population had an Authoritarian Personality. A more likely explanation is that German people identified with the Nazi state. Therefore, social identity theory may be a better explanation.

4. Describe and evaluate the Authoritarian Personality as an explanation for obedience. (12 marks AS, 16 marks AL)

Adorno *et al.* (1950) wanted to understand the antisemitism of the Holocaust. They believed that unquestioning obedience is a mental health condition, and tried to find its causes in the individual's personality. Adorno *et al.* suggested that people with an Authoritarian Personality are especially obedient to authority. They have exaggerated respect for authority and submissiveness to it and express contempt for people of 'inferior' social status.

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Resistance to social influence (pages 22–23)

1. Outline how social support can help people to resist social influence. (4 marks)

Pressure to conform is reduced if other people are not conforming. Asch's research showed that the dissenter doesn't have to give the 'right' answer. Simply someone else not following the majority frees others to follow their own conscience. The dissenter acts as a 'model'.

Pressure to obey can be reduced if another person is seen to disobey. In Milgram's study, independent behaviour increased in the *disobedient peer* condition (from 35% to 90%). The participant may not follow the disobedient peer but the dissenter's disobedience frees the participant to act from their own conscience.

2. Briefly describe the locus of control explanation of resistance to social influence. (4 marks)

Rotter (1966) described internal versus external locus of control. Internals believe things that happen to them are largely controlled by themselves. Externals believe things happen outside their control.

People with internal LOC are more likely to resist pressures to conform or obey. If someone takes personal responsibility for their actions and experiences (good or bad) they are more likely to base their decisions on their own beliefs. People with high internal LOC are more self-confident, more achievement-oriented, have higher intelligence and less need for social approval. These personality traits lead to greater resistance.

3. Explain **one** limitation of locus of control as an explanation of resistance to social influence. (3 marks)

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Rotter (1982) pointed out that LOC only significantly influences behaviour in new situations. In familiar situations, our previous responses are always more important. Therefore, the validity of the LOC explanation is limited because it can predict resistance in some situations but not in others.

4. Outline and evaluate **two** explanations of resistance to social influence. (12 marks AS, 16 marks AL)

Pressure to conform is reduced if other people are not conforming. Asch's research showed that the dissenter doesn't have to give the 'right' answer. Simply someone else not following the majority frees others to follow their own conscience. The dissenter acts as a 'model'. Pressure to obey can be reduced if another person is seen to disobey. In Milgram's study, independent behaviour increased in the disobedient peer condition (from 35% to 90%). The participant may not follow the disobedient peer but the dissenter's disobedience frees the participant to act from their own conscience.

Rotter (1966) described internal versus external locus of control. Internals believe things that happen to them are largely controlled by themselves. Externals believe things happen outside their control. People with internal LOC are more likely to resist pressures to conform or obey. If someone takes personal responsibility for their actions and experiences (good or bad) they are more likely to base their decisions on their own beliefs. People with high internal LOC are more self-confident, more achievement-oriented, have higher intelligence and less need for social approval. These personality traits lead to greater resistance.

A strength is evidence for the role of support for dissenting peers. Gamson *et al.*'s (1982) groups asked to give evidence for an oil company to use in a smear campaign. 29 out of 33 groups (88%) rebelled against orders, much higher than in Milgram's studies. This shows how supporters can undermine legitimacy of authority and reduce obedience.

One strength is evidence linking LOC and resistance. Murphy *et al.* (2021) studied participants who were vaccine-hesitant, vaccine-resistant or vaccine-accepting. Internal LOC was higher in vaccine-hesitant and vaccine-resistant people (i.e. they were more disobedient). This may be partly explained by the reduced perception of personal risk in people with an internal LOC.

A limitation is not all research supports the role of LOC in resistance. Twenge *et al.* (2004) analysed data from American locus of control studies over 42 years (1960 to 2002), showing that people have become more independent (resistant to obedience) but also more external. This is surprising – if resistance was linked to internal LOC, we would expect people to have become more internal. Therefore, LOC may not be a valid explanation of resistance to social influence.

Minority influence (pages 24–25)

1. Explain what is meant by 'minority influence'. (2 marks)

'Minority influence' refers to how one person or small group influences the beliefs and behaviour of other people. The minority may influence just one person, or a group of people (the majority) – this is different from conformity where the majority does the influencing.

2. Outline research (theories and/or studies) into minority influence. (6 marks)

Moscovici *et al.* (1969): A group of six people (four participants and two confederates) viewed a set of 36 blue-coloured slides varying in intensity, then stated whether the slides were blue or green.

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The study had three conditions:

- i) Both confederates consistently said the slides were green.
- ii) Both confederates were inconsistent about the colour of the slides (they said green for 24 slides and blue for 12 slides).
- iii) A control group – with no confederates.

Findings:

- i) Consistent minority condition: participants gave the same wrong answer on 8.42% of trials.
- ii) Inconsistent minority condition: agreement fell to 1.25%.
- iii) Control group: participants wrongly identified the colour 0.25% of the time.

3. Explain the importance of consistency, commitment and flexibility in minority influence. (6 marks)

Consistency: If the minority is consistent, this makes others rethink their own views ('Maybe they've got a point if they all think this way and they have kept saying it').

Commitment: The minority's activities must create some risk to demonstrate commitment to the cause ('Wow, he must really believe in what he's saying, so perhaps I ought to consider his view' – augmentation principle).

Flexibility: Being consistent and repeating the same arguments and behaviours is seen as rigid and off-putting to the majority. Instead, the minority should adapt their point of view and accept reasonable counter-arguments.

4. Outline and evaluate research into minority influence. (12 marks AS, 16 marks AL)

There are three processes that make minorities more likely to convince majorities of their view.

Consistency makes others rethink their own views ('Maybe they've got a point if they all think this way and they have kept saying it'). This is illustrated by Moscovici *et al.*'s (1969) study in which a consistent minority persuaded a majority to 'see' blue slides as green.

Commitment shows deep involvement and helps gain attention as activities create some risk to the minority which demonstrates their commitment to the cause ('Wow, he must really believe in what he's saying, so perhaps I ought to consider his view' – augmentation principle).

Flexibility involves the minority adapting their point of view and accepting reasonable counter-arguments rather than repeating the same arguments and behaviours, which is seen as rigid and off-putting to the majority.

One strength is research supporting consistency. Moscovici *et al.* (1969) found a consistent minority opinion had a greater effect on other people than an inconsistent opinion. Wood *et al.* (1994) conducted a meta-analysis of almost 100 similar studies and found that minorities seen as being consistent were most influential. This confirms that consistency is a major factor in minority influence.

Another strength is research showing the role of deeper processing. Martin *et al.* (2007) gave participants a message supporting a particular viewpoint, and measured attitudes. Then they heard an endorsement of the same view from either a minority or a majority. Finally, they heard a conflicting view and their attitudes were measured again. Participants were less willing to change their opinions to the new conflicting view if they had listened to a minority group than if they listened to a majority group. This suggests that the minority message had been more deeply processed and had a more enduring effect.

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However, in research studies (e.g. Martin *et al.*) majority/minority groups were distinguished in terms of numbers. But there is more to majorities/minorities than just numbers (e.g. power, status, commitment). This means research studies are limited in what they tell us about real-world minority influence.

Chapter 2 Memory

Coding, capacity and duration of memory (pages 26–27)

1. Explain **two** differences between short-term and long-term memory. (4 marks)

Short-term memory is a temporary memory store with a duration of around 18 seconds and a capacity of 7+/-2 items. Long-term memory is a potentially permanent memory store with an infinite capacity.

2. Explain how psychologists have investigated the duration of short-term memory. (4 marks)

Peterson and Peterson (1959) investigated the duration of STM: 24 students were given a consonant syllable (e.g. YCG) to remember and a 3-digit number to count backwards from for 3, 6, 9, 12, 15 or 18 seconds. Accurate recall of the syllable was recorded for each different time period.

3. Explain what research has shown about the duration of short-term memory. (2 marks)

Peterson and Peterson (1959) found that, after 3 seconds of counting backwards, average recall was about 80%. After 18 seconds it was about 3%. STM duration without rehearsal is up to 18 seconds.

4. Outline the types of coding used in short-term **and** long-term memory. (4 marks)

Coding in STM is acoustic which means sound-based (as in the rehearsal loop in STM). Coding in LTM is semantic which is based on meaning (so the most meaningful information will be stored the longest).

5. Describe and evaluate research into coding, capacity **and** duration of short-term memory. (12 marks AS, 16 marks AL)

Baddeley (1966) tested coding in STM. Participants were presented with acoustically-similar words (e.g. cat, cab) or acoustically-dissimilar words (e.g. pit, few) and were asked to recall these words in order. Participants were also presented with semantically-similar words (e.g. large, big) or semantically-dissimilar words (e.g. good, hot) and asked to recall these in order. Immediate recall was worse with acoustically-similar words, suggesting that STM relies on an acoustic code.

Jacobs (1887) tested the capacity of STM using the digit span technique. The researcher read four digits and increased the number until the participant could no longer recall the order correctly. On average, participants could repeat back 9.3 numbers and 7.3 letters in the correct order immediately after they were presented. This suggests that STM has a limited capacity of around 7–9 items.

Peterson and Peterson (1959) tested the duration of STM using recall of consonant syllables. 24 students were given a consonant syllable (e.g. YCG) to remember and a 3-digit number to count backwards from, for 3, 6, 9, 12, 15 or 18 seconds. Students recalled (on average) about 80% of the syllables correctly with a 3-second interval. Average recall after 18 seconds fell to about 3%. This suggests that duration of STM without rehearsal is up to 18 seconds.

One limitation of Baddeley's study is that it used artificial stimuli. The words used had no personal meaning to the participants so the study tells us little about coding for everyday memory tasks. When processing more meaningful information, people use semantic coding even for STM. This means the findings of this study have limited application.

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One strength of Jacobs' study is that it has been replicated. This is an old study and may have lacked adequate controls (extraneous variables, e.g. participants being distracted). Despite this, Jacobs' findings have been confirmed in later controlled studies (e.g. Bopp and Verhaeghen 2005). This shows that Jacobs' study is a valid measure of STM digit span.

One limitation of Peterson and Peterson's study is there is an alternative explanation. The study concluded that forgetting in STM was due to the decay of memory over time. However, it could also be due to interference from counting backwards. This suggests that conclusions about duration of STM may not be valid.

The multi-store model of memory (pages 28–29)

1. According to the multi-store model of memory, explain what is meant by the 'sensory register'. (2 marks)

The 'sensory register' (SR) takes in stimuli from the environment and is not a single store but five, one for each sense. The duration is very brief (less than 3 seconds) but the capacity is very large, e.g. we have over one hundred million cells in one eye, each storing data.

2. Outline the multi-store model of memory. (6 marks)

The multi-store model of memory (MSM) describes how information flows through the memory system. Memory is made up of three stores linked by processing. The sensory register (SR) takes in stimuli from the environment and is not a single store but five, one for each sense. The duration is very brief (less than 3 seconds) but the capacity is very large. If attention is paid to information in the SR, this transfers to short-term memory (STM). The duration of STM is about 18 seconds unless the information is rehearsed. The capacity is between 5 and 9 items and it is based on an acoustic code. We can keep information in STM as long as we rehearse it. If we rehearse it long enough, it passes into long-term memory (LTM) – a permanent memory store. The duration of LTM is potentially up to a lifetime; it has an unlimited capacity and is based on a semantic code.

3. The multi-store model of memory has been heavily criticised. Outline **two** limitations of this model. (6 marks)

One limitation is evidence suggesting there is more than one STM store. KF had amnesia (Shallice and Warrington 1970), and his STM recall for digits was poor when he *heard* them, but much better when he *read* them. Other studies confirm there may also be a separate STM store for non-verbal sounds (e.g. noises). Therefore, the MSM is wrong to claim there is just one STM store processing different types of information.

Another limitation is prolonged rehearsal is not needed for STM to LTM transfer. Craik and Watkins (1973) argued there are two types of rehearsal called maintenance and elaborative. Maintenance (amount of rehearsal) is the one described in the MSM. But elaborative rehearsal is needed for long-term storage. This occurs, for example, when you link information to your existing knowledge, or think about its meaning. This suggests that the MSM does not fully explain how long-term storage is achieved.

4. Describe and evaluate the multi-store model of memory. (12 marks AS, 16 marks AL)

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The multi-store model of memory (MSM) describes how information flows through the memory system. Memory is made up of three stores linked by processing. The sensory register (SR) takes in stimuli from the environment and is not a single store but five, one for each sense. The duration is very brief (less than 3 seconds) but the capacity is very large. If attention is paid to information in the SR, this transfers to short-term memory (STM). The duration of STM is about 18 seconds unless the information is rehearsed. The capacity is between 5 and 9 items and it is based on an acoustic code. We can keep information in STM as long as we rehearse it. If we rehearse it long enough, it passes into long-term memory (LTM) – a permanent memory store. The duration of LTM is potentially up to a lifetime; it has an unlimited capacity and is based on a semantic code.

One strength is support showing STM and LTM are separate stores. Squire (2009) reviewed studies that found the prefrontal cortex was active during tasks involving STM. The hippocampus was identified as the critical area for LTM, particularly when forming memories of facts and events. This suggests that STM and LTM are independent stores, as claimed by the MSM.

On the other hand, Ranganath and Blumenfeld (2005) argue there is significant overlap between STM and LTM brain regions. The hippocampus is often involved in STM tasks, particularly when tasks involve new or complex information. This suggests that the evidence for a clear-cut separation between STM and LTM is not strong.

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The working memory model (pages 30–31)

1. In relation to the working memory model, explain what is meant by the ‘phonological loop’ **and** ‘episodic buffer’. (4 marks)

The phonological loop deals with acoustic information (i.e. sounds, which includes what you hear and read), preserving the order of the information. It is subdivided into the phonological store (stores the words you hear) and the articulatory process (allows maintenance rehearsal).

The episodic buffer is a temporary store for information. It integrates visual, spatial and verbal information from other stores and links STM to LTM.

2. Outline the working memory model. (6 marks)

Working memory is an explanation of how STM is organised and how it functions. For example, the working memory model (WMM) is concerned with the part of the mind that is active when working on an arithmetic problem or playing chess or comprehending language, etc.

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The *central executive* (CE) is in overall charge and allocates attentional resources to subsystems depending on the task. It has a very limited processing capacity and does not store information. The *visuo-spatial sketchpad* (VSS) stores visual and/or spatial information when required (e.g. recalling how many doors your home has). Logie (1995) subdivided the VSS into the visual cache (stores visual data) and the inner scribe (records the arrangement of objects in the visual field).

The *phonological loop* deals with acoustic information (i.e. sounds, which includes what you hear and read), preserving the order of the information. It is subdivided into the phonological store (stores the words you hear) and the articulatory process (allows maintenance rehearsal). The *episodic buffer* is a temporary store for information. It integrates visual, spatial, and verbal information from other stores and links STM to LTM.

3. Outline **one** strength **and one** limitation of the working memory model. (4 marks)

A strength is that neuroimaging confirms WM subsystems. Using PET scans, Smith and Jonides (1997) found that PL tasks were linked to activation in the left temporal and frontal lobes. VSS tasks were linked to activation in the right parietal lobe. They also found that tasks requiring the CE were linked to activation in the frontal cortex. This suggests there is reliable and objective evidence for working memory's subsystems.

One limitation is a lack of clarity over the central executive. Baddeley (2003) said the CE was the most important but the least understood component of working memory. There must be more to the CE than just being 'attention', e.g. it is made up of separate subcomponents. Therefore, the CE is an unsatisfactory component and this challenges the integrity of the model.

4. Describe and evaluate the working memory model. (12 marks AS, 16 marks AL)

Working memory is an explanation of how STM is organised and how it functions. For example, the working memory model (WMM) is concerned with the part of the mind that is active when working on an arithmetic problem or playing chess or comprehending language, etc. The *central executive* (CE) is in overall charge and allocates attentional resources to subsystems depending on the task. It has a very limited processing capacity and does not store information. The *visuo-spatial sketchpad* (VSS) stores visual and/or spatial information when required (e.g. recalling how many doors your home has). Logie (1995) subdivided the VSS into the visual cache (stores visual data) and the inner scribe (records the arrangement of objects in the visual field). The *phonological loop* deals with acoustic information (i.e. sounds, which includes what you hear and read), preserving the order of the information. It is subdivided into the phonological store (stores the words you hear) and the articulatory process (allows maintenance rehearsal). The *episodic buffer* is a temporary store for information. It integrates visual, spatial, and verbal information from other stores and links STM to LTM.

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Another strength of the model is support from clinical evidence. For example, Shallice and Warrington (1970) studied patient KF who had a brain injury. His STM for acoustic information was poor (damaged PL) but he could process visual information just as well as before his injury (intact VSS). This supports the WMM view that there are separate visual and acoustic memory stores.

Explanations for forgetting: Interference (pages 32–33)

1. Briefly outline retroactive interference as an explanation for forgetting. (2 marks)

Retroactive interference is when new information conflicts with/disrupts previously-stored information. For example, a teacher learns many new names this year and can't remember the names of her previous students.

2. Briefly outline proactive interference as an explanation for forgetting. (2 marks)

Proactive interference is when previously-stored information conflicts with/disrupts new information. For example, a teacher learns many names in the past and can't remember names of students in her current class.

3. Explain **one** limitation of the interference explanation for forgetting. (4 marks)

One limitation of the interference explanation for forgetting is that interference effects may be overcome using cues. Tulving and Psotka (1971) gave participants lists of words organised into categories (they were not told what the categories were). Recall of the first list was 70% but fell with each new list (showing interference). However, when given a cued recall test (i.e. participants were told the names of categories) recall rose again to 70%. This shows that interference causes just a temporary loss of access to material still in LTM – and this is not predicted by the theory.

4. Discuss interference as an explanation for forgetting. (12 marks AS, 16 marks AL)

Interference occurs when two pieces of information are in conflict. This causes forgetting in LTM because we can't get access to memories even though they are available. Proactive interference (PI) is when previously-stored information conflicts with/disrupts new information. For example, a teacher learned many names in the past and can't remember names of her current class. Retroactive interference (RI) is when new information conflicts with/disrupts previously-stored information. For example, a teacher learns many new names this year and can't remember the names of her previous students. Interference is worse when memories are similar. This may be because in PI previously-stored information makes new information more difficult to store, or in RI new information overwrites previous memories which are similar.

One strength is some support for interference in real-world situations. Baddeley and Hitch (1977) asked rugby players to recall the names of teams they had played against during a rugby season. Players did not play the same number of games (due to injuries). Those who played most (more interference) had the poorest recall. This shows that interference operates in some everyday situations, increasing the validity of the theory.

However, interference in everyday situations is unusual because the necessary conditions are relatively rare, e.g. two sets of learning that are very similar. Therefore, most everyday forgetting may be better explained by other theories (e.g. retrieval failure due to lack of cues).

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Another limitation is individual differences in interference. Vogel *et al.* (2005) found that individuals with a high working memory capacity (WMC) can handle PI better than people with low WMC. High WMC is associated with an enhanced filtering ability which helps prevent irrelevant information from cluttering working memory. This means that interference is a limited explanation of forgetting as it does not apply to all people.

Explanations for forgetting: Retrieval failure (pages 34–35)

1. In relation to forgetting, explain what is meant by an ‘absence of cues’. (2 marks)

An absence of cues can cause retrieval failure. When information is initially placed in memory, associated cues are stored at the same time. If these cues are not available at the time of recall, you might not be able to access memories that are actually there.

2. Outline retrieval failure as an explanation for forgetting. (4 marks)

Lack of cues can cause retrieval failure. When information is initially placed in memory, associated cues are stored at the same time. If these cues are not available at the time of recall, you might not be able to access memories that are actually there. Tulving (1983) suggested that cues help retrieval if the same cues are present at encoding (i.e. ‘coding’, when we learn the material) and at retrieval (when we are recalling it). The closer the retrieval cue to the original cue, the better the cue works. This is called the *encoding specificity principle*.

3. The retrieval failure explanation for forgetting has been criticised. Outline **two** limitations of this explanation. (4 marks)

One limitation is that context effects vary in recall and recognition. Godden and Baddeley (1980) replicated their underwater experiment using a recognition test instead of recall. There was no context-dependent effect. Findings were the same in all four conditions whether the contexts for learning and recall matched or not. This suggests that retrieval failure is a limited explanation for forgetting because it only applies when a person has to recall information rather than recognise it.

Retrieval failure theory is supported by research showing that forgetting occurs when there is a mismatch (or absence) of cues – the encoding specificity principle (ESP). However, we cannot independently establish whether a cue has really been encoded or not – so the argument for the role of cues is circular. Therefore, the ESP is not scientifically testable, so we cannot be certain that forgetting is due to retrieval failure.

4. Outline and evaluate retrieval failure as an explanation for forgetting. (12 marks AS, 16 marks AL)

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Lack of cues can cause retrieval failure. When information is initially placed in memory, associated cues are stored at the same time. If these cues are not available at the time of recall, you might not be able to access memories that are actually there. Some cues are linked to the material to-be-remembered in a meaningful way. For example, the cue 'STM' may lead you to recall all sorts of information about short-term memory. Other cues are also encoded at the time of learning but not in a meaningful way. Context-dependent forgetting is when memory retrieval is dependent on an external/environmental cue (e.g. the weather or a place). State-dependent forgetting is when memory retrieval is dependent on an internal cue, state of mind (e.g. feeling upset, being happy). Tulving (1983) suggested that cues help retrieval if the same cues are present at encoding (i.e. 'coding', when we learn the material) and at retrieval (when we are recalling it). The closer the retrieval cue to the original cue, the better the cue works. This is called the *encoding specificity principle*.

A strength is the impressive range of supporting evidence. For example, Godden and Baddeley (divers) and Carter and Cassaday (drugs) show that lack of cues at recall leads to everyday forgetting. In fact, Eysenck and Keane (2010) argue that retrieval failure is perhaps the main reason for forgetting in LTM. This evidence shows that retrieval failure due to lack of cues occurs in everyday life as well as in highly-controlled labs.

However, Baddeley (1997) argues that different contexts have to be very different indeed before an effect is seen (e.g. on land versus underwater). Learning something in one room and recalling it in another is unlikely to result in much forgetting because the environments are not different enough. This means that retrieval failure due to lack of contextual cues may not explain much everyday forgetting.

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Factors affecting the accuracy of EWT (1) (pages 36–37)

1. Outline what is meant by 'eyewitness testimony'. (2 marks)

'Eyewitness testimony' (EWT) is the ability of people to remember the details of events, such as accidents and crimes, which they themselves have observed. Accuracy of EWT can be affected by factors such as leading questions, post-event discussion and anxiety.

2. Outline what is meant by a 'leading question' in relation to eyewitness testimony. (2 marks)

A leading question is a question that is phrased in such a way as to imply a certain answer, or that reveals information to a witness that may not be true. For example, '*Did you see the man in the green coat running away?*' In this scenario, there may not have been anyone running, or if there was, they may not have been a man or wearing a green coat!

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3. Outline **two** factors that may affect the accuracy of eyewitness testimony. (4 marks)

One factor is leading questions. A leading question is one that suggests a certain answer because of the way it is phrased. For example, 'Did you see the knife in his left hand?' This implies that is where the knife was.

In post-event discussion (PED), witnesses to an event discuss what they have experienced. This could affect the accuracy of their recall if they 'suggest' a particular detail of the event to each other which did not happen.

4. Outline research into post-event discussion as a factor affecting the accuracy of eyewitness testimony. (4 marks)

Gabbert *et al.* (2003) showed pairs of participants a video of the same crime, but it was filmed in a way that each participant could see elements in the event that the other could not. Both participants discussed what they had seen on the video before individually completing a test of recall. 71% of the participants mistakenly recalled aspects of the event that they did not see in the video but had picked up in the post-event discussion. In a control group, where there was no discussion, there were no errors.

5. Discuss what research has told us about the effect of leading questions on the accuracy of eyewitness testimony. (12 marks AS, 16 marks AL)

A leading question is one that suggests a certain answer because of the way it is phrased. For example, 'Did you see the knife in his left hand?' This implies that is where the knife was.

Loftus and Palmer (1974) showed 45 participants (students) film clips of car accidents and then asked them questions about speed. The critical question was: 'About how fast were the cars going when they hit each other?' Five groups of participants were each given a different verb in the critical question: hit, contacted, bumped, collided or smashed. The verb 'contacted' produced a mean estimated speed of 31.8 mph. For the verb 'smashed', the mean was 40.5 mph. The verb in the *leading question* biased eyewitness recall of an event. The verb 'smashed' suggested a faster speed of the car than 'contacted' suggesting that leading questions can affect the reliability of EWT.

There are two explanations for the effect of leading questions. Response-bias suggests the wording of a question has no enduring effect on an eyewitness's memory of an event, but influences the kind of answer given. Secondly, the substitution explanation argues that the wording of a question does affect eyewitness memory, it interferes with the original memory, distorting its accuracy.

One strength is real-world applications in the criminal justice system. The consequences of inaccurate EWT are serious. Loftus (1975) advises that police officers should be careful in phrasing questions to witnesses because of distorting effects. Psychologists are sometimes expert witnesses in trials and explain limits of EWT to juries. Therefore, psychologists can improve how the legal system works and protect the innocent from faulty convictions based on unreliable EWT.

One limitation of the substitution explanation is evidence challenging it. Sutherland and Hayne (2001) found their participants recalled central details of an event better than peripheral ones, even when asked a leading question. This is presumably because their attention was focused on the central features and these memories were relatively resistant to leading questions. Therefore, the original memory of the event survived and was not distorted, which is not predicted by the substitution explanation.

Factors affecting the accuracy of EWT (2) (pages 38–39)

1. Explain what is meant by ‘anxiety’ in the context of eyewitness testimony. (2 marks)

Anxiety refers to an increase in physiological arousal/stress which can have both a positive and negative effect on the recall of an event. Anxiety may be particularly acute if there is a weapon involved – ‘weapon focus’.

2. Outline how anxiety may affect the accuracy of eyewitness testimony. (4 marks)

Yerkes and Dodson (1908) argue that the relationship between performance and arousal/stress is curvilinear rather than linear, an *inverted-U relationship*. Deffenbacher (1983) found that lower levels of anxiety did produce lower levels of recall accuracy of eyewitness testimony. Recall accuracy increased with anxiety up to an optimal point. A drastic decline in accuracy is seen when an eyewitness experiences more anxiety than the optimal point.

3. Describe and evaluate anxiety as a factor affecting the accuracy of eyewitness testimony. (12 marks AS, 16 marks AL)

Anxiety may have negative and positive effects on recall. Johnson and Scott’s (1976) study involved participants hearing an argument in the next room. In the *low-anxiety condition*, a man walked through the waiting room carrying a pen with grease on his hands. In the *high-anxiety condition*, the heated argument was accompanied by the sound of breaking glass. A man then walked through the room holding a paper knife with blood on it. 49% of participants in the low-anxiety condition were able to identify the man from a set of photographs when tested later. The corresponding figure for high-anxiety participants was just 33%. The *tunnel theory of memory* argues that a witness’s attention is on the weapon (*weapon focus*), because it is a source of danger and anxiety.

In contrast, Yuille and Cutshall (1986) found very accurate recall of a real-life shooting up to five months after the event. Participants who reported the highest levels of stress were most accurate (about 88% compared to 75% for the less-stressed group). This suggests that anxiety can enhance accuracy of EWT.

Yerkes and Dodson (1908) argue that the relationship between performance and arousal/stress is curvilinear rather than linear, an *inverted-U relationship*. Deffenbacher (1983) found that lower levels of anxiety did produce lower levels of recall accuracy. Recall accuracy increased with anxiety up to an optimal point. A drastic decline in accuracy is seen when an eyewitness experiences more anxiety than the optimal point.

One limitation is that anxiety may not be relevant to weapon focus. Johnson and Scott’s participants may have focused on the weapon not because they were anxious but because they were surprised. Pickel (1998) found accuracy in identifying the ‘criminal’ was poorest when the object in their hand was unexpected, e.g. raw chicken and a gun in a hairdressers (both unusual). This suggests the weapons effect is due to unusualness rather than anxiety/threat and so tells us nothing about the specific effects of anxiety on recall.

Another limitation is the way anxiety is measured. Anxiety may be measured subjectively (e.g. self-report) or objectively (e.g. heart rate). When both types are used in the same study, self-report of anxiety doesn’t always match the physiological changes being observed (Marr *et al.* 2021). This suggests that the effects of anxiety may be a function of the way anxiety is measured (an extraneous variable) rather than the anxiety itself.

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Another strength is supporting evidence for positive effects. Christianson and Hübner (1993) interviewed actual witnesses to bank robberies – some were direct witnesses (high anxiety) and others were bystanders (less anxiety). They found more than 75% accurate recall across all witnesses. Direct witnesses (most anxious) were even more accurate. This suggests that anxiety does not affect the accuracy of eyewitness recall and may even enhance it.

Factors affecting the accuracy of EWT (3) (pages 40–41)

1. Describe the use of the cognitive interview to improve the accuracy of eyewitness testimony. (6 marks)

To improve the accuracy of eyewitness testimony (EWT), the cognitive interview uses four techniques.

Report everything: Witnesses are encouraged to include every detail of an event, even if it seems irrelevant or the witness is not confident about it. Seemingly trivial details could be important and may activate other memories.

Reinstate the context: The witness returns to the original crime scene 'in their mind' and imagines the environment (e.g. the weather, what they could see) and their emotions (e.g. what they felt) as this may prompt recall as in context-dependent forgetting.

Reverse the order: Events are recalled in a different chronological order (e.g. from the end back to the beginning, or from the middle to the beginning). This prevents people using their expectations of how the event must have happened rather than the actual events.

Change perspective: Witnesses recall the incident from other people's perspectives. This prevents the influence of expectations and schema on recall. The schema generates expectations of what would have happened and it is the schema that is recalled rather than what actually happened.

2. The cognitive interview uses four main techniques to improve the accuracy of eyewitness testimony. Briefly outline any **two** of these techniques. (4 marks)

Report everything: Witnesses are encouraged to include every detail of an event, even if it seems irrelevant or the witness is not confident about it. Seemingly trivial details could be important and may activate other memories.

Reinstate the context: The witness returns to the original crime scene 'in their mind' and imagines the environment (e.g. the weather, what they could see) and their emotions (e.g. what they felt) as this may prompt recall as in context-dependent forgetting.

3. Discuss the cognitive interview as a method of improving the accuracy of eyewitness testimony. (12 marks AS, 16 marks AL)

To improve the accuracy of eyewitness testimony (EWT), the cognitive interview (CI) uses four techniques.

Report everything: Witnesses are encouraged to include every detail of an event, even if it seems irrelevant or the witness is not confident about it. Seemingly trivial details could be important and may activate other memories.

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Reinstate the context: The witness returns to the original crime scene 'in their mind' and imagines the environment (e.g. the weather, what they could see) and their emotions (e.g. what they felt) as this may prompt recall as in context-dependent forgetting.

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Change perspective: Witnesses recall the incident from other people's perspectives. This prevents the influence of expectations and schema on recall. The schema generates expectations of what would have happened and it is the schema that is recalled rather than what actually happened.

One strength is research support for the effectiveness of the CI. A meta-analysis by Köhnken *et al.* (1999) combined data from 55 studies comparing CI (and enhanced cognitive interview, the ECI) with the standard police interview. The CI produced an average of 41% more correct information than the standard police interview. Only four studies showed no difference. This shows that the CI is effective in helping witnesses recall information that is available but not accessible.

However, Köhnken *et al.* also found increases in the amount of inaccurate information, especially in the ECI (quantity over quality). Therefore, police officers need to be very careful about how they treat eyewitness evidence from CIs/ECIs.

One limitation is that some elements of the CI are more useful than others. Milne and Bull (2002) found that each individual technique of the CI alone produced more information than the standard police interview. But they also found that combining 'report everything' and 'reinstate the context' produced better recall than any other technique individually or combined. This casts doubt on the credibility of the overall CI because some of the techniques are less effective than the others.

Another strength is new interviewing techniques based on the CI. The self-administered interview (SAI) is a report that a witness can complete independently, saving time that the police may not have. The SAI has clear instructions and follows the same ethos as the CI and can be given to multiple witnesses at the same time, straight after an incident occurs (Memon *et al.* 2010). This shows that the CI can be adapted, increasing flexibility and reducing the burden on police time.

Chapter 3 Attachment

Animal studies of attachment (pages 42–43)

1. Describe the findings and procedures of one animal study of attachment. (6 marks)

Harry Harlow (1958) reared 16 baby rhesus monkeys with two wire model 'mothers'. In one condition, milk was dispensed by the plain-wire 'mother'. In a second condition, it was dispensed by the cloth-covered 'mother'. The monkeys' preferences were measured. As a further measure of attachment-like behaviour, the reactions of the monkeys to more frightening situations were observed. For example, Harlow added a noisy mechanical teddy bear to the environment.

Baby monkeys cuddled the cloth-covered mother in preference to the plain-wire one and regardless of which dispensed milk. This suggests that contact comfort was of more importance than food when it came to attachment behaviour. The monkeys sought comfort from the cloth-covered mother when frightened. As adults, the monkeys who had been deprived of their real mothers suffered severe consequences: they were more aggressive, less sociable and less skilled in mating than other monkeys. They also neglected and sometimes killed their own offspring.

2. Outline how Lorenz and Harlow studied attachment using animals. (6 marks)

Konrad Lorenz (1952) randomly divided a large clutch of goose eggs, allowing half the clutch to be hatched with the mother goose in their natural environment (a **control group**) and the other half were hatched in an incubator where the first moving object they saw was Lorenz (**experimental group**). He then mixed all the goslings together to see whom they would follow. Lorenz also observed birds and their later courtship behaviour.

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3. Briefly evaluate either Lorenz's or Harlow's animal studies of attachment. (6 marks)

One strength of Lorenz's research is support for the concept of imprinting. Regolin and Vallortigara (1995) exposed chicks to a simple shape combination that moved. When shown a range of moving shapes the chicks followed these in preference to other shapes. This suggests that young animals are born with an innate mechanism to imprint on a moving object.

One limitation is generalising from birds to humans. The mammalian attachment system is quite different from imprinting in birds. For example, mammalian mothers show more emotional attachment to their young. This means that it may not be appropriate to generalise Lorenz's ideas about imprinting to humans.

4. Outline and evaluate two animal studies of attachment. (12 marks AS, 16 marks AL)

Lorenz (1952) randomly divided a large clutch of goose eggs, half hatched with the mother goose in their natural environment and the other half hatched in an incubator where the first moving object they saw was Lorenz. He then mixed all the goslings together to see whom they would follow. Lorenz

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also observed birds and their later courtship behaviour. The incubator group followed Lorenz and the control group followed the mother. Lorenz identified a critical period in which imprinting needs to take place, e.g. few hours after hatching.

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One strength are the applications of Harlow's research. The research has helped psychologists and social workers understand that depression and parenting difficulty may be rooted in poor early bonding experiences (White *et al.* 2023). We also better understand the needs of infant primates in zoos (Schapiro and Hau 2023). This means that Harlow's research is not just theoretical but also practical.

Explanations of attachment: Learning theory (pages 44–45)

1. Describe the learning theory of attachment. (4 marks)

This is sometimes called the 'cupboard love' explanation because it emphasises the importance of food in attachment formation. Children learn to love whoever feeds them.

Classical conditioning involves learning to associate two stimuli: food and the caregiver. In attachment the UCS (food) leads to UCR (a feeling of pleasure). A caregiver (e.g. mother) starts as a neutral stimulus (NS) but by providing food over time becomes associated with food. So, the neutral stimulus becomes a conditioned stimulus (CS). Once conditioning has taken place the sight of the caregiver produces a conditioned response (CR) of pleasure. According to a learning theorist, this is the basis of love.

Operant conditioning involves learning from the consequences of behaviour. Both positive and negative reinforcement lead to pleasant consequences and will be repeated again. When a baby cries, the caregiver often responds with food. Crying is rewarded (positive reinforcement). At the same time as the baby is reinforced for crying, the caregiver receives negative reinforcement because the crying stops.

2. Outline **two** limitations of the learning theory of attachment. (6 marks)

One limitation of learning theory is lack of support from animal studies. Lorenz's geese imprinted on the first moving object they saw. Harlow's monkeys attached to a soft surrogate in preference to a wire one with milk. In both these animal studies, imprinting/attachment did not develop as a result of feeding. This shows that factors other than feeding are important in attachment formation.

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Another limitation is lack of support from human studies. For example, Schaffer and Emerson (1964) studied mother–baby interactions, observing them for 18 months and interviewing the mothers. They found that babies tended to form their main attachment to their mother regardless of whether she was the one who usually fed them. This again suggests that babies tended to form their main attachment to their mother regardless of the link with food.

3. Discuss the learning theory of attachment. (12 marks AS, 16 marks AL)

This is sometimes called the ‘cupboard love’ explanation because it emphasises the importance of food in attachment formation. Children learn to love whoever feeds them.

Classical conditioning involves learning to associate two stimuli: food and the caregiver. In attachment the UCS (food) leads to UCR (a feeling of pleasure). A caregiver (e.g. mother) starts as a neutral stimulus (NS) but by providing food over time becomes associated with food. So, the neutral stimulus becomes a conditioned stimulus (CS). Once conditioning has taken place the sight of the caregiver produces a conditioned response (CR) of pleasure. According to a learning theorist, this is the basis of love.

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One strength is evidence for ‘safety conditioning’. It seems unlikely that food is central to attachment, but safety conditioning may play a role. Bosmans *et al.* (2020) proposed that the primary attachment figure may become associated with reduced anxiety/feelings of safety (classical conditioning). Attachment behaviours (e.g. proximity-seeking) are also rewarded with anxiety reduction (operant conditioning). This means that learning theory is still useful in understanding the development of attachments.

Explanations of attachment: Bowlby’s theory (pages 46–47)

1. Explain what is meant by ‘critical period’ **and** ‘internal working model’. (4 marks)

Critical period – Bowlby proposed that there is a critical period when the infant attachment system is active. A child is maximally sensitive at six months up, extending up to the age of two years. If an attachment has not formed in this time, a child will find it much harder to form one later.

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Internal working model – Bowlby argued that the child forms a mental representation of the relationship with their primary attachment figure. This internal working model is a ‘template’ for what relationships are like. A child whose first experience is a loving relationship with a reliable caregiver will tend to form an expectation that all relationships are like this.

2. Outline Bowlby’s monotropic theory of attachment. (6 marks)

Bowlby argued that attachment is innate, like imprinting, and provides the infant with a survival advantage. He introduced the concept of monotropy, the idea that the child will attach to one primary attachment figure (usually the mother), and that this attachment is different from others and more important. Bowlby believed that the more time a baby spent with this primary attachment figure / mother-figure (not necessarily the biological mother) the better.

Bowlby suggested that babies are born with social releasers – a set of innate ‘cute’ behaviours (e.g. smiling, cooing, gripping, etc.) that encourage attention from adults. The purpose of these social releasers is to activate adult social interaction (i.e. make an adult attach to the baby).

Bowlby proposed that there is a critical period when the infant attachment system is active. A child is maximally sensitive at six months up, extending up to the age of two years. If an attachment has not formed in this time, a child will find it much harder to form one later.

Finally, the first attachment forms an internal working model of relationships. Bowlby argued that this internal working model is a ‘template’ for what relationships are like. A child whose first experience is a loving relationship with a reliable caregiver will tend to form an expectation that all relationships are like this.

3. Briefly evaluate Bowlby’s monotropic theory of attachment. (6 marks)

One limitation is that the concept of monotropy may lack validity. A review by Dagan *et al.* (2020) found that infants tend to form multiple early attachment relationships to their caregivers, independent of one another. Also, the quality of combined early attachments may be a better predictor of later development than the quality of attachment to a primary caregiver (Rivers *et al.*). This means that Bowlby may have been wrong to suggest that there is a unique quality to a child’s primary attachment.

One strength is evidence supporting the role of social releasers. Brazelton *et al.* (1975) instructed primary attachment figures to ignore their babies’ social releasers. Babies (who were previously shown to be responsive) initially showed some distress, and eventually some curled up and lay motionless. This supports the idea that social releasers play an important role in attachment development.

Another strength is support for the internal working model. The idea of the internal working model predicts that patterns of attachment will be passed from one generation to the next. Bailey *et al.* (2007) studied 99 mothers. Those with poor attachment to their own parents were more likely to have one-year-olds who were poorly attached. This supports Bowlby’s idea of an internal working model of attachment as it is being passed through families.

4. Discuss Bowlby’s monotropic theory of attachment. (12 marks AS, 16 marks AL)

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However, there are other influences on social development. For example, a baby’s genetically-influenced personality is important in the development of emotional/social behaviour, including their later parenting style. This suggests that Bowlby overemphasised the importance of the internal working model in development.

Types of attachment (pages 48–49)

1. Explain what is meant by ‘secure’, ‘insecure–avoidant’ and ‘insecure–resistant’ as types of attachment. (6 marks)

Secure – the baby is happy to explore but seeks proximity with the caregiver (secure base). The baby shows moderate separation anxiety and stranger anxiety.

Insecure–avoidant – the baby explores freely but does not seek proximity (no secure base). The baby shows little or no separation and stranger anxiety.

Insecure–resistant – the baby explores less and seeks greater proximity. The baby shows extreme stranger and separation anxiety.

2. Ainsworth identified three types of attachment. Choose any **two** types and explain **one** difference between them. (3 marks)

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Insecure–avoidant babies show little or no anxiety when separated from their caregiver or when left alone with the stranger. However, insecure–resistant babies show considerable separation anxiety and stranger anxiety.

3. Outline how Ainsworth studied types of attachment. (6 marks)

Ainsworth and Bell (1970) developed the Strange Situation as a way of assessing the quality of a baby's attachment to a caregiver. It is a controlled observation procedure in a lab (a controlled environment) with a one-way mirror through which psychologists can observe a baby's behaviour.

The procedure has seven 'episodes', each lasting three minutes. This includes a stranger entering and trying to interact with the baby and the caregiver leaving the baby on its own with the stranger. The baby's response to the stranger, being left alone (with and without the stranger), and reunion with the caregiver is observed. On the basis of the baby's behaviour, they are judged to be one of three attachment types: secure, insecure–avoidant or insecure–resistant.

4. Explain **one or more** strengths of Ainsworth's Strange Situation. (4 marks)

One strength is the Strange Situation has good predictive validity. A meta-analysis of studies using the Strange Situation (Madigan *et al.* 2023) found that insecure attachment (shown in the Strange Situation) predicted aggression and mental health issues in later childhood. By contrast, research (e.g. Ward *et al.* 2006) has reported positive mental health outcomes in adulthood for infants assessed as securely attached in the Strange Situation. This shows that the Strange Situation measures something real and meaningful in a baby's development.

Although the Strange Situation measures something that predicts later development, it may be measuring genetic differences in anxiety (Kagan 1982). This means the Strange Situation may not actually measure attachment.

Another strength is the Strange Situation has good inter-rater reliability. Different observers watching the same babies generally agree on attachment type. Bick *et al.* (2012) found 94% agreement in one team. This may be because the Strange Situation takes place under controlled conditions and because the behavioural categories are easy to observe. This means that we can be confident that the attachment type of a baby identified in the Strange Situation does not just depend on who is observing them.

5. Describe and evaluate research into types of attachment. (12 marks AS, 16 marks AL)

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The procedure has seven 'episodes', each lasting three minutes. This includes a stranger entering and trying to interact with the baby and the caregiver leaving the baby on its own with the stranger. The baby's response to the stranger, being left alone (with and without the stranger), and reunion with the caregiver is observed. On the basis of the baby's behaviour, they are judged to be one of three attachment types: secure, insecure–avoidant or insecure–resistant.

Secure babies are happy to explore but seek proximity with the caregiver (secure base). These babies show moderate separation anxiety and stranger anxiety. Insecure–avoidant babies explore freely but do not seek proximity (no secure base). They show little or no separation and stranger anxiety. Insecure–resistant babies explore less and seek greater proximity. They show extreme stranger and separation anxiety.

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One limitation is that the Strange Situation may be a culture-bound test. The Strange Situation test might not have the same meaning in countries outside Europe and the US where it was created. Cultural differences mean babies respond differently, e.g. Japanese babies show anxiety because they are not used to being left by their caregiver (Takahashi 1990). This means it is difficult to know what the Strange Situation is measuring in some countries/cultures.

Cultural variations in attachment (pages 50–51)

1. Explain what is meant by 'cultural variations' in attachment. (2 marks)

'Cultural variations' in attachment are differences in norms and values that exist between people in different groups. In attachment research it is concerned with the differences in the proportion of children of different attachment types.

2. Outline van IJzendoorn's research into cultural variations in attachment. (4 marks)

van IJzendoorn and Kroonenberg (1988) conducted a meta-analysis of 32 studies of attachment where the Strange Situation had been used. These studies were conducted in eight countries, 15 in the US. Overall the studies yielded results for 1,990 children.

Secure attachment was the most common classification in all countries, but ranged from 50% in China to 75% in Britain. In individualist cultures, rates of insecure-resistant attachment were similar to Ainsworth's original sample (all under 14%) but this was not true for the collectivist samples from China, Japan and Israel where rates were above 25% (and where rates of insecure-avoidant attachment were reduced in Japan and Israel).

3. Outline findings of research that has investigated cultural differences in attachment. (4 marks)

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Variations between results of studies *within* the same country were actually 150% greater than those *between* countries. In the US, one study found 46% securely attached compared to one sample as high as 90%.

4. Discuss what research has shown about cultural variations in attachment. (12 marks AS, 16 marks AL)

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One strength of the studies is the use of local researchers. Local researchers are those from the same cultural background as the participants, e.g. Grossmann *et al.* (1981) – a German team working with German participants. Using local researchers aids communication between researchers and participants and helps prevent misunderstandings with instructions, for example. This means that there is an excellent chance that researchers and participants communicated successfully, increasing the validity of the study.

However, this has not been true of all cross-cultural attachment research, e.g. American psychologists Morelli and Tronick (1991) investigated the *Efé* in Democratic Republic of the Congo. This means that some cross-cultural attachment research may have communication errors and hence lacks validity.

One limitation is the impact of extraneous variables. Studies conducted in different countries may not be matched for sample characteristics, e.g. studies in different countries may use children of different ages and social classes. Environmental variables may also differ, e.g. using smaller rooms which might encourage babies to explore more. This means that studies assessing attachment types carried out in different countries may tell us little about cultural differences in attachment.

Bowlby’s theory of maternal deprivation (pages 52–53)

1. Explain what is meant by ‘maternal deprivation’. (2 marks)

‘Maternal deprivation’ refers to the emotional and intellectual consequences of separation between a child and his/her mother or mother-substitute, including delayed intellectual development and affectionless psychopathy.

2. Outline Bowlby’s theory of maternal deprivation. (4 marks)

Bowlby argued that continuous emotional (maternal) care from a mother or mother-substitute is necessary for healthy emotional and intellectual development. If a child is separated from their mother or mother-substitute (without any replacement emotional care) for an extended time during

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the first 2½ years, then psychological damage is inevitable. For instance, the child will show delayed intellectual development and an atypically low IQ. Maternal deprivation may also lead to affectionless psychopathy – the inability to experience guilt or strong emotion for others. This prevents the person developing healthy relationships and is associated with criminality.

3. Explain **one** strength **and** **one** limitation of Bowlby's theory of maternal deprivation. (6 marks)

One strength is there is evidence from studies of young primates and rodents to support the theory of maternal deprivation. There are animal studies showing that even brief separations can impact on brain and social development (Čater and Majdič 2021). This means that there is now some evidence for the theory of maternal deprivation after all.

A limitation is that Bowlby confused deprivation and privation. Rutter (1981) made the distinction between deprivation (separation after attachment has developed) and privation (failure to form an attachment in the first place) and concluded that privation has more serious effects. The children who Bowlby studied (e.g. the 44 thieves), and others he based his ideas on (e.g. Goldfarb's children in institutional care) may have been 'prived' rather than deprived. This means that Bowlby probably exaggerated the effects of deprivation on development.

4. Describe and evaluate Bowlby's theory of maternal deprivation. (12 marks AS, 16 marks AL)

According to Bowlby, continuous emotional (maternal) care from a mother or mother-substitute is necessary for healthy emotional and intellectual development. If a child is separated from their mother-substitute (without any replacement emotional care) for an extended time during the first 2½ years – the critical period – then psychological damage is inevitable. If a child is deprived of maternal care for too long during the critical period they will show delayed intellectual. Goldfarb (1947) found lower IQs in children from institutions compared to fostered children.

Lack of emotional care may also lead to affectionless psychopathy – the inability to experience guilt or strong emotion for others. This prevents the person developing healthy relationships and is associated with criminality. Bowlby's (1944) 44 thieves study demonstrated how criminal teenagers who experienced prolonged separation from their mothers during their early years were more likely to show evidence of this personality type.

One limitation is that sources of evidence for maternal deprivation are flawed. The 44 thieves study is flawed because it was open to bias – Bowlby himself assessed both deprivation and affectionless psychopathy, knowing what he hoped to find. Also, Goldfarb's (1947) study of children in institutional care involved extraneous variables (e.g. children had experienced early trauma, institutional care and prolonged separation from primary caregivers). This means that Bowlby's original sources of evidence for maternal deprivation had serious flaws and would not be taken seriously as evidence nowadays.

However, there is evidence from studies of young primates and rodents to support the theory of maternal deprivation. There are animal studies showing that even brief separations can impact on brain and social development (Čater and Majdič 2021). This means that there is now some evidence for the theory of maternal deprivation after all.

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Effects of institutionalisation (pages 54–55)

1. Explain what is meant by ‘institutionalisation’. (2 marks)

‘Institutionalisation’ is a term used to describe the effects of living in an institution such as a hospital or an orphanage where people live for long, continuous periods. In the past such places often provided very little emotional care and this may have long-term effects on the child’s development.

2. Describe the procedure **and** findings of **one** study of the effects of institutionalisation. (4 marks)

Rutter *et al.* (1998, 2010) followed a group of 165 Romanian adoptees who experienced very poor conditions before being adopted in Britain. Physical, cognitive and emotional development has been assessed at 4, 6, 11, 15 and 22–25 years. The study also followed a control group of 52 adopted children from the UK.

Half of the Romanian adoptees showed signs of delayed intellectual development when they came to the UK. At age 11, recovery rates were related to their age of adoption: those adopted before six months had a mean IQ of 102; those adopted between six months and two years had a mean IQ of 86. Those adopted after two years had a mean IQ of 77.

3. Describe what research has shown about the effects of institutionalisation. (6 marks)

Studies of institutionalised children have revealed a particular form of attachment type called disinhibited attachment. Such children are equally friendly and affectionate towards people they know well or total strangers. This may be an adaptation to multiple caregivers.

Research has also found that intellectual development is delayed in institutionalised children although this effect is not as pronounced if the children are adopted before six months of age.

4. Discuss research into the effects of institutionalisation. (12 marks AS, 16 marks AL)

Rutter *et al.* (1998, 2010) followed a group of 165 Romanian adoptees who experienced very poor conditions before being adopted in Britain. Physical, cognitive and emotional development has been assessed at 4, 6, 11, 15 and 22–25 years. The study also followed a control group of 52 adopted children from the UK.

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Frequency of disinhibited attachment related to the age of adoption. It was apparent in children adopted after they were six months old: they showed clinginess, attention-seeking and indiscriminate affection to strangers. It was rare in children adopted before the age of six months. These findings support Bowlby’s view that there is a sensitive period in the development of attachments – a failure to form an attachment before the age of six months (and after the age of 2 years) appears to have long-lasting effects.

One strength of institutionalisation studies is real-world application. The ERA research has improved our understanding of the effects of institutional care and how to prevent them. Children’s homes now avoid having large numbers of caregivers for each child. They have one or two ‘key workers’ who play

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a central role. This means children in institutional care have a chance to develop secure attachments and disinhibited attachment is avoided.

Another strength is fewer extraneous variables than other research. There were many adoptee studies before the Romanian adoptees became available to study. These often involved children who experienced loss or trauma before they were institutionalised. Neglect, abuse and bereavement meant it was hard to observe the effects of institutionalisation in isolation. The children were affected by multiple factors functioning as extraneous variables. This means we can be fairly sure that differences in institutionally-cared-for children are the result of this type of care (high internal validity).

However, Romanian adoptee studies may have new extraneous variables because quality of care was so poor, making it hard to separate effects of institutional care from those of *poor* institutional care. This means that internal validity might not be better than in previous studies after all.

Influence of early attachment on later relationships (pages 56–57)

1. Outline what is meant by the 'internal working model'. (2 marks)

Bowlby argued that the child forms a mental representation of the relationship with their primary attachment figure. This internal working model is a 'template' for what relationships are like. A child whose first experience is a loving relationship with a reliable caregiver will tend to form an expectation that all relationships are like this.

2. Explain **one** limitation of research on the influence of early attachments on later relationships. (4 marks)

One limitation is possible extraneous variables. Some studies do draw on assessments of infant attachment then follow up the same children later in life. However, these studies may be affected by extraneous variables. For example, parenting style and personality might affect both attachment and later development. This means that we can never be entirely sure that it is infant attachment and not some other factor that is influencing later development.

3. Outline what research has shown about the influence of early attachments on later relationships. Refer to the internal working model in your answer. (6 marks)

The quality of a child's first attachment is crucial because it provides a template that will affect the nature of their future relationships. This is due to the influence of the internal working model created by that first attachment. A child whose first experience is of a loving relationship with a reliable caregiver assumes this is how all relationships are meant to be. They will then seek out functional relationships and behave functionally within them.

A child with bad experiences of their first attachment will bring these experiences to bear on later relationships. This may mean they struggle to form relationships in the first place or they do not behave appropriately in them.

Securely-attached babies tend to go on to form the best quality childhood friendships (Kerns 1994). Securely-attached children are less likely to be involved in bullying whereas insecure-avoidant children are most likely to be bullied and insecure-resistant are most likely to be bullies (Myron-Wilson and Smith 1998).

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Hazan and Shaver (1987) analysed 620 replies to a 'love quiz' printed in an American local newspaper. The quiz assessed three different aspects of relationships: (1) respondents' current and most important relationship, (2) their general love experiences, (3) their attachment type.

56% of respondents were identified as securely attached, with 25% insecure–avoidant and 19% insecure–resistant. Their attachment type was reflected in their romantic relationships. Secure respondents were the most likely to have good and longer-lasting romantic relationships. Avoidant respondents tended to be jealous and fear intimacy.

4. Discuss research into the influence of early attachments on both childhood **and** adult relationships. (12 marks AS, 16 marks AL)

The quality of a child's first attachment is crucial because it provides a template that will affect the nature of their future relationships (internal working model). A child with bad experiences of their first attachment will bring these experiences to bear on later relationships. This may mean they struggle to form relationships in the first place or they do not behave appropriately in them. Securely-attached infants tend to go on to form the best quality childhood friendships (Kerns 1994). Securely-attached children are less likely to be involved in bullying whereas insecure–avoidant children are most likely to be bullied and insecure–resistant are most likely to be bullies (Myron-Wilson and Smith 1998).

People base their parenting style on their internal working model so attachment type tends to be passed on through generations of a family (Bailey *et al.* 2007). Hazan and Shaver (1987) found that attachment type was reflected in later romantic relationships. Secure respondents to the 'love quiz' were the most likely to have good and longer-lasting romantic relationships. Avoidant respondents tended to be jealous and fear intimacy.

One strength is continuing support for the link to later behaviour. In a recent review of 40 studies, River *et al.* (2022) found strong associations between secure attachment and relationship satisfaction. The review also found that high levels of attachment anxiety (characteristics of insecure–resistant attachment types) were strongly associated with verbal aggression in romantic relationships. This confirms the view that early attachment type is an important factor in later relationships, supporting Bowlby's views.

However, not all evidence supports the link between infant attachment and later development. For example, the Regensburg longitudinal study (Becker-Stoll *et al.* 2008) found no evidence of continuity of attachment type from age 1 to 16 years. This means it is not clear how strongly attachment influences later development.

One limitation is validity issues with retrospective studies. Most studies assess participants' attachment type in adulthood (not in infancy) using questionnaires or interviews. These rely on honest answers. A further problem is that these studies assess attachment in late childhood or adulthood and assume that it has remained the same since infancy. This means that the measures of early attachment may be mixed up with other factors making the measurements meaningless.

Chapter 4 Approaches in Psychology

Learning approaches: Behaviourist approach (pages 58–59)

1. Outline what is meant by 'classical conditioning'. (2 marks)

'Classical conditioning' is learning through association, how a neutral stimulus (e.g. a bell) can come to elicit a new learned conditioned response (e.g. salivation) through association.

2. Outline Skinner's research into operant conditioning. (4 marks)

Skinner's research involved rats and pigeons in specially designed cages (Skinner boxes). When a rat activated a lever (or a pigeon pecked a disc) it was rewarded with a food pellet. A desirable consequence led to behaviour being repeated. If pressing a lever meant an animal avoided an electric shock, the behaviour would also be repeated.

3. Explain how **two** types of reinforcement could be used by a parent to encourage their child to do their homework. (4 marks)

Positive reinforcement – receiving a reward when behaviour is performed makes it more likely to be repeated. Thus, a child could be encouraged to do their homework by being allowed to watch their favourite TV show every time they complete their evening's work

Negative reinforcement – when an animal or human produces behaviour that avoids something unpleasant. The child could be warned that if they fail to complete their homework, they will be grounded at the weekend.

4. Discuss the behaviourist approach. Refer to the research of both Pavlov **and** Skinner in your answer. (12 marks AS, 16 marks AL)

The behaviourist approach is only concerned with studying behaviour that can be observed and measured. Early psychologists in the 19th century studied the mental processes in the mind, but this approach was rejected as such concepts were too vague and difficult to measure. Behaviourists tried to maintain more control and objectivity within their research and relied on lab studies to achieve this. They also suggest that the processes that govern learning are the same in all species, so animals (e.g. rats, cats, dogs and pigeons) can replace humans as experimental subjects.

Pavlov introduced the concept of classical conditioning by training dogs to salivate to the sound of a bell. Pavlov showed how a neutral stimulus (bell) can come to elicit a new learned response (conditioned response) through association – by presenting the bell and food together on several occasions.

Skinner placed rats and pigeons in specially-designed cages (Skinner boxes). When a rat activated a lever (or a pigeon pecked a disc) it was rewarded with a food pellet. A desirable consequence led to behaviour being repeated. If pressing a lever meant an animal avoided an electric shock, the behaviour would also be repeated. This is operant conditioning – behaviour is shaped and maintained by its consequences.

One strength of behaviourism is that it uses well-controlled research. The approach has focused on the careful measurement of observable behaviour within controlled lab settings. Behaviourists have

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broken behaviour down into stimulus–response units and studied causal relationships. This suggests that behaviourist experiments have scientific credibility.

Another strength is behaviourist laws of learning have real-world application. The principles of conditioning have been applied to a broad range of real-world behaviours and problems. Token economy systems reward appropriate behaviour with tokens that are exchanged for privileges (operant conditioning). This has been successfully used in prisons and psychiatric hospitals. This increases the value of the behaviourist approach because it has widespread application.

However, behaviours in one context (e.g. in prison or a psychiatric ward) may not transfer to another context (e.g. home or a social setting). So the benefits of token economy may be limited because any progress made in prison or a psychiatric ward disappears once the person is in a different setting. This ‘contextual dependency’ limits the application of behaviourist interventions and treatments, reducing their validity.

Learning approaches: Social learning theory (pages 60–61)

1. Outline what is meant by ‘identification’ in social learning theory. (2 marks)

Children are more likely to imitate the behaviour of people with whom they identify. Such role models are similar to the observer, tend to be attractive and have high status. Role models may not necessarily be physically present in the environment, and this has important implications for the influence of the media on behaviour.

2. Outline Bandura’s research into social learning. (4 marks)

In a controlled observation, children watched either an adult behaving aggressively towards a Bobo doll, or an adult behaving non-aggressively towards a Bobo doll. When given their own doll to play with, the children who had seen aggression were much more aggressive towards the doll. This suggests that children may learn aggressive behaviour through observation and imitation of adult role models.

3. With reference to mediational processes in social learning, explain how a child might learn to bake a cake by watching his father. (6 marks)

To learn to bake a cake, a child must first pay attention to the actions of their father. The child must store the sequence of events in memory (retention) – weighing the ingredients, mixing together, etc. The child must be capable of reproducing the behaviour – they must have access to the correct utensils and be physically capable of imitating the actions. Finally, the child must be motivated to reproduce the behaviour. They may have observed cake-making behaviour being rewarded in the past – such as the look on their dad’s happy face when tucking into what he has made (vicarious reinforcement).

4. Describe and evaluate the social learning approach. (12 marks AS, 16 marks AL)

Bandura agreed with the behaviourist approach that learning occurs through experience.

However, he also proposed that learning takes place in a social context through observation and imitation of other people’s behaviour. Children (and adults) observe other people’s behaviour and

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take note of its consequences. Behaviour that is seen to be rewarded (reinforced) is much more likely to be copied than behaviour that is punished. Bandura called this vicarious reinforcement.

Mediational (cognitive) processes play a crucial role in learning. There are four mediational processes in learning: (1) Attention – whether behaviour is noticed, (2) Retention – whether behaviour is remembered, (3) Motor reproduction – being able to do it, (4) Motivation – the will to perform the behaviour. The first two relate to the learning of behaviour, the last two to the performance of behaviour (so, unlike behaviourism, learning and performance do not have to occur together).

Finally, identification with role models is also important. Children are more likely to imitate the behaviour of people with whom they identify. Such role models are similar to the observer, tend to be attractive and have high status.

One strength is social learning theory (SLT) emphasises the importance of cognitive factors. Neither classical conditioning nor operant conditioning can offer a comprehensive account of human learning on their own because cognitive factors are omitted. Humans and animals store information about the behaviour of others and use this to make judgements about when it is appropriate to perform certain actions. This shows that SLT provides a more complete explanation of human learning than the behaviourist approach by recognising the role of mediational processes.

On the other hand, recent research suggests that observational learning is controlled by mirror neurons in the brain, which allow us to empathise with and imitate other people. This suggests that SLT may make too little reference to the influence of biological factors on social learning.

One limitation is SLT relies too heavily on evidence from contrived lab studies. Many of Bandura's ideas were developed through observation of children's behaviour in lab settings and this raises the problem of demand characteristics. The main purpose of a Bobo doll is to hit it. So the children in those studies may have been behaving as they thought was expected. Thus the research may tell us little about how children actually learn aggression in everyday life.

The cognitive approach (pages 62–63)

1. Outline what cognitive psychologists mean by 'schema'. (3 marks)

Schema are packages of information developed through experience. They act as a 'mental framework' for the interpretation of incoming information received by the cognitive system. Babies are born with simple motor schema for innate behaviours such as sucking and grasping, but as we get older, our schema become more sophisticated. Schema may also distort our interpretations of sensory information, leading to perceptual errors.

2. Briefly explain how cognitive psychologists use models to make inferences about mental processes. (4 marks)

Models of cognitive activities often consist of a series of boxes and arrows to show the flow of information through the cognitive system. Such models allow abstract mental processes to be represented as concrete images and thus make invisible processes visible. Cognitive psychologists use models to help understand internal mental processes which are 'private' and cannot be directly observed. Cognitive psychologists study them indirectly by making inferences ('best guesses') about what is going on inside people's minds based on their behaviour.

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3. Discuss the cognitive approach. (8 marks)

In direct contrast to the behaviourist approach, the cognitive approach argues that internal mental processes should be studied, e.g. studying perception and memory. Mental processes are 'private' and cannot be observed, so cognitive psychologists study them indirectly by making inferences (assumptions) about what is going on inside people's heads on the basis of their behaviour. Cognitive psychologists emphasise the importance of schema: packages of information developed through experience which act as a 'mental framework' for the interpretation of incoming information received by the cognitive system.

One strength is the cognitive approach uses scientific and objective methods. Cognitive psychologists have always employed controlled and rigorous methods of study, e.g. lab studies, in order to infer cognitive processes at work. In addition, the two fields of biology and cognitive psychology come together (cognitive neuroscience) to enhance the scientific basis of study. This means that the study of the mind has established a credible, scientific basis.

On the other hand, the use of inference means cognitive psychology can occasionally be too abstract and theoretical. Also, research often uses artificial stimuli (such as word lists). Therefore, research on cognitive processes may lack external validity and not represent everyday experience.

4. Describe and evaluate the cognitive approach. (12 marks AS, 16 marks AL)

In direct contrast to the behaviourist approach, the cognitive approach argues that internal mental processes should be studied, e.g. studying perception and memory. The idea of schema is central to the cognitive approach. Schema are packages of information developed through experience. They act as a 'mental framework' for the interpretation of incoming information received by the cognitive system.

The cognitive approach arrived in the 1950s with the first digital computers. This gave cognitive psychologists a 'model' for the human mind. Like a computer, the human mind has a central processor, receives and manipulates information, and produces outputs. Such models allow abstract mental processes to be represented as concrete images, and thus make invisible processes visible.

Cognitive psychologists use models to help understand internal mental processes which are 'private' and cannot be directly observed. Cognitive psychologists study them indirectly by making inferences ('best guesses') about what is going on inside people's minds based on their behaviour.

One strength is the cognitive approach uses scientific and objective methods. Cognitive psychologists have always employed controlled and rigorous methods of study, e.g. lab studies, in order to infer cognitive processes at work. In addition, the two fields of biology and cognitive psychology come together (cognitive neuroscience) to enhance the scientific basis of study. This means that the study of the mind has established a credible, scientific basis.

On the other hand, the use of inference means cognitive psychology can occasionally be too abstract and theoretical. Also, research often uses artificial stimuli (such as word lists). Therefore, research on cognitive processes may lack external validity and not represent everyday experience.

One limitation is that the approach is based on machine reductionism. There are similarities between the operations of the human mind and computers (inputs, outputs, central processor, storage systems). However, the computer analogy doesn't allow for emotion and motivation. These factors have been shown to negatively influence accuracy of recall, e.g. the influence of anxiety on eyewitness recall. This suggests that machine reductionism may weaken the validity of the cognitive approach.

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The biological approach (pages 64–65)

1. Outline **two** key features of the biological approach in psychology. (6 marks)

Everything psychological is at first biological: if we want to fully understand human behaviour, we must consider the effects of biological structures and biological processes within the body.

Many psychological characteristics (e.g. intelligence) are inherited through genetics. Twin studies are used to investigate genetic influences by analysing concordance rates – the extent to which two individuals share the same characteristic.

2. Outline the difference between genotype and phenotype. (4 marks)

‘Genotype’ refers to the set of genes you are born with whereas ‘phenotype’ is how your genes are expressed after interacting with the environment. Human behaviour is an interaction between inherited factors (nature) and the environment (nurture). For example, phenylketonuria (PKU) is a genetic condition that can be prevented by a restricted diet.

3. Outline the process of evolution. Include an example in your answer. (4 marks)

Charles Darwin proposed the theory of natural selection. If any genetically-determined trait gives the possessor certain advantages, then the individual is more likely to survive, reproduce and pass those genes on to offspring. Thus, the trait has been ‘naturally selected’ for future generations. For instance, attachment behaviours in newborns promote survival and are therefore adaptive and naturally selected.

4. Describe and evaluate the biological approach in psychology. (12 marks AS, 16 marks AL)

Everything psychological is at first biological: if we want to fully understand human behaviour, we must consider the effects of biological structures and biological processes within the body.

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‘Biological structure’ refers to any physical part or system in the body, e.g. the endocrine system.

‘Neurochemistry’ refers to the actions of chemicals in the nervous system (neurotransmitters). An imbalance of neurotransmitters may be a cause of some mental health conditions, e.g. low serotonin activity in OCD.

One strength of the biological approach is its real-world application. Understanding of neurochemical processes in the brain has led to the use of psychoactive drugs to treat serious mental health

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conditions. For example, drugs that treat clinical depression increase levels of the neurotransmitter serotonin at the synapse and reduce depressive symptoms. This means that people with depression are able to manage their condition and live life in the community, rather than being confined to hospital.

However, antidepressant drugs do not work for everyone. Cipriani *et al.* (2018) compared 21 antidepressant drugs and found wide variations in their effectiveness. This challenges the value of the biological approach as it would claim that brain chemistry alone should explain depression.

One limitation is the objective methods may not be so objective. Bennett *et al.* (2009) examined a dead salmon in an fMRI scanner and counted the voxels (very small blocks of data) in various scans. It appeared as if the fish's brain was active as the voxels were changing – they weren't but false positives made it look like some were (i.e. data suggested activity where there was none). This suggests that biological methods of research may lack validity.

Biopsychology: The nervous system (pages 66–67)

1. Using an example, outline what is meant by the 'fight or flight response'. (4 marks)

A stressor is perceived – for instance, your psychology teacher tells you that you have a test in the morning – by the hypothalamus which activates the sympathetic nervous system. Thus the ANS changes from its usual resting state (parasympathetic nervous system) to control by the sympathetic nervous system. Adrenaline (the stress hormone) is released from the adrenal medulla into the bloodstream. This delivers the aroused state causing changes in target organs in the body, e.g. increased heart rate, dilation of pupils, decreased production of saliva. This is called the fight or flight response. The body will slowly return to its resting state but the response may be reactivated when you walk into the test room in the morning!

2. Identify and outline **two** divisions of the peripheral nervous system. (4 marks)

The autonomic nervous system (ANS) governs vital functions in the body such as breathing, heart rate, digestion, sexual arousal and stress responses. The somatic nervous system (SNS) governs muscle movement and receives information from sensory receptors.

3. Describe **two** glands of the endocrine system. (4 marks)

The most important endocrine gland is the pituitary gland, located in the brain. It is important because it controls the release of hormones from all the other endocrine glands in the body. The adrenal gland secretes adrenaline which is released during the stress response and causes physiological changes in the body, such as increased heart rate.

4. Explain the difference between the nervous system and the endocrine system. (4 marks)

The nervous system is a specialised network of cells in the human body and is our primary internal communication system. The endocrine system works alongside the nervous system to control vital functions in the body through the action of hormones. The endocrine system supports the nervous system. However, the endocrine system works much more slowly than the nervous system but has widespread and powerful effects.

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Biopsychology: Neurons (pages 68–69)

1. Outline **one** difference between a motor neuron and a relay neuron. (2 marks)

Motor neurons connect the CNS to effectors such as muscles and glands whereas relay neurons connect sensory neurons to motor or other relay neurons.

2. Briefly describe the structure of a neuron. (3 marks)

Neurons vary in size but all have the same basic structure. The cell body (or soma) includes a nucleus which contains the genetic material of the cell. Dendrites are branchlike structures at the beginning of a neuron and receive chemical messages from neighbouring neurons, which then may turn into electrical signals in the cell body. The axon carries the electrical signal away from the cell body down the length of the neuron. Terminal boutons at the end of the axon communicate with dendrites of other neurons across the synapse.

3. Briefly outline how excitation and inhibition are involved in synaptic transmission. (4 marks)

Neurotransmitters generally have either an excitatory or inhibitory effect on the postsynaptic neuron. For example, glutamate causes excitation of the postsynaptic neuron by increasing its positive charge and making it more likely to 'fire' (transmit an electrical signal). GABA causes inhibition in the postsynaptic neuron, making it less likely the neuron will fire.

4. Briefly explain the sequence of events that take place at the synapse. (4 marks)

The electrical impulse travels to the end of the presynaptic neuron (the terminal bouton). This causes the release of neurotransmitters from tiny sacs (synaptic vesicles). The neurotransmitter crosses the gap and binds to a receptor site on the postsynaptic neuron. The chemical message is converted back into an electrical impulse and the process of electrical transmission begins again.

The psychodynamic approach (pages 70–71)

1. The psychodynamic approach places emphasis on the role of the unconscious in behaviour. Outline the role of the unconscious in behaviour. (4 marks)

The unconscious mind is a vast storehouse of biological drives and instincts that have been repressed during childhood. The psychodynamic approach explains all behaviour as determined by unconscious conflicts over which we have no control. Even something as apparently random as a 'slip of the tongue' is driven by unconscious forces and has deep symbolic meaning.

2. Explain how **one** defence mechanism might help someone cope with the anxiety of losing their job. (2 marks)

Defence mechanisms are used by the Ego to keep the Id 'in check' and reduce anxiety. Denial is when we refuse to acknowledge reality so someone may continue to turn up for work even though they have lost their job.

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3. Name and outline **one** of Freud's psychosexual stages of development. (3 marks)

The oral stage occurs from 0 to 1 years and the focus of pleasure is the mouth; the mother's breast is the object of desire. As with any other stage if the child is under- or over-aroused at this stage, fixation will occur.

4. Discuss the psychodynamic approach. (16 marks AL)

The psychodynamic approach suggests that the unconscious mind has an important influence on behaviour. Freud proposed that the mind is made up of the conscious mind – what we are aware of at any one time; the preconscious mind – we may become aware of thoughts through dreams and 'slips of the tongue'; the unconscious mind – a vast storehouse of biological drives and instincts that influence our behaviour.

Freud also introduced the tripartite structure of personality and claimed that the dynamic interaction between the three parts determines behaviour. The Id is the primitive part of the personality which operates on the pleasure principle and demands instant gratification. The Ego works on the reality principle and is the mediator between the Id and Superego. Finally, the Superego is our internalised sense of right and wrong. It is based on the morality principle and punishes the Ego through guilt for wrongdoing.

Freud proposed five psychosexual stages that determine adult personality. Each stage is marked by a different conflict that the child must resolve to move on to the next. Any conflict that is unresolved leads to fixation where the child becomes 'stuck' and carries behaviours associated with that stage through to adult life. For instance, the Oedipus complex is an important psychosexual conflict occurring at the phallic stage which influences gender role and the formation of moral values.

One strength of the psychodynamic approach is it led to psychotherapy. Freud's psychoanalysis was the first attempt to treat mental health conditions psychologically rather than physically. Psychoanalysis claims to help clients deal with everyday problems by providing access to their unconscious, employing techniques such as dream analysis. Therefore, psychoanalysis is the forerunner to many modern-day 'talking therapies' (e.g. counselling).

Although psychoanalysis is claimed to be successful for clients with mild neuroses, it is inappropriate, even harmful, for more serious mental health conditions (such as schizophrenia). Therefore, Freudian therapy (and theory) may not apply to mental health conditions where a client has lost touch with reality.

Another strength of Freud's theory is support from neuroimaging. Freud's theory is sometimes criticised as unscientific, but there is supporting evidence from neuroscience. McCrory *et al.* (2010) demonstrated that childhood trauma is linked to changes in the prefrontal cortex and hippocampus, areas associated with emotional and behavioural problems. This supports the link between childhood experience and adult personality which is one of the cornerstones of the psychodynamic approach.

Humanistic psychology (pages 72–73)

1. Outline what humanistic psychologists mean by 'conditions of worth'. (3 marks)

Parents should love their children unconditionally but many parents place limits on their love for their child, e.g. 'I will only love you if you study medicine at university' or 'I will only love you if you stop being friends

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with that boy'. This kind of conditional love reduces an individual's sense of 'worth', leading to psychological problems for the child in the future.

2. Briefly discuss the concept of self-actualisation. (4 marks)

Self-actualisation refers to the innate tendency that each of us has to want to achieve our full potential and become the best we can possibly be. In Maslow's hierarchy of needs the four lower levels (deficiency needs) must be met before the individual can work towards self-actualisation – a growth need.

However, the concept of self-actualisation is a vague, abstract idea that is difficult to test – what exactly is someone's potential? This means that the humanistic approach, and the concept of self-actualisation, lacks empirical evidence to support it.

3. Briefly evaluate humanistic psychology. (6 marks)

One strength is that humanistic psychology is anti-reductionist. Humanistic psychologists reject any attempt to break up behaviour and experience into smaller components (reductionism). They advocate holism – the idea that subjective experience can only be understood by considering the whole person (their relationships, past, present and future, etc.). This approach may have more validity than its alternatives by considering meaningful human behaviour within its real-world context.

However, humanistic psychology, unlike behaviourism, has relatively few concepts that can be reduced to single variables and measured. This means that humanistic psychology in general is short on empirical evidence to support its claims.

4. Discuss Maslow's hierarchy of needs. (8 marks)

In Maslow's hierarchy of needs, the four lower levels (deficiency needs such as food, water and safety) must be met before the individual (baby, child or adult) can work towards self-actualisation – a growth need. Self-actualisation refers to the innate tendency that each of us has to want to achieve our full potential and become the best we can possibly be.

One strength is that humanistic psychology is anti-reductionist. Humanistic psychologists reject any attempt to break up behaviour and experience into smaller components (reductionism). They advocate holism – the idea that subjective experience can only be understood by considering the whole person (their relationships, past, present and future, etc.). This approach may have more validity than its alternatives by considering meaningful human behaviour within its real-world context.

However, humanistic psychology has relatively few concepts that can be reduced to single variables and measured and this applies to Maslow's hierarchy too. Self-actualisation is a hypothetical concept that cannot be observed or measured in a laboratory in the same way that ideas within, say, the behaviourist approach can be. This means that Maslow's hierarchy and humanistic psychology in general is short on empirical evidence to support its claims.

5. Describe and evaluate the humanistic approach in psychology. (16 marks AL)

Humanistic psychologists reject attempts to establish general principles of human behaviour. According to the approach, we are all unique, and psychology should concern itself with the study of subjective experience rather than general laws – a person-centred approach. The concept of self-actualisation refers to the innate tendency that each of us has to want to achieve our full potential and become the best we can possibly be. In Abraham Maslow's hierarchy of needs the four lower

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levels (deficiency needs) must be met before the individual can work towards self-actualisation – a growth need.

Carl Rogers argued that personal growth requires an individual's concept of self to be congruent with their ideal self (the person they want to be). If too big a gap exists between the two selves, the person will experience a state of incongruence and self-actualisation isn't possible.

Parents should love their children unconditionally but many parents place limits on their love for their child, e.g. 'I will only love you if you study medicine at university' or 'I will only love you if you stop being friends with that boy'. This kind of conditional love reduces an individual's sense of 'worth', leading to psychological problems for the child in the future.

One strength is that humanistic psychology is anti-reductionist. Humanistic psychologists reject any attempt to break up behaviour and experience into smaller components (reductionism). They advocate holism – the idea that subjective experience can only be understood by considering the whole person (their relationships, past, present and future, etc.). This approach may have more validity than its alternatives by considering meaningful human behaviour within its real-world context.

However, humanistic psychology, unlike behaviourism, has relatively few concepts that can be reduced to single variables and measured. This means that humanistic psychology in general is short on empirical evidence to support its claims.

Another strength is that the approach is a positive one. Humanistic psychologists have been praised for promoting a positive image of the human condition – seeing people as in control of their lives and having the freedom to change. Freud saw human beings as prisoners of their past and claimed all of us existed somewhere between 'common unhappiness and absolute despair'. Therefore, humanistic psychology offers a refreshing and optimistic alternative.

Comparison of approaches (pages 74–75)

1. Explain **one** way in which the psychodynamic approach and humanistic psychology are similar. (4 marks)

Both the psychodynamic approach and humanistic psychology offer psychological therapies that are designed to deal with anxiety-related disorders. Freud saw these as emerging from unconscious conflicts and overuse of defence mechanisms, whereas humanistic therapy is based on the idea that reducing incongruence will stimulate personal growth.

2. Briefly discuss **one** difference between the social learning approach and the behaviourist approach. (4 marks)

Behaviourists suggest that all behaviour is environmentally determined by external forces that we cannot control. Skinner famously said that free will is an 'illusion' and even behaviour that appears freely chosen is the result of our reinforcement history. Although social learning theorists agree that we are influenced by our environment to some extent, they also believe that we exert some influence upon it (reciprocal determinism). They also place more emphasis on cognitive factors, suggesting that we have some control over when we perform particular behaviours.

3. Outline the cognitive approach. Compare the cognitive approach with the biological approach. (16 marks AL)

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The cognitive approach argues that internal mental processes should be studied, e.g. studying perception and memory. The idea of schema is central to the cognitive approach. Schema are packages of information developed through experience. They act as a 'mental framework' for the interpretation of incoming information received by the cognitive system.

The cognitive approach arrived in the 1950s with the first digital computers. This gave cognitive psychologists a 'model' for the human mind. Like a computer, the human mind has a central processor, receives and manipulates information, and produces outputs. Such models allow abstract mental processes to be represented as concrete images, and thus make invisible processes visible.

Cognitive psychologists use models to help understand internal mental processes which are 'private' and cannot be directly observed. Cognitive psychologists study them indirectly by making inferences ('best guesses') about what is going on inside people's minds based on their behaviour.

In terms of views on development, the cognitive approach proposes stage theories of child development, particularly the idea of concept formation (schema) as children get older. This is in some ways similar to the biological approach which suggests that genetically-determined maturational changes influence behaviour, for example cognitive/intellectual development. So cognitive advances are not possible until the child is physiologically and genetically 'ready'.

The cognitive approach recognises that many of our information-processing abilities are innate, but are constantly refined by experience. The biological approach would place less emphasis on the influence of experience and instead claims that behaviour stems from the genetic blueprint we inherit from our parents (genotype) though expression of this is influenced by the environment (phenotype). This is an extreme nature approach and distinct from the interactionist approach offered by the cognitive approach.

The cognitive approach advocates machine reductionism in its use of the computer analogy to explain human information processing. This ignores the influence of emotion and motivation on behaviour. The biological approach is also reductionist and explains human behaviour at the level of the gene or neuron – underplaying 'higher level' explanations at a cultural or societal level.

Finally, the cognitive approach has led to cognitive therapies such as cognitive behaviour therapy (CBT) which has been used in the treatment of depression and aims to eradicate faulty thinking. In contrast, psychoactive drugs have been developed by biological psychologists that regulate chemical imbalances in the brain and have revolutionised the treatment of mental health conditions. Although such drugs are relatively cheap and fast-acting, they may not be as effective in the long term as cognitive therapies which lead to greater insight.

Chapter 5 Clinical Psychology and Mental Health

Definitions in the field of mental health (1) (pages 76–77)

1. Identify **three** criteria for ideal mental health. (3 marks)

Three criteria for ideal mental health are: perceiving ourselves accurately; working towards self-actualisation; being able to cope with stress.

2. Outline **two** definitions in the field of mental health. (6 marks)

Deviation from ideal mental health – a different way to look at mental health is to think about what makes someone psychologically healthy. Then anyone who deviates from this ideal is classed as lacking good mental health. Marie Jahoda (1958) suggested several criteria for ideal mental health: we have no symptoms or distress; we are rational and perceive ourselves accurately; we self-actualise; we can cope with stress; we have a realistic view of the world; we have good self-esteem and lack guilt; we are independent of other people; we can successfully work, love and enjoy our leisure.

Deviation from social/cultural norms – when a person behaves in a way that is different from how they are expected to behave, they may be defined as having a mental health condition. Social/cultural groups make collective judgements about ‘correct’ behaviours in particular circumstances. There are relatively few behaviours that would be considered universally unacceptable therefore definitions are related to social/cultural context. For example, homosexuality was once classified as a mental health condition. This view has been widely discredited, but persists in some cultures where homosexuality remains illegal.

3. Outline **one** limitation of deviation from ideal mental health. (4 marks)

One limitation of deviation from ideal mental health is that the definition may be culture-bound. Some criteria for ideal mental health are rooted in US and European culture, e.g. self-actualisation is not recognised in most of the world. Even in Europe there are variations in the value placed on independence (high in Germany, low in Italy). This means that it is very difficult to apply the concept of ideal mental health universally.

4. Briefly evaluate the deviation from social/cultural norms definition in the field of mental health. (4 marks)

One strength of deviation from social/cultural norms is its real-world application. Deviation from social/cultural norms is useful in the diagnosis of antisocial personality disorder because this requires failure to conform to ethical standards. Deviation from social/cultural norms is also helpful in diagnosing schizotypal personality disorder which involves ‘eccentric’ beliefs and behaviour. This means that deviation from social/cultural norms is useful in psychiatric diagnosis.

One limitation is that a love of the familiar limits our freedom. Chappell and Jeppsson (2023) suggest that many people are reassured by ‘typical behaviour’ and disturbed by deviations from it. Clinicians may impose their own social/cultural norms on clients because of their ‘fear of weirdness’. This means that judging mental health by deviations from social/cultural norms may limit personal freedom.

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5. Outline and evaluate deviation from ideal mental health and deviation from social/cultural norms as definitions in the field of mental health. (12 marks AS, 16 marks AL)

Deviation from ideal mental health – a different way to look at mental health is to think about what makes someone psychologically healthy. Then anyone who deviates from this ideal is classed as lacking good mental health. Marie Jahoda (1958) suggested several criteria for ideal mental health: we have no symptoms or distress; we are rational and perceive ourselves accurately; we self-actualise; we can cope with stress; we have a realistic view of the world; we have good self-esteem and lack guilt; we are independent of other people; we can successfully work, love and enjoy our leisure.

One strength of the ideal mental health approach is its comprehensiveness. Ideal mental health includes a range of criteria for mental health. It covers most of the reasons why we might need help with mental health. This means that mental health can be discussed meaningfully with a range of professionals, e.g. psychiatrist or CBT therapist. Therefore, ideal mental health provides a checklist against which we can assess ourselves and others.

Deviation from social/cultural norms – when a person behaves in a way that is different from how they are expected to behave, they may be defined as having a mental health condition. Social/cultural groups make collective judgements about ‘correct’ behaviours in particular circumstances. There are relatively few behaviours that would be considered universally unacceptable therefore definitions are related to social/cultural context. For example, homosexuality was once classified as a mental health condition. This view has been widely discredited, but persists in some cultures where homosexuality remains illegal.

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Definitions in the field of mental health (2) (pages 78–79)

1. Explain **one** strength of statistical infrequency as a definition in the field of mental health. (3 marks)

One strength of statistical infrequency is its real-world application. Statistical infrequency is useful in diagnosis, e.g. intellectual disability disorder, because this requires an IQ in the bottom 2%. It is also used in assessing a range of conditions, e.g. the BDI assesses depression, and only 5% of people score 30+ (= severe depression). This means that statistical infrequency is useful but not sufficient, in diagnostic and assessment processes.

2. Outline and briefly evaluate the failure to function adequately definition in the field of mental health. (6 marks)

A person may cease to be ‘mentally healthy’ at the point that they cannot deal with the demands of everyday life – they fail to function adequately. For instance, not being able to hold down a job,

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maintain relationships or maintain basic standards of nutrition and hygiene. They may no longer conform to interpersonal rules, e.g. maintaining personal space and experience personal distress.

One strength of failure to function is as a threshold for professional help. In any given year 25% of people in England experience symptoms of mental health conditions to some degree (Mind). Most of the time we press on, but when we cease to function adequately people seek or are referred for professional help. This means that the failure to function criterion provides a way to target treatment and services to those who need them most.

3. Discuss the failure to function adequately **and/or** statistical infrequency definitions in the field of mental health. (12 marks AS level, 16 marks AL)

A person may cease to be 'mentally healthy' at the point that they cannot deal with the demands of everyday life – they fail to function adequately. For instance, not being able to hold down a job, maintain relationships or maintain basic standards of nutrition and hygiene. They may no longer conform to interpersonal rules, e.g. maintaining personal space and experience personal distress.

One strength of failure to function is as a threshold for professional help. In any given year 25% of people in England experience symptoms of mental health conditions to some degree (Mind). Most of the time we press on, but when we cease to function adequately people seek or are referred for professional help. This means that the failure to function criterion provides a way to target treatment and services to those who need them most.

One limitation is this definition can lead to social control. It is hard to distinguish between failure to function and a conscious decision to deviate from social/cultural norms. For example, people may choose to live off-grid as part of an alternative lifestyle choice or take part in high-risk leisure activities. This means that people who make unusual choices may be diagnosed with a mental health condition and their freedom of choice restricted.

Statistical infrequency – the most obvious way to define anything as 'healthy' or 'not healthy' is in terms of the number of times it is observed. Behaviour that is rarely seen is outside the 'norm'. Any relatively 'usual', or often seen, behaviour can be thought of as mentally healthy. Any behaviour that is different, or rare, is statistically infrequent or 'outside the norm'.

One strength of statistical infrequency is its real-world application. Statistical infrequency is useful in diagnosis, e.g. intellectual disability disorder, because this requires an IQ in the bottom 2%. It is also used in assessing a range of conditions, e.g. the BDI assesses depression, and only 5% of people score 30+ (= severe depression). This means that statistical infrequency is useful but not sufficient, in diagnostic and assessment processes.

4. Discuss **two or more** definitions in the field of mental health. (12 marks AS, 16 marks AL)

Same answer as for Q3.

Phobias, depression and OCD (pages 80–81)

1. Outline how a person's emotional state may change in response to obsessive-compulsive disorder (OCD). (4 marks)

Anxiety and distress – obsessive thoughts are unpleasant and frightening, and the anxiety that goes with these can be overwhelming.

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Guilt and disgust – irrational guilt, for example over a minor moral issue, or disgust which is directed towards oneself or something external like dirt.

2. Identify **one** emotional, **one** behavioural **and** **one** cognitive characteristic of OCD. (3 marks)

One emotional characteristic of OCD is guilt/disgust. One behavioural characteristic is avoidance of situations that cause anxiety. One cognitive characteristic is obsessive thoughts.

3. Using the example of someone with a phobia of birds, explain the characteristics of a phobia. (6 marks)

The fear response is widely disproportionate to the threat posed, e.g. a person with a fear of birds is likely to have a severe panic reaction to even the smallest of birds. There is considerable effort to avoid coming into contact with the phobic stimulus. This can make it hard to go about everyday life, especially if the phobic stimulus is often seen, e.g. birds in parks. There is selective attention to the phobic stimulus. The person with the phobia finds it hard to look away from the phobic stimulus, e.g. someone with a fear of birds cannot concentrate on a basic task if there is a bird flying around.

4. Explain cognitive **or** emotional characteristics of depression. (4 marks)

Emotional characteristics of depression include lowered mood. This is more pronounced than the daily experience of feeling lethargic or sad. People with depression often describe themselves as 'worthless' or 'empty'. Another emotional characteristic is anger. On occasion, such emotions lead to aggression or self-harming behaviour.

5. Outline the likely behavioural characteristics of someone who has been diagnosed with depression. (6 marks)

In depression activity levels may be affected. People with depression have reduced levels of energy making them lethargic. In extreme cases, this can be so severe that the person cannot get out of bed.

There may also be disruption to sleep and eating behaviour. Individuals may experience reduced sleep (insomnia) or an increased need for sleep (hypersomnia). Appetite may increase or decrease, leading to weight gain or loss.

The behavioural approach to explaining phobias (pages 82–83)

1. One way a phobia can develop is through classical conditioning. Explain how classical conditioning could account for the development of a phobia of clowns. (4 marks)

A person could develop a phobia of clowns by classical conditioning, e.g. by watching the film 'It'. The UCS (scary film) prompts a UCR (fear response) and this creates fear. The NS (clown, which previously did not create fear) is associated with the UCS. The NS (clown) becomes a CS causing a CR of fear following the film. The fear/anxiety associated with the clown in the film is then generalised to all clowns.

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2. Outline the two-process model of phobias. (4 marks)

The initial association that creates a phobia is explained by classical conditioning. A neutral stimulus (e.g. a dog) becomes associated with a stimulus that would cause fear (being bitten by a dog). The neutral stimulus becomes a conditioned stimulus that produces fear (the conditioned response). The maintenance of the phobia is explained by operant conditioning. When a person with a phobia avoids a phobic stimulus they escape the fear that would have been experienced (e.g. someone with a phobia of dogs avoids parks). This reduction in fear negatively reinforces the avoidance behaviour and the phobia is maintained.

3. Briefly evaluate the two-process model as an explanation for phobias. (4 marks)

One strength of the two-process model is its real-world application. The idea that phobias are maintained by avoidance is important in explaining why people with phobias benefit from exposure therapies. Once avoidance behaviour is prevented it ceases to be reinforced by the reduction of anxiety. Avoidance behaviour therefore declines. This shows the value of the two-process approach because it identifies a means of treating phobias.

One limitation is that this approach isn't a complete explanation. Behavioural explanations (e.g. two-process model) only explain behaviour (e.g. the avoidance of the phobic stimulus). However, Li and Graham (2021) found that phobic participants' estimate of a spider's size was significantly larger than a control group's estimate. This is a cognitive process. This means that the two-process model is not a full explanation for the development of phobias.

4. Describe and evaluate the two-process model of phobias. (12 marks AS, 16 marks AL)

The initial association that creates a phobia is explained by classical conditioning. A neutral stimulus (e.g. a dog) becomes associated with a stimulus that would cause fear (being bitten by a dog). The neutral stimulus becomes a conditioned stimulus that produces fear (the conditioned response). Once formed, the initial association is generalised to other, similar stimuli. The initial fear of a particular dog will be transferred to other breeds of dog and also, possibly, to other similar furry animals. For example, Little Albert also showed a fear in response to other white furry objects including a fur coat and a Santa Claus mask.

The maintenance of the phobia is explained by operant conditioning. When a person with a phobia avoids a phobic stimulus, they escape the fear that would have been experienced. This reduction in fear negatively reinforces the avoidance behaviour and the phobia is maintained. If someone has an extreme fear of clowns (coulrophobia) they will avoid circuses and other situations where they may encounter clowns. The relief felt from avoiding clowns negatively reinforces the phobia and ensures it is maintained rather than confronted.

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Another strength is evidence linking phobias to bad experiences. De Jongh *et al.* (2006) found that 73% of people with a dental phobia had experienced a trauma (mostly involving dentistry), evidence of a link between bad experiences and phobias. Further support came from the control group of people with low dental anxiety, where only 21% had experienced a traumatic event. This confirms that the association between stimulus (dentistry) and an unconditioned response (pain) does lead to the phobia.

The behavioural approach to treating phobias (pages 84–85)

1. Outline **one** behavioural approach to treating phobias. (4 marks)

Flooding involves exposing the person with a phobia to the phobic object without a gradual build-up (as in systematic desensitisation). For example, a person with arachnophobia receiving flooding treatment may have a large spider crawl over their hand until they can relax fully. Flooding stops phobic responses very quickly. Without the option of avoidance, the client quickly learns that the phobic stimulus is harmless. This is called 'extinction' – a learned response is extinguished when the CS (e.g. a dog) is encountered without the UCS (e.g. being bitten). The result is that the CS no longer produces the CR (fear). However, a client may achieve relaxation simply because they become exhausted by their own fear response. Flooding is not unethical but it is an unpleasant experience so it is important that people being treated give informed consent.

2. Discuss **two** reasons why systematic desensitisation might be a more successful treatment for phobias than flooding. (6 marks)

One limitation of flooding is that it is traumatic. Schumacher *et al.* (2015) found that both participants and therapists rated flooding as more stressful than systematic desensitisation (SD). SD is based on gradual exposure with the support of a therapist rather than total exposure of the phobic stimulus.

Partly because it is less of a traumatic experience than flooding, people who opt for SD are more likely to complete the therapy. Flooding has the issue of high attrition (dropout) rates due to its stressful nature.

3. Briefly evaluate flooding as a treatment for phobias. (4 marks)

One strength of flooding is that it is cost-effective. A therapy is described as cost-effective if it is clinically effective and not expensive. Flooding can work in as little as one session. Even with a longer session (e.g. three hours), this makes flooding more cost-effective than alternatives. This means that more people can be treated at the same cost by flooding than by systematic desensitisation (SD) or other therapies.

One limitation of flooding is that it is traumatic. Schumacher *et al.* (2015) found that both participants and therapists rated flooding as more stressful than SD. Thus there are ethical concerns about knowingly causing stress (offset by informed consent), and the traumatic nature of flooding also leads to higher attrition rates than for SD. This suggests that, overall, therapists may avoid using this treatment.

4. Describe and evaluate **one or more** behavioural approaches to treating phobias. (12 marks AS, 16 marks AL)

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Systematic desensitisation (SD) aims to gradually reduce the anxiety caused by a phobia through counterconditioning. If a phobia has been learned so that the phobic stimulus (conditioned stimulus, CS) produces fear (conditioned response, CR), then the CS can be paired with relaxation and this becomes the new CR. It is not possible to be afraid and relaxed at the same time, so one emotion prevents the other (reciprocal inhibition).

The client and therapist design an anxiety hierarchy – a list of fearful stimuli arranged in order from least to most frightening. A person with arachnophobia might identify seeing a picture of a small spider as low on their anxiety hierarchy and holding a tarantula as the final item.

The person with a phobia is first taught relaxation techniques such as deep breathing and/or meditation. The person then works through the anxiety hierarchy. At each level the individual is exposed to the phobic stimulus in a relaxed state until the phobic stimulus is confronted and the fear extinguished.

One strength of SD is effectiveness for many kinds of phobia. Odgers *et al.* (2022) carried out a meta-analysis into the effectiveness of exposure therapies, including SD, for treating specific phobias. Exposure in general was found to be very effective, with no differences in effectiveness for different kinds of exposure (delivered in a single session or multiple sessions). This means that SD is likely to be helpful for people with phobias.

One limitation is that SD is less effective for some people. A review by Böhnlein *et al.* (2020) concluded that exposure is less effective for people with low self-efficacy (perceived ability to achieve a goal). Exposure therapy is also less effective for people with high trait anxiety (a personality trait where someone tends to feel anxious). This means that the exposure part of SD may not work well for everyone.

The exposure part of SD can be done in virtual reality (VR) which avoids dangerous situations (e.g. heights) and is cost-effective. However, VR exposure may be less effective than real exposure for social phobias because it lacks realism (Wechsler *et al.* 2019). This suggests that, on balance, exploring the use of VR should be considered first.

The cognitive approach to explaining depression (pages 86–87)

1. Identify the **three** key elements of Beck's negative triad **and** illustrate each with an example. (6 marks)

The three key elements of Beck's negative triad are: negative views of the world, e.g. 'the world is a cold hard place'; negative view of the future, e.g. 'there isn't much chance that the economy will get any better'; negative view of the self, e.g. thinking 'I am a failure' and this negatively impacts upon self-esteem.

2. Outline Ellis's ABC model as an explanation for depression. (4 marks)

According to Ellis, depression occurs when we experience an activating event, e.g. failing an important test or ending a relationship. Negative events create irrational beliefs, for example Ellis called the belief that we *must* always succeed 'musturbation'. When an activating event creates irrational beliefs, there are emotional and behavioural consequences. For example, if you believe you must always succeed and then you fail at something, the consequence is depression.

3. Briefly evaluate the cognitive approach to explaining depression. (6 marks)

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One strength of Ellis's model is its application in treating depression. Ellis applied the ABC model to treat depression (rational emotive behaviour therapy, REBT). There is evidence that REBT can both change negative beliefs and relieve the symptoms of depression (David *et al.* 2018). This means that REBT has real-world value.

One limitation is Ellis's model only explains reactive depression. This is a form of depression which is initiated by negative activating events. However, in many cases it is not obvious what activates depression, described as endogenous depression. Ellis's model is less useful in explaining this. This means that Ellis's model can only explain some cases of depression.

4. Maria recently failed her driving test. She says the test was unfair and the examiner was 'out to get her'. She thinks she is a failure and never wants to try anything again. Before the test, Maria told her friend that if she didn't pass, she'd never get over it. Maria's friend thinks she might be showing signs of depression.

Describe and evaluate the cognitive approach to explaining depression. Refer to Maria in your answer. (12 marks AS, 16 marks AL)

Beck (1967) suggested that some people are more prone to depression because of faulty information processing, i.e. thinking in an unhelpful way. When people with depression attend to the negative aspects of a situation and ignore positives, they also tend to blow small problems out of proportion and think in 'black-and-white' terms (absolutist thinking).

People with depression have negative self schema. We use schema to interpret the world, so if a person has a negative self-schema they interpret all information about themselves in a negative way. More specifically, Beck proposed the negative triad. There are three elements to the negative triad: negative view of the world – 'the test was unfair and examiner was out to get her'; negative view of the future – she 'never wants to try anything again'; negative view of the self – 'she thinks she is a failure'. The negative triad affects the self-esteem of the person with depression.

One strength of Beck's model is supporting research. Clark and Beck (1999) concluded that cognitive vulnerabilities (e.g. faulty information processing, negative self-schema) are more common in people with depression. A recent prospective study by Cohen *et al.* (2019) tracked 473 adolescents' development and found that early cognitive vulnerability predicted later depression. This shows that there is an association between cognitive vulnerability and depression.

One limitation is inconsistent research findings. Gittins and Hunt (2020) carried out a study of self-beliefs (self-esteem and self-criticism) and depression throughout adolescence. Depression predicted low self-esteem rather than vice versa, as Beck's theory would predict. There was no relationship between depression and self-criticism. This means that cognitive vulnerability may not actually lead to depression.

The cognitive approach to treating depression (pages 88–89)

1. Outline **one** strength of using cognitive behaviour therapy to treat depression. (3 marks)

One strength of CBT is that there is evidence of effectiveness. March *et al.* (2007) compared the effects of CBT with antidepressant drugs and a combination of the two in 327 adolescents with depression. After 36 weeks 81% of the CBT group, 81% of the antidepressants group and 86% of the CBT + antidepressants group were significantly improved. This means there is a good case for making CBT the first choice of treatment in public health care systems like the NHS.

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2. Explain how irrational thoughts are challenged as part of the cognitive approach to treating depression. (2 marks)

A client might talk about how unlucky they have been or how unfair life is. An REBT therapist would identify this as utopianism and challenge it as an irrational belief. This may involve empirical argument – disputing whether there is evidence to support the irrational belief. It may also include logical argument – disputing whether the negative thought actually follows from the facts.

3. Outline and evaluate **one** cognitive approach to treating depression. (8 marks)

The aim of CBT is to identify negative thoughts about the self, the world and the future – the negative triad. These thoughts must be challenged by the client taking an active role in their treatment (the ‘client as scientist’). Clients are encouraged to test the reality of their irrational beliefs. They might be set homework, e.g. to record when they enjoyed an event or when people were nice to them, and these events are used during therapy to prove the client’s beliefs are incorrect.

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One limitation of CBT is reduced effectiveness for people with trauma. Waldron *et al.* (2019) treated adolescents with depression, with 36 weeks of CBT and/or antidepressants. Those who had a history of trauma had a slower recovery. Since most CBT takes place over a shorter period of time, we would expect that people with trauma would show little improvement in the usual time taken for this treatment. This suggests that CBT may not be as effective for individuals whose depression follows trauma.

4. Describe and evaluate the cognitive approach to explaining **and** treating depression. (12 marks AS, 16 marks AL)

The aim of CBT is to identify negative thoughts about the self, the world and the future – the negative triad. These thoughts must be challenged by the client taking an active role in their treatment (the ‘client as scientist’). Clients are encouraged to test the reality of their irrational beliefs. They might be set homework, e.g. to record when they enjoyed an event or when people were nice to them, and these events are used during therapy to prove the client’s beliefs are incorrect.

REBT (Ellis’s therapy) extends the ABC model to an ABCDE model: D for dispute (challenge) irrational beliefs and E for effect. A client might talk about how unlucky they have been or how unfair life is. An REBT therapist would identify this as utopianism and challenge it as an irrational belief. This would involve empirical argument – disputing whether there is evidence to support the irrational belief, and/or logical argument – disputing whether the negative thought actually follows from the facts.

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Another limitation of CBT is its high relapse rates. Few early studies looked at long-term effectiveness and recent studies suggest that relapse is common. Ali *et al.* (2017) assessed depression for 12 months following a course of CBT. 42% relapsed within six months of ending treatment and 53% within a year. This means that CBT may need to be repeated periodically.

The biological approach to explaining OCD (pages 90–91)

1. Outline the genetic **or** neural explanation for obsessive-compulsive disorder (OCD). (6 marks)

Researchers have identified specific genes which create a vulnerability for OCD, called 'candidate genes'. Serotonin genes, e.g. 5HT1-D beta, are involved in the transmission of serotonin across synapses. Dopamine genes are also implicated in OCD. Both dopamine and serotonin are neurotransmitters that have a role in regulating mood. OCD is not caused by one single gene but several genes are involved (polygenic). Taylor (2013) found evidence that up to 230 different genes may be involved in OCD.

2. Outline **one** strength of the neural explanation for OCD. (3 marks)

One strength of the neural model is supporting evidence. Antidepressants that work on serotonin reduce OCD symptoms. This suggests that serotonin may be involved in OCD. Also, OCD-like symptoms appear in conditions that are known to be biological in origin, e.g. Parkinson's disease (Nestadt *et al.* 2010). This means that biological factors (e.g. serotonin and processes underlying Parkinson's disease) are likely to be involved in OCD.

3. Briefly outline the biological approach to explaining OCD. (4 marks)

Researchers have identified specific genes which create a vulnerability for OCD, called candidate genes. Serotonin genes, e.g. 5HT1-D beta, are involved in the transmission of serotonin across synapses. Dopamine genes are also implicated in OCD. Both dopamine and serotonin are neurotransmitters that have a role in regulating mood. OCD is not caused by one single gene but several genes are involved (polygenic). Taylor (2013) found evidence that up to 230 different genes may be involved in OCD.

4. Describe and evaluate the genetic **and** neural explanations of OCD. (12 marks AS, 16 marks AL)

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As well as this, some cases of OCD, and in particular hoarding disorder, seem to be associated with impaired decision-making. This in turn may be associated with atypical functioning of the lateral frontal lobes of the brain. The frontal lobes are responsible for logical thinking and making decisions.

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There is also evidence to suggest that an area called the left parahippocampal gyrus, associated with processing unpleasant emotions, functions atypically in OCD.

One strength is evidence for the genetic explanation of OCD. Nestadt *et al.* (2010) reviewed twin studies and found that 68% of identical (MZ) twins shared OCD as opposed to 31% of non-identical (DZ) twins. Marini and Stebnicki (2012) found that a person with a family member with OCD is around four times as likely to develop it as someone without. This means that people who are genetically similar are more likely to share OCD, supporting a role for genetic vulnerability.

One limitation is the lack of candidate genes. Genes are likely to have a role in causing OCD, but the genes identified so far are only weakly associated with OCD. Pomohaibo *et al.* (2021) concluded that OCD is polygenic, i.e. many genes are involved. But we aren't sure which genes. This means that we do not really understand the link between genes and OCD.

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The biological approach to treating OCD (pages 92–93)

1. Outline the use of **one or more** drugs in the treatment of obsessive-compulsive disorder (OCD). (4 marks)

Low levels of serotonin are associated with OCD, therefore drugs work in various ways to increase the level of serotonin in the brain. Selective serotonin reuptake inhibitors (SSRIs) prevent the reabsorption and breakdown of serotonin in the brain. This increases its levels in the synapse and thus serotonin continues to stimulate the postsynaptic neuron. This means that the serotonin system returns to the usual level of functioning. A typical daily dose of fluoxetine (an SSRI) is 20 mg, although this may be increased if it is not benefitting the individual.

2. Outline **two** strengths of using drug therapy to treat OCD. (6 marks)

A strength of drug therapy is its effectiveness. Soomro *et al.* (2008) reviewed 17 studies of SSRIs for the treatment of OCD. All 17 studies showed better outcomes for those having SSRIs rather than placebos. Typically OCD symptoms reduce for around 70% of people taking SSRIs. This means that drugs can be of help to most people with OCD.

Another strength of drug treatments for mental health conditions in general is that they are cheap compared to psychological treatments. Using drugs to treat OCD is therefore good value for the NHS. As compared to psychological therapies, SSRIs are also non-disruptive to people's lives. If you wish you can simply take drugs until your symptoms decline rather than spending time going to therapy sessions. This means that many doctors and people with OCD prefer drug treatments.

3. Outline and briefly evaluate drug therapy as a treatment for OCD. (6 marks)

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4. Discuss the biological approach to treating OCD. (12 marks AS, 16 marks AL)

Low levels of serotonin are associated with OCD, therefore drugs work in various ways to increase the level of serotonin in the brain. Selective serotonin reuptake inhibitors (SSRIs) prevent the reabsorption and breakdown of serotonin in the brain. This increases its levels in the synapse and thus serotonin continues to stimulate the postsynaptic neuron. This means that the serotonin system returns to the usual level of functioning. A typical daily dose of fluoxetine (an SSRI) is 20 mg, although this may be increased if it is not benefitting the individual.

Tricyclics (an older type of antidepressant), such as *clomipramine*, are sometimes used. These have the same effect on the serotonin system as SSRIs but the side-effects can be more severe.

Drugs are often used alongside cognitive behaviour therapy (CBT) to treat OCD. The drugs reduce a person's emotional symptoms, such as feeling anxious or depressed. This means that they can engage more effectively with CBT.

A strength of drug therapy is its effectiveness. Soomro *et al.* (2008) reviewed 17 studies of SSRIs for the treatment of OCD. All 17 studies showed better outcomes for those having SSRIs rather than placebos. Typically OCD symptoms reduce for around 70% of people taking SSRIs. This means that drugs can be of help to most people with OCD.

Another strength of drug treatments for mental health conditions in general is that they are cheap compared to psychological treatments. Using drugs to treat OCD is therefore good value for the NHS. As compared to psychological therapies, SSRIs are also non-disruptive to people's lives. If you wish you can simply take drugs until your symptoms decline rather than spending time going to therapy sessions. This means that many doctors and people with OCD prefer drug treatments.

One limitation is the potential side-effects of drugs. A minority of people experience unpleasant side-effects from SSRIs, such as indigestion, blurred vision and loss of sex drive (although these side-effects are usually temporary). In particular, individuals with OCD may be more sensitive to the dose required to treat their symptoms, which could make side effects more pronounced (Kayser 2020). This means that a person's quality of life is reduced, and they may stop taking the drugs altogether, making treatment ineffective.

Chapter 6 Research methods

Experimental method and designs (pages 94–95)

1. Outline what is meant by a 'directional hypothesis'. Briefly explain why a researcher would use a directional hypothesis rather than a non-directional hypothesis. (3 marks)

A directional hypothesis states whether changes are greater or lesser, positive or negative, etc. This is used when the researcher has confidence in the likely direction of the results based on previous research, for instance.

2. Briefly explain **one** reason why 'standardisation' is important in psychological research. (2 marks)

Standardisation is using exactly the same formalised procedures for all participants in a research study – otherwise differences in procedures could act as an extraneous variable.

3. Outline what is meant by 'investigator effects' **and** explain why these should be controlled in a research study. (4 marks)

An 'investigator effect' is any effect of the researcher's/investigator's behaviour on the outcome of the research (the DV). If the researcher, knowingly or otherwise, gives more information to particular participants, or offers encouragement to some and not others in their behaviour, this may create an extraneous variable so the true source of the change in the DV cannot be identified. These must therefore be controlled in a research study.

4. Suggest **one** reason why a researcher may choose to use a repeated measures design rather than an independent groups design. (2 marks)

A researcher might choose a repeated measures design over an independent groups design so the person in both conditions has the same characteristics. This controls for participant variables (an important extraneous variable).

Types of experiment (pages 96–97)

1. Outline what is meant by a field experiment'. (2 marks)

In a field experiment, the IV is deliberately changed by the experimenter and the effect on the DV is recorded in a natural setting (the researcher goes to the participants).

2. Outline **one** strength **and** **one** limitation of a laboratory experiment. (4 marks)

Lab studies can be easily replicated. Due to the standardised procedure the experiment can be repeated. If the results are the same this confirms their validity.

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The controlled lab environment may be rather artificial and participants are aware they are being studied. Thus behaviour may not be 'natural' and can't be generalised to everyday life (low external validity).

3. Outline the difference between a field experiment and a natural experiment. (4 marks)

In a field experiment, the IV is deliberately changed by the experimenter and the effect on the DV is recorded. In a natural experiment, the experimenter does not deliberately change the IV. The IV would have varied even if the experimenter wasn't interested.

4. State **one** difference between a quasi-experiment and a laboratory experiment. (2 marks)

In a quasi-experiment, the IV is a pre-existing difference between people, e.g. people over and under age 16. Therefore, participants cannot be randomly allocated to each experimental condition. This is possible in a lab experiment, however.

5. Outline **one** strength **and one** limitation of a quasi-experiment. (4 marks)

In a quasi-experiment, the IV is a difference between people, e.g. people over and under age 16. This means that comparisons between different types of people can be made, which is a strength. However, participants are not randomly allocated. The experimenter has no control over which participants are placed in which condition as the IV is pre-existing. Participant variables may have caused the change in the DV acting as a CV.

Sampling (pages 98–99)

1. Outline the difference between a population and a sample. (2 marks)

A population is the large group of people that a researcher is interested in studying, for example college students from the North West. It is usually not possible to include all members of the target population in the study, so a smaller group is selected – the sample. The sample that is drawn should be representative of the population so generalisations can be made.

2. Outline what is meant by 'random sampling'. (2 marks)

In a random sample, every person in the target population has an equal chance of being selected. This can be achieved through the use of a lottery method.

3. Outline **one** strength **and one** limitation of systematic sampling. (4 marks)

A systematic sample is an unbiased method. The first item is usually selected at random so the researcher has no control over this, it is an objective method. A complete list of the target population is required. This is likely to require time and effort, and so random sampling may as well be used.

4. Explain how you could select a stratified sample of students of different ages within a school or college. (3 marks)

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Participants are selected according to their frequency in the target population. The school/college student population should be divided into subgroups, such as gender or age groups. The relative percentages of the subgroups in the population are reflected in the sample. For instance, if there are 60 students aged 18 and 40 students aged 19, there should be six 18-year-olds and four 19-year-olds in a sample of 10.

5. Briefly evaluate the use of an opportunity sample. (4 marks)

In opportunity sampling the sample is unrepresentative of the target population as it is drawn from a very specific area, such as one street in one town. This means that the findings cannot be generalised. The implication of this is that any conclusions drawn can only be applied to the people who have been sampled and not to people in other streets or other towns.

Ethical issues and ways of dealing with them (page 100)

1. Using an example from research into social influence, explain what is meant by 'ethical issue'. (3 marks)

Ethical issues arise when a conflict exists between the rights of participants and the aims of the research. For instance, it may be necessary not to inform participants of the true aim of the study to minimise demand characteristics, but this infringes their right to give informed consent. For example, in Asch's conformity experiment, participants were told the study was investigating visual perception, not conformity, and therefore they did not give full informed consent.

2. Identify **one** ethical issue in psychological research. Outline **one** way in which this issue can be dealt with. (3 marks)

Participants should be able to make an informed judgement about whether to take part in a particular study (informed consent). However, too much information may affect participants' behaviour so participants may instead give retrospective consent at the end of the study (during debriefing) when they are given full details of the research aims.

3. Outline the role of the British Psychological Society's code of ethics in psychological research. (4 marks)

BPS code of conduct is a quasi-legal document to protect participants based on four principles: respect, competence, responsibility and integrity. This document includes details of what is, and is not, appropriate in relation to research with human and animal participants, and provides a safeguard for those taking part.

Correlations (page 101)

1. Outline **two** reasons why a researcher may conduct a correlational study rather than an experiment. (4 marks)

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Correlations are a useful starting point for research. By assessing the strength and direction of a relationship, correlations provide a measure of how two variables are related. If variables are strongly related it may suggest hypotheses for future research.

Unlike an experiment, there is no need for a controlled environment and secondary data (e.g. government statistics) can be used. So correlations are less time-consuming than experiments.

2. Outline **one** difference between a correlation and an experiment. (2 marks)

In an experiment the researcher controls or deliberately changes the IV and records the effect on the DV. In a correlation there is no deliberate change made to the variables and so cause and effect cannot be demonstrated. In a correlation, it may be that a third 'untested' variable is causing the relationship between the co-variables (called an intervening variable).

3. Outline **one** strength **and one** limitation of using correlations in psychological research. (4 marks)

Correlations are a useful starting point for research. By assessing the strength and direction of a relationship, correlations provide a measure of how two variables are related. If variables are strongly related it may suggest hypotheses for future research.

Correlations are often presented as causal, e.g. by the media, when they only show how two variables are related. This leads to false conclusions about causes of behaviour.

Observation (pages 102–103)

1. Outline the difference between naturalistic and controlled observation. (2 marks)

A naturalistic observation takes place where the target behaviour would usually occur, such as a school canteen. A controlled observation takes place in a controlled setting (possibly a lab) and there may be some control/deliberate change of variables and control of EVs.

2. Outline what is meant by 'covert observation'. (2 marks)

A covert observation is when participants are unaware they are being studied and informed consent for their participation has not been obtained. This is seen as ethical if the behaviour the participants are engaged in is 'public' and does not invade their privacy.

3. Explain why a researcher may choose to use a covert observation rather than an overt observation. (2 marks)

A covert observation may be preferred because, if participants are not aware they are being observed, their behaviour is less likely to be influenced by the presence of the researcher and may be more 'natural'.

4. Outline **one** strength **and one** limitation of participant observation. (4 marks)

Participant observations can lead to greater insight. The researcher experiences the situation as the participants do and this may enhance the validity of the findings. However, there may be a possible

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loss of objectivity. The researcher may identify too strongly with those they are studying and this may threaten the validity of the findings.

Self-report techniques and design (pages 104–105)

1. Outline what is meant by a 'self-report technique'. (2 marks)

A 'self-report technique' is any method in which a person is asked to state or explain their own feelings, opinions, behaviours and/or experiences related to a given topic, as in questionnaires and interviews.

2. Outline what is meant by an 'unstructured interview'. (2 marks)

In an unstructured interview there are no set questions. There is a general topic to be discussed but the interaction is free-flowing and the interviewee is encouraged to elaborate.

3. Outline **one** strength **and one** limitation of using structured interviews. (4 marks)

Structured interviews are easy to replicate because of the standardised format. This also reduces differences between interviewers. However, interviewees cannot elaborate their answers or deviate from the central topic, and this may limit the richness of data collected.

4. Briefly evaluate the use of questionnaires in psychological research. (4 marks)

The data produced in a questionnaire is likely to be easier to analyse than that produced in an interview. Statistical data can be generated to produce graphs and charts for comparison, which makes conclusions easy to draw. However, respondents may often be restricted to a choice of answers that may not be representative of their true feelings on a topic. This may reduce the validity of the findings.

Pilot studies (page 105)

1. Explain the purpose of using a pilot study in psychological research. (2 marks)

A pilot study is a small-scale trial run of a research design before doing the real thing. The aim of piloting is to find out if certain procedures don't work so you can correct them before spending time and money on the full investigation.

Types of data (page 106)

1. Explain what is meant by 'qualitative data'. (2 marks)

Qualitative data is non-numerical data expressed in words, e.g. an extract from someone's diary.

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2. Outline **one** strength **and one** limitation of collecting secondary data in psychological research. (4 marks)

Secondary data can be inexpensive because the desired information may already exist. For this reason, it often requires minimal effort on the part of the researcher, reducing costs. However, the quality of the data may be poor. Information may be outdated or incomplete and this challenges the validity of any conclusions drawn.

3. Referring to an example, briefly discuss the use of meta-analysis in psychology. (6 marks)

If a meta-analysis of all the available studies on the genetic basis of schizophrenia is conducted, the eventual sample size is much larger than the samples of individual investigations. This increases the validity of the conclusions and increases the extent to which generalisations can be made. However, publication bias may occur. Researchers may not select all relevant studies, leaving out negative or nonsignificant results. Data may be biased because it only represents some of the data and incorrect conclusions are drawn. A researcher who thinks that schizophrenia has a genetic bias may leave out studies that do not confirm this view.

Measures of central tendency and dispersion (page 107)

1. Outline what is meant by 'measure of central tendency'. (2 marks)

'Measure of central tendency' is the general term for any measure of the average value in a set of data, usually the mean, median or mode.

2. Outline how a researcher would calculate the mean. (2 marks)

The mean is the arithmetic average; add up all the scores and divide by the number of scores.

3. Outline **one** strength **and one** limitation of standard deviation as a measure of dispersion. (4 marks)

The standard deviation is more precise than the range as it includes all values within the calculation. It therefore gives a more accurate picture of the overall distribution of the data set.

However, the SD may be misleading and may 'hide' some of the characteristics of the data set. Extreme values may not be revealed, unlike with the range.

Presentation of quantitative data (page 108)

1. Explain when a scattergram should be used instead of other types of graphs. (2 marks)

A scattergram should be used for correlational analysis to show the strength and direction of the relationship between co-variables. Each dot represents one pair of related data. The data on both axes must be continuous.

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2. Describe **two** features of a normal distribution. (4 marks)

A normal distribution produces a symmetrical, bell-shaped curve. Most people are in the middle area of the curve with very few at the extreme ends. The mean, median and mode all occupy the same mid-point of the curve – and this would be 100 on a normal distribution of IQ scores.

3. Explain the difference between a normal and skewed distribution. Use an example in your answer. (4 marks)

In a normal distribution, most people are in the middle area of the curve with very few at the extreme ends. The mean, median and mode all occupy the same mid-point of the curve – and this would be 100 on a normal distribution of IQ scores. Skewed distributions are distributions that lean to one side or the other because most people are either at the lower or upper end of the distribution – perhaps due to having sat a very difficult or easy test.

Mathematical content (page 109)

1. Jimi indicated on a checklist of 20 compulsive behaviours that he had 14 of them. Express Jimi's score as (a) a percentage, (b) a decimal, and (c) a fraction of the total score. (3 marks)

(a) 70%

(b) 0.7

(c) 7/10

2. The value of pi is 3.141592653... Express this to (a) three decimal places, and (b) two significant figures. (2 marks)

(a) 3.142

(b) 3.1

Statistical testing: The sign test (page 110)

1. Identify the **three** criteria that need to be met for a sign test to be used to analyse data. (3 marks)

To use the sign test: we need to be looking for a difference; we need to have used a repeated measures design; and the data should be organised into categories, known as nominal data.

2. State **three** pieces of information that are needed to use a table of critical values. (3 marks)

To use a table of critical values, we need to know the significance level (usually 0.05 or 5%); the number of participants in the investigation (the *N* value) or the degrees of freedom (*df*); whether the hypothesis is directional or non-directional (one-tailed or two-tailed test).

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3. Imagine you have calculated a sign test. Explain how you would work out whether the value of S is significant or not. (2 marks)

If S is equal to or less than the critical value in the table, then S is significant and the experimental hypothesis is retained.

Peer review (page 111)

1. Explain what is meant by 'peer review'. (2 marks)

Before publication, all aspects of the investigation are scrutinised by experts ('peers') in the field. This is known as a 'peer review'. These experts should be objective and unknown to the researcher.

2. Outline **two** aims of peer review. (4 marks)

One aim is to determine the allocation of research funding. This may be co-ordinated by government-run funding organisations who have a vested interest in establishing which research projects are most worthwhile. Another aim is to validate the quality and relevance of research in order to suggest improvements. In some cases, reviewers may suggest that the work is inappropriate and should be withdrawn.

3. Briefly discuss the use of peer review in the scientific process. (6 marks)

Peer review protects the quality of published research by minimising the possibility of fraudulent research. This preserves the reputation of psychology as a science and increases the credibility and status of the subject. However, peer review may be used to criticise rival research. A minority of reviewers may use their anonymous status to criticise rival researchers. Often there is competition for limited research funding so this may be an issue.

A final issue is publication bias. There may be a tendency for journals to want to publish 'headline-grabbing' findings. Research that does not meet this criterion may be ignored or disregarded (file drawer problem).

Psychological research and the economy (page 111)

1. Using **two** examples, discuss the implications of psychological research for the economy. (8 marks)

Research has highlighted how easily recall for events can be influenced by factors such as leading questions and post-event discussion. Recognition of the fallibility of human memory led to the cognitive interview, to improve the accuracy of information from eyewitnesses. This has reduced retrials and compensation paid to those mistakenly accused, a financial gain for the economy.

Psychological research into the causes and treatments of mental health conditions means that people have their condition diagnosed, allowing them access to therapies or psychotherapeutic drugs, such as SSRIs. These all help people with mental health conditions to manage their condition effectively, return to work and contribute to the economy.