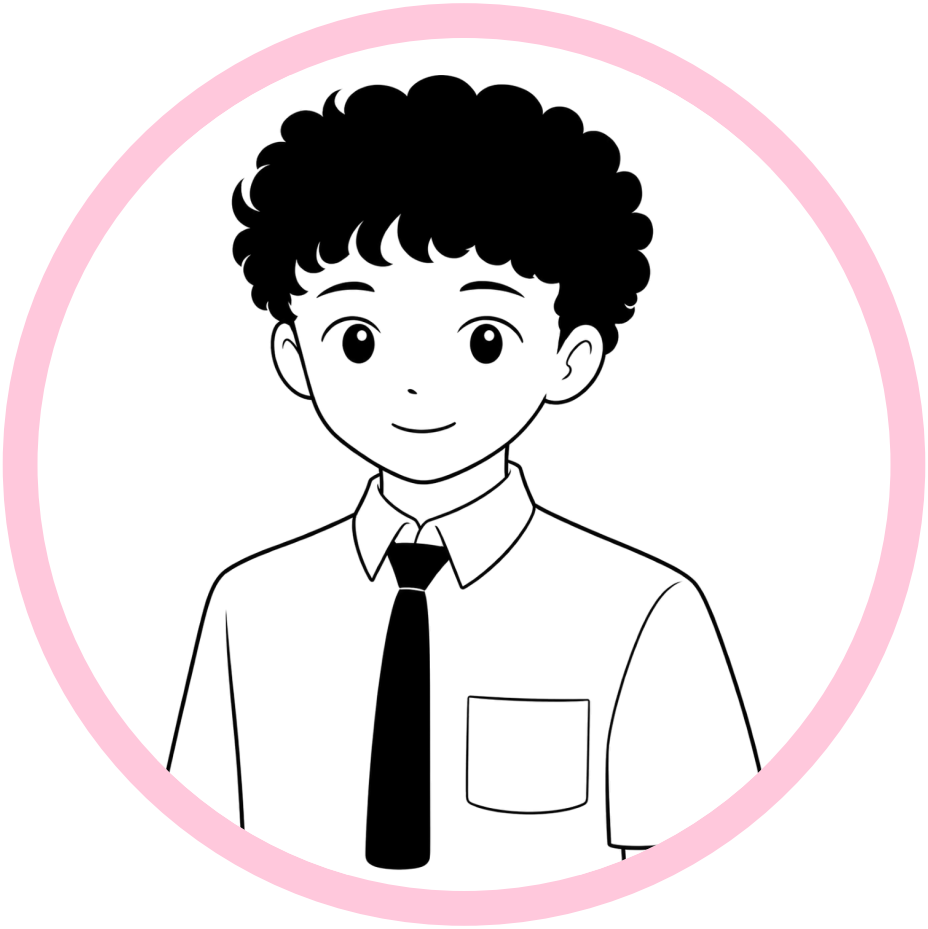
PEARSON EDEXCEL A-LEVEL PSYCHOLOGY · 9PS0

PSYCHOLOGY



MARK SCHEME

TOPIC 9: PSYCHOLOGICAL SKILLS

SCORE	PERCENTAGE
/528	%

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Mark Scheme

Q1.

Question Number	Answer	Mark
(a)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of each strength of the observation related to the study (AO2). One mark for justification of each strength (AO3). For example: • A naturalistic observation of the employee interactions will happen in the natural setting of the office so ecological validity will be high (1) because being in the office the employees will act more naturally and their behaviour will be more representative of their day-to-day human interaction (1). • A covert observation of the employee behaviour will mean they are less likely to show demand characteristics and change their interactions so validity will be higher (1) because the employees are unaware they are in a study about human interaction and so will act more like they would in the workplace than if they were aware (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(4)

Question Number	Answer	Mark
(b)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of the strength/weakness in the context of the study (AO2) One mark for justification of the strength/weakness (AO3) For example: Strength • Quantitative data in terms of the number of emails and instant messages will be more objective than qualitative data (1) because it is difficult to interpret the number of emails differently whereas a conversation could be interpreted another way by other researchers (1). Weakness • A weakness with counting the number of emails is that the researchers cannot gain further information so it lacks validity (1) because they are unable to gain an insight into why emails were sent which could have revealed important underlying reasons that were not related to the open plan setting (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(4)**

Question Number	Answer	Mark
(c)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of a weakness in terms of generalisability related to the study (AO2). One mark for justification of the weakness (AO3). For example: • The researchers only did the study with one company so it may not represent all offices with an open plan layout (1) which means the findings do not represent offices in different industries and in different parts of the world (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
(d)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Table 2. One mark for identification of a suitable conclusion (AO2) One mark for justification of the conclusion (AO3). For example: • The open plan office lead to a decrease in face-to-face communication, rather than the expected increase (1) which is shown by an average decrease of 3,770 minutes over the course of the study in face-to-face conversations from before the open plan office was introduced (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Q2.

Question Number	Indicative content	Mark
	AO1 (6 marks), AO3 (10 marks) **AO1** • Sherif et al. (1954/1961) used a summer camp in Robber's cave state park to investigate the formation and reduction of prejudice. • Sherif et al. (1954/1961) used an experimental situation where competitive tasks were used to see the effect on prejudice in the boys. • Replication is an important aspect of science with consistency enabling predictions about future actions to be made. • To be considered scientific a concept should be able to be falsified in terms of whether it could be supported or refuted. • Raine et al. (1997) used the same continuous performance task (CPT) that was based around target recognition for 32 minutes. • Raine et al. (1997) made sure participants were not receiving medication and were the same sex and a similar age.	**(16)**

	AO3 • The use of a real life setting with a lack of controls in Sherif et al. (1954/1961) means the study could be considered less scientific. • The experimental aspect of the study in trying to establish some level of cause and effect with the tasks and prejudice could be considered scientific to an extent. • By breaking prejudice down into finite resources and competition could be considered reductionist and therefore more scientific. • Sherif et al. (1954/1961) did aim to study the behaviour of the boys in the whole situation and conducted it using a field experiment so it is holistic to an extent and less scientific. • Sherif's studies have been replicated and showed consistent findings regarding prejudice so this is scientific. • Raine et al. (1997) used PET scanning and found that brain functioning did differ between murderers and controls so is scientific in this respect. • The controlled task used in Raine's study means that	

	comparisons could be made between participants so is more scientific. • By ensuring participants were medication free and the same sex and similar age controls were used the study reduced participant variables so has increased internal validity and is more scientific. • The finding that a single brain region was not responsible for violent behaviour and that social, psychological and environmental factors are required is holistic and less scientific to some extent. • The use of PET scanning in Raine et al. (1997) is a valid way of measuring brain activity in murderers and controls so is more scientific. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) **Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q3.

Question Number	Answer	Mark
(a)	**AO2 (2 marks), AO3 (2 marks)** Candidate responses have to be drawn from evidence presented in Figure 1. One mark for identification of each conclusion (AO2) One mark for justification of each conclusion (AO3). For example: • The Fijian bars are below the American bars from 9 years old to 14 years old (1), so American children from 9-14 years were more likely to share the reward and were therefore more prosocial (1). • The Fijian adults were approximately 35% likely to share the reward compared to roughly 15% of American adults (1). This suggests that as adults Fijians are more prosocial than Americans (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
(b)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of each weakness up to a maximum of two marks (AO2) One mark for justification of each weakness up to a maximum of two marks (AO3) For example: • Prosocial behaviour such as sharing a reward does not usually take place in controlled, artificial setting (1), so therefore the participants may not act naturally which means the findings lack ecological validity (1). • Participants may guess that the study is about prosocial behaviour so they may change their decision to share/not share the reward (1). This means there is potential for demand characteristics and the findings of the study would lack validity (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Q4.

Question Number	Answer	Mark
(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for comparing the observed/calculated value with a relevant critical value (AO2) One mark for justification of what this means for the findings of the study (AO3) For example: • The calculated value (110) is less than the critical value (112) at the 5% level of significance for a two-tailed test (1). This means that there was a significant difference between the male and female perceived effectiveness of using crying as a reconciliation act (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of social learning theory to the findings of the reconciliation after romantic conflict study (AO2). Up to three marks for judgement/justification of research evidence in relation to the study (AO3). **Application of social learning theory to the study (AO2)** For example: • Vicarious reinforcement could account for the mean of 5.12 for 'making your partner laugh' for males as they may have observed their father, who they consider a role model, making their mother laugh and reconciling after an argument so could have thought this would help after romantic conflict. • Females may have observed their role model on films crying after an argument and could have led to the male reconciling through guilt so this could account for their higher score of 3.25 whereas males may not see their role models cry on films to reconcile which accounts for their lower score of 2.32. • Kissing or affection could be a motivational factor to reconciliation as it would be pleasurable with a partner so this could account for males and females perceiving this to be an effective strategy for reconciliation in the study.	(6)
	Judgement/justification of how far research evidence can account for the findings of the study (AO3) For example: • Bandura (1965) showed that children would vicariously copy the behaviour of an adult male who were rewarded for acting aggressively to a Bobo doll so this could support males feeling laughter was an effective strategy as they could have seen this work successfully for their father after an argument with their mother. • Bandura (1963) showed children would model aggressive behaviour shown on TV by both a human and a cartoon cat so could support how role models being observed and imitated could account for females thinking crying would be more effective than males with males less likely to see this behaviour in films than females. • Research from biological psychology, such as Olds and Milner (1954), could equally account for kissing or affection as a strategy as pleasurable behaviours would activate the dopamine reward pathway and also emotional centres such as the amygdala which would strengthen the desire to reconcile. **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	

Q5.

Question Number	Indicative content	Mark
	AO1 (8 marks), AO3 (12 marks) **AO1** • Reductionism is a way of explaining complex phenomenon (e.g. society) in terms of smaller units which make it up. • The opposite of reductionism is holism – this is the view that the smaller units of a phenomenon (e.g. society) never add up to the whole due to the relationship between the units (as this is more than the smaller units alone) • Baddeley (1966b) tested acoustic and semantic coding in the LTM by asking participants to remember the order of a list of words • Watson and Rayner (1920) used a laboratory experiment to isolate the stimulus and response pairings • Social Learning Theory assumes learning is due to observation and imitation of role models • Bartlett's reconstructive memory assumes schemas are used to fill in the gaps in memory • The Working Memory Model breaks memory down into components such as the visuo-spatial sketchpad and phonological loop • Biological psychology attempts to reduce complex human behaviour such as aggression to a single gene or set of genes • Social psychology considers how individuals, groups, society, and culture affect human behaviour	**(20)**
	AO3 • The use of a laboratory experiment to isolate acoustic and semantic coding by Baddeley (1966b) is a reductionist way to assess memory • Simplifying memory to STM and LTM and concluding it is coded differently is reductionist • The use of a controlled, standardised setting to isolate the stimulus and response pairings by Watson and Rayner (1920) is a reductionist way to assess learning • As Social Learning Theory considers cognitive and social aspects of learning it could be considered a more holistic explanation of the learning process • Studying learning in a holistic way would be seen as less scientific and more difficult to falsify as the isolation of the	

	causes of learning would be harder to to identify • Bartlett's theory of memory could be considered more holistic as it involves real life experiences and the socialisation process in how schemas are formed • A holistic explanation for memory may be more useful as it would take into account an individual's social world and their past and present experiences and the relationship between all the units • Whilst a single gene causing behaviour could be considered reductionist, epigenetics suggests that genes only predispose individuals and that social factors are needed too which is less reductionist • Raine et al. (1997) concluded that violent behaviour could not be caused by a single brain region and that multiple areas are involved and predispose the individual to violent behaviour when combined with other social, psychological, and environmental factors so could actually be considered fairly holistic. • Consideration of why humans obey through evolution and socialisation in agency theory is a more holistic approach to studying obedience • Social impact theory attempts to reduce social influence to an equation which predicts when people are likely to obey so is more reductionist • Reductionism is seen as more scientific and analytical than holism as it can be more easily tested and falsified so is a valuable approach to studying human behaviour • An interactionist approach can combine different levels of an explanation of human behaviour to give a more complete, realistic understanding than either extreme reductionist or holistic explanations **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (8 marks), AO3 (12 marks) **Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this will be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a logical assessment, containing logical chains of reasoning throughout which consider a range of factors. Demonstrates an understanding of competing arguments/factors but does not fully consider the significance of each which in turn leads to an imbalanced judgement being presented. (AO3)
Level 5	17–20 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates a full understanding and awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Q6.

Question Number	Indicative content	Mark
	AO1 (6 marks), AO3 (10 marks) **AO1** • Reductionism is a way of explaining complex phenomenon (e.g. society) in terms of smaller units which make it up • The opposite of reductionism is holism – this is the view that the smaller units of a phenomenon (e.g. society) never add up to the whole due to the relationship between the units (as this is more than the smaller units alone) • Baddeley (1966b) tested acoustic and semantic coding in the LTM by asking participants to remember the order of a list of words • Baddeley (1966b) concluded that short-term memory and long-term memory largely coded information differently • Watson and Rayner (1920) used a laboratory experiment to isolate the stimulus and response pairings which is a reductionist way to assess learning • Watson and Rayner (1920) found Little Albert could be conditioned to be scared of various objects when paired with a loud noise	**(16)**
	AO3 • The use of a laboratory experiment to isolate acoustic and sematic coding by Baddeley (1966b) is a reductionist way to assess memory • Simplifying memory to STM and LTM and concluding it is coded differently in Baddeley (1966b) is reductionist • A more holistic way to study memory would be Bartlett's reconstructive memory theory which involves schemas and real life experience • Baddeley's (1966b) study was used to support the Working Memory Model which breaks memory down into components such as the visuo-spatial sketchpad and phonological loop which is a reductionist model of memory • A holistic explanation for memory may be more useful as it would take into account an individual's social world and their past and present experiences and the relationship between all the units • The use of a controlled, standardised setting to isolate the stimulus and response pairings by Watson and Rayner (1920) is a reductionist way to assess learning • To simplify learning to basic S>R relationships as concluded by	

	Watson and Rayner (1920) is reductionist • Bandura's Social Learning Theory considers cognitive and social aspects of learning so could be considered a more holistic explanation of the learning process • Watson and Rayner (1920) only used a single 11 month old male child so the case may not be true of other people's learning processes so is of limited value in explaining memory in this way • Studying learning in a holistic way would be seen as less scientific and more difficult to falsify and isolation of the causes of learning would be difficult to isolate • Reductionism is seen as more scientific and analytical than holism as it can be more easily tested and falsified so is a valuable approach to studying memory and learning • An interactionist approach can combine different levels of an explanation of memory or learning to give a more complete, realistic understanding of memory or learning than either extreme reductionist or holistic explanations **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) **Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q7.

Question Number	Answer	Mark
(a)	**AO2 (2 marks)** Up to two marks for description of how the researchers could have used random sampling for the navigation study. For example: • The researchers of the navigation study could put all the names of the males and females in the local town into a computer database (1) and they could use a random number generator to select the first 45 local people to participate in the maze task (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
(b)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness of using a random sampling technique in the context of the navigation study (AO2) One mark for justification of the weakness (AO3) For example: • The local people chosen using random sampling may all have excellent memory ability so the sample would lack generalisability to the local town (1) as the chosen sample may do very well at the maze task whereas the population of the town are likely to have varied memory ability so the findings would not be representative of the local town (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
(c)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Figure 4. One mark for identification of a suitable conclusion (AO2) One mark for justification of the conclusion (AO3). For example: • Males were more likely to use shortcuts when completing the maze compared to females (1) which is shown by six more males (14 males) taking shortcuts compared to females (8 females) (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
(d)	**AO2 (4 marks)** One mark for accurate completion of O-E column. One mark for accurate completion of $(O-E)^2$ column. One mark for accurate completion of $(O-E)^2/E$ column. One mark for correct answer 1.06.	**(4)**

		Observed	Expected	O-E	$(O-E)^2$	$(O-E)^2/E$
Males	Less than 1 minute to complete the maze task	14	12.27	**1.73**	**2.99**	**0.24**
	More than 1 minute to complete the maze task	9	10.73	**-1.73**	**2.99**	**0.28**
Females	Less than 1 minute to complete the maze task	10	11.73	**1.73**	**2.99**	**0.25**
	More than 1 minute to complete the maze task	12	10.27	**-1.73**	**2.99**	**0.29**
					Chi-squared =	**1.06**

Question Number	Answer	Mark
(e)	**AO2 (2 marks), AO3 (2 marks)** **One** mark for each identification of each improvement in relation to the navigation study (AO2) **One** mark for justification of each improvement (AO3) For example: • The researchers could have used a real maze in a real life setting rather than a virtual reality (VR) maze (1) to increase the ecological validity of the study because the males and females may have behaved differently and used a different navigation strategy in a real maze (1). • They could have used males and females from a number of local towns rather than a single town (1) so that the results of the maze task would have been more representative of the navigation strategy and efficiency of all people than just those in that local town (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Q8.

Question Number	Indicative content	Mark
	AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **AO1** • Social impact theory suggests that social influence would be greater when the source is more immediate and there are fewer or no barriers. • The theory proposes that social influence would be greater when there are more people affecting the target individual, but the proportional impact lessens as the total number of sources increases. • It is predicted that there would be greater social influence when a source is high status and has a close relationship with the target individual. • Social impact theory predicts that people do not try as hard or invest as much effort individually when in a group compared to being alone – this is called social loafing. • Research conducted by Latané and Darley (1970) highlighted diffusion of responsibility, which involves a person being less motivated to act when others are present compared to being alone.	**(12)**

	AO2 • The Olympic athlete is at the school and is accessible so the immediacy would be high, predicting more exercise behaviour from staff and students. • There is only one source having an influence on the students and staff so this could account for exercise not increasing for all those at the school. • An Olympic athlete would have high status and salience with most people so could account for the greater impact on exercise participation than when the head teacher was communicating the message to staff and students. • When given the talk as a whole school the social impact of the message regarding exercise may have been diluted but strengthened when in smaller groups as there could be less scope for social loafing. • Those who did not participate more could be accounted for as they may have observed only the original talk in from of the whole school and so diffused responsibility for their participation compared to if they had been involved in the smaller group talks or competitions.	

	AO3 • Bassett and Latané (1976) found participants would assign nearby fictitious events in a newspaper more column inches than faraway events, which supports immediacy and shows that if promotion of exercise is close by then people maybe more willing to participate. • Milgram, Bickman and Berkowitz (1969) showed passers-by would crane their neck and gawk as more confederates looked up to a sixth floor window, showing that number of sources could affect levels of exercise. • The theory ignores the role of personality factors, such as the authoritarian personality, which has been linked to higher levels of obedience so personality could be a critical factor in whether someone chooses to exercise. • Social impact theory does not attempt to explain why social influence occurs but simply outlines the factors involved, so may not be able to fully explain *why* someone may choose to exercise. • Latané and Darley (1968) found only 31% of people reported an epileptic attack and took an average of 166 seconds to respond when in a six-person group compared to 85% reporting the attack in 52 seconds in a two-person group with the victim, which supports diffusion of responsibility and suggests someone may exercise less when in groups than when alone. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.**		
Level 0	0	No rewardable material.
Level 1	1–3 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4–6 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	7–9 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning. Leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	10–12 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q9.

Question Number	Answer	Mark
(a)	**AO2 (2 marks)** One mark apiece for stating significance level at which the results would have been significant, using conventional form. (0.36 > 0.306 therefore) p=/≤0.05 (0.46 > 0.423 therefore) p=/≤0.01	(2)

Question Number	Answer	Mark
(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for applying social identity theory to the findings of the study (3 AO2). Up to three marks for judging/justifying how social identity theory supports the study (3 AO3). Application of social identity theory to the findings: **Social contact** • For both samples perceived conflict in the 'out group' showed a relationship with social contact with that 'out group' as predicted by the hypotheses based on social identity theory because the results show that the more social contact, the less perceived conflict. • Social identity theory suggests that members of an 'in group' show hostility to an 'out group', so having perceived conflict towards an 'out group' in this study is explained by SIT. **Behavioural intentions** • For both groups behavioural intentions related to social contact as was predicted by the hypothesis – because the more social contact, the less prejudice-related behavioural intentions. • Social identity theory might say that more social contact meant widening the 'in group' to include others, so there was less prejudice because those people were no longer in an 'out group'. **Perceived conflict** • For both groups perceived conflict related to behavioural intentions, as was predicted by the hypothesis – because the less perceived conflict, the less prejudice-related behavioural intentions.	(6)

	• Social identity theory also suggests that if people see others as an 'out group', they will raise their own self-esteem by denigrating the 'out group', so they are likely to perceive conflict between themselves and an 'out group'. Their behaviour is likely to go with their perceptions of conflict. **Judgement of how social identity theory supports the findings:** • Both groups show significant correlations, thus there is reliability being displayed. • The value of 0.01 being used shows that these results are "highly" significant. • The good agreement in the results between the two cultures used here shows that SID theory is applicable across cultures. • Only two cultures are used here, so there is no knowing if all cultures would follow this pattern. • The quality of social contact is not reported; in particular if it involved sufficient contact to mean a widening of who is seen as in group. • Other variables such as gender are not given, so the role of such can't be assessed. • The level of resources is not stated, so the contribution made by the realistic conflict theory can't be assessed; realistic conflict theory might explain the findings better, but this is not clear in the data gathered. • Realistic conflict theory suggests that working towards superordinate goals reduces hostility (perceived conflict), so this theory can also help to explain the results in this study. • Realistic conflict theory also shows that the less there is perceived conflict (for example the more social contact), the less prejudice in respect of behaviour, so might be as good an explanation as social identity theory. **Look for other reasonable marking points.**	

Q10.

Question Number	Answer	Mark
(a)	**AO2 (1 mark) AO3 (1 mark)** One mark for identifying a difference (AO2). One mark for justification of that difference (AO3). For example: • An unstructured interview would not have a strong schedule with planned questions but would have a general idea of what would be asked (1). The more open format lends itself to allowing the young person to discuss personal issues that the researcher has not anticipated (1). OR • An unstructured interview may include standard opening questions, but it would have more open questions than the semi-structured interview (1), so data collected becomes more qualitative than quantitative, which suits the need to gather rich data to understand their personal issues/mental health issues. (1). **Look for other reasonable marking points.**	(2)

Question Number	Answer	Mark
(b)	**AO2 (2 marks)** One mark for a similarity between the two studies. One mark for a difference between the two studies. For example: **Similarities** Both have small sample (cannot take place on a large scale) (1). Both will sample the same mental health issues (1). Both will gather qualitative data (1). **Differences** The retrospective study has a significant participant variable effect / the longitudinal study reduces the participant variable effect (1). The retrospective study has a problem with the accuracy of recall of past memories / the longitudinal study gathers evidence as it happens making it more accurate (1). The issue-bias for the longitudinal study is caused by the drop-out rate / the issue-bias for the retrospective study is caused by the sampling process (1). **Look for other reasonable marking points.**	(2)

Question Number	Answer	Mark
(c)	**AO3 (4 marks)** One mark for identifying an improvement, up to two marks. One mark for explaining how to achieve the improvement, up to two marks. For example: Reduce the drop-out rate to reduce bias (1) by giving more support to the participants to enable them to continue in the study (counselling) (1). Increase the range of mental disorders being included in the study (1) by extending the age range of the study (beyond 18 years into mature adulthood) (1). **Look for other reasonable marking points.**	**(4)**

Q11.

Question Number	Indicative content	Mark
	AO1 (6 marks), AO3 (10 marks) **AO1** • Nature is the internal influences on an individual such as their brain which can affect traits such as aggression via the ventromedial prefrontal cortex (vmPFC). • Raine et al. (1997) examined the brain activity of 41 murderers and controls found NGRIs had less activity in their parietal regions and more activity in the occipital areas. • Raine et al. (1997) concluded that violent behaviour could not be attributed to a single brain region and that brain function does not directly cause violent behaviour. • Nurture is the external influences on an individual such as people, places, and things which can affect traits such as phobias through fear reactions being associated with stimuli such as cotton wool. • Watson and Rayner (1920) found that Little Albert showed crying and avoidance behaviour to a rat after it had been paired with a loud noise repeatedly over time. • Little Albert initially showed no fear response to objects such as cotton or human masks but did show fear when a long steel bar was unexpectedly struck with a claw hammer behind his back.	**(16)**

	AO3 • Raine et al. (1997) showed differences in brain functioning between the controls and murderers which contributes to the nature argument that traits such as aggression could be at least partly internally caused. • Raine conducted further research in 2002 and found an 11% reduction in the volume of gray matter in the PFC of people with antisocial personality disorder which in combination with the 1997 study further supports the role of nature in traits such as aggression. • Real life environments are excluded when doing research using brain scanning such as PET scans so the brain may show different activity in the real world which limits the validity of the findings in contributing to the nature-nurture debate. • The findings from Raine et al.'s (1997) study support both the role of nature and nurture in aggression as the brain function was only said to predispose the individual to aggression but needed specific social and environmental settings to trigger the violent behaviour. • Montoya et al. (2011) suggested aggressive behaviour was linked with imbalances of testosterone and cortisol in the region of the brain near the amygdala and low levels of serotonin in the PFC which supports the brain being involved in aggression and strengthens the nature argument.	

	• Research into the role of hormones and neurotransmitters in behaviour such as aggression can be correlational so other factors could affect the reason for increased aggressive behaviour such as imitation of role models. • Watson and Rayner's (1920) findings appear to support the nurture argument as Little Albert learned to fear the rat and other inanimate objects through associating the loud noise to the objects and animals. • The change in behaviour shown by Little Albert throughout the study with no fear to the rat but strong fear after some time shows the clear influence of nurture factors in causing phobic type reactions in humans. • The fear shown by Little Albert to the noise made by the long steel bar could be an evolved trait as unexpected loud noises could be a threat to survival so could contribute to the nature explanation for fear responses. • Pavlov's (1927) research with dogs showed salivation could be elicited through association with food which is similar to the findings from Watson and Rayner (1920) so also supports both nature and nurture playing a role in human behaviour. • Little Albert was described as 'healthy' by Watson and Rayner (1920) but recently there have been some researchers such as Beck et al. (2009), who have suggested the child was actually 'developmentally delayed' and had hydrocephalus so this could have been the true cause for his behaviour in the study which questions the findings reported. • Watson and Rayner (1920) said they intended to attempt to remove the conditioned emotional responses through techniques such as reconditioning by providing incentives such as sweets when the animal was presented which could have supported the nurture argument for associative learning but Little Albert was removed before this could take place. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) **Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q12.

Question Number	Answer	Mark
(a)	**AO2 (4 marks)** One mark for squaring the values of the vocabulary score minus the mean (100) for each score, $(x-\bar{x})^2$ 0^2, -13^2, 5^2, -8^2, -2^2, 7^2, 1^2, -4^2, 14^2 One mark for calculating the sum of these values = **524** One mark for dividing this by 8 (n-1) = **65.5** One mark for calculating the square root = 8.093207028 / **8.09** to two decimal places	**(4)**

Question Number	Answer	Mark
(b)	**AO1 (1 mark), AO3 (1 mark)** One mark for identification of a suitable reason (AO1) One mark for justification of the reason (AO3) For example: • The standard deviation is more sensitive than the range as a measure of dispersion (1) because the standard deviation takes into account all of the scores in a dataset whereas the range only takes the highest and lowest scores into account (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
(c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an improvement in relation to the 'textisms' and literacy study (AO2) One mark for justification of the improvement (AO3) For example: • They could have measured the number of 'textisms' used in real texts rather than in made up scenarios (1) which would have given a more realistic measure of the number of 'textisms' each child would normally use which would increase the validity of the study (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Q13.

Question Number	Indicative content	Mark
	AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **AO1** • The temporal lobe is involved in storing memories, such as the hippocampus which transfers information from the short term to the long term memory. • Hormones such as testosterone are involved in aggression with higher levels of testosterone being associated with increased aggression. • A genotype is inherited from parents and then is combined with the environmental influences in an individual's life to give their phenotype. • The dopamine reward pathway is activated when an individual does an activity they enjoy and they experience pleasure due to the release of the dopamine in their brain. **AO2** • Oscar may be struggling to remember the stopping distances and what the road signs mean which has meant he has failed his theory test twice. • Jay may have experienced increased testosterone which has meant he is an aggressive driver which has helped him win Go Karting races but also meant he drove to fast on his driving test which led to him failing. • Nishka may have inherited a genotype which gave her a genetic predisposition for higher level visuospatial skills and then had driving experiences which helped her to hone these skills and led to her passing her practical test first time. • Jay was encouraged by his father and enjoys watching F1 and going Go Karting so his dopamine reward pathway will be activated releasing dopamine which he will find pleasurable and will encourage him to drive again.	**(12)**

	AO3 • The case study by H.M. gave evidence for the role of the hippocampus as he was unable to transfer certain types of new information from the STM to LTM but his STM and LTM were largely intact, so Oscar may have a damaged hippocampus. • Research into hormones on human behaviour, such as testosterone on aggression, is correlational and there are other factors which could account for the aggression, such as role models, so cannot be a complete explanation of human behaviour such as driving. • Genetic research has indicated specific genes being involved in human behaviour such as the OPRM1 gene in addiction to drugs so this supports the link between	

	inheritance and human behaviour so there could be gene(s) for enhanced visuospatial ability needed for superior driving. • Learning theories could also account for Jay's driving behaviour as he likes to watch F1 and they drive incredibly fast and his role model may be his favourite driver who won the championship so his fast driving could be due to him imitating his role model and not biological. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.**		
Level 0	0	No rewardable material.
Level 1	1–3 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4–6 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	7–9 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning. Leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	10–12 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q14.

Question Number	Indicative content	Mark
	AO1 (8 marks), AO3 (12 marks) **AO1** • Studies investigating obedience can help investigate the reasons for blind obedience which have been blamed for atrocities such as the Nazis in WW2. • Research investigating prison behaviour can investigate human rights abuses whilst a prisoner. • Raine et al. (1997) found differences in brain activity between murderers and non-murderers such as lower activity in the prefrontal region in the murderers. • Caspi et al. (2002) reported those with the MAOA-L genotype combined with severe childhood maltreatment had greater levels of antisocial behaviour. • Research in classical conditioning has led to treatments such as aversion therapy which has been used as a form of so-called 'therapy' for homosexuality. • Rosenhan (1973) sent pseudopatients into hospitals in America and reported that mental health patients were being ignored and abused whilst in the care of the hospitals. • Drugs are commonly used for mental health issues, such as OCD, Autism or Schizophrenia, and change the neurotransmitter levels and can lead to reductions in symptoms. • Bradbury and Williams (2013) investigated juror decision-making and found black defendants are more likely to be judged as guilty by mostly a white or Hispanic jury. • Belsky and Rovine (1988) found that children who spent more than 20 hours in day care developed an insecure attachment to their mother, showing that day care can have a negative effect on the development of a child.	**(20)**

	AO3 • Milgram's research found the presence of the authority figure increases blind obedience so removal of an authority figure could reduce the possibility of blind obedience and possible atrocities from occurring. • Haney et al. (1973) conducted the Stanford Prison Experiment and claimed guards and prisoners deindividuated to their expected roles where the guards were authoritarian and abusive and the prisoners submissive so may help explain abuse of prisoners in the real world. • Reicher and Haslam (2006) reported on the BBC prison experiment where they found that guards were overcome by the prisoners which led to the proposed	

	introduction of a tyrannical regime and shows how people accept tyranny when their group fails to help them realise their own beliefs. • Research discovering brain differences in murderers and non-murderers can lead to those convicted of murder attempting to absolve blame for their crimes and sometimes successfully reducing their sentence. • Studies that show genetic predispositions to aggressive behaviour can help identify vulnerable people and help them avoid maltreatment that could lead to violent actions and possible crimes. • Research into genetic causes of aggression could lead to those with the gene(s) blaming their genotype and gain reductions in their sentence such as Abdelmalek Bayout in Italy. • Smith and Bartlett (2004) interviewed those who had undergone 'treatments' for homosexuality and stated that it is harmful to apply medical diagnoses to human conditions that may be disapproved of morally or socially. • Research into mental health hospitals can help reduce the likelihood of misdiagnosis which could lead to inappropriate treatment for the patients and hopefully help them recover quicker and more effectively. • The location of research in the real world can have harmful effects on the institutions after the research is published which could lead to them closing down and impacting the local community negatively. • Drugs for mental health issues could be seen as a 'chemical straightjacket' where symptoms are removed but may prevent clear thinking and decision-making with sedative properties certain drugs. • Research into jury compositions and trials show that there is potential bias in the courts, which can lead to a lack of faith in the criminal justice system and may prevent people from reporting crimes as they could fear a miscarriage of justice.	

	• Psychological research into jury decision-making should be used to prevent miscarriages of justice from happening so all defendants receive a fair trial by ensuring the composition of the jury enables this to happen. • Studies into the effects of day care that suggest negative results can damage career aspirations of parents, hinder productivity in society and can lead to negative outcomes for families who cannot afford to not work. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (8 marks), AO3 (12 marks) **Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this will be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a logical assessment, containing logical chains of reasoning throughout which consider a range of factors. Demonstrates an understanding of competing arguments/factors but does not fully consider the significance of each which in turn leads to an imbalanced judgement being presented. (AO3)

Level 5	17–20 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates a full understanding and awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Q15.

Question Number	Indicative content	Mark
	AO1 (8 marks), AO3 (12 marks) **AO1** • Nature is internal influences that affect the development of an individual. • Example of nature is how the genotype influences psychological characteristics such as schizophrenia. • Schizophrenia can be treated using nature-based methods like drugs such as chlorpromazine. • Nature can contribute to drug addiction through stimulation of the dopamine reward pathway. • Lack of brain activity in the prefrontal cortex could influence aggressive behaviour and is a nature factor. • Nurture is the external influences which could be pre-birth (drugs, disease, diet of mother) or post-birth (e.g. physical-environmental factors). • Example of nurture is how social factors such as social class or ethnic (minority) group may influence schizophrenia. • Nurture can contribute to drug addiction through exposure to people, places, or things that are associated with the drug. • Role models may influence aggressive behaviour through observation and imitation of aggressive acts which are later rewarded either directly or vicariously. • Agency theory assumes that people are born with the potential for obedience and that the socialisation process influences how obedient humans become. • Social impact theory focuses on how different social forces such as strength, immediacy and number affect an individual.	**(20)**

	AO3 • Gottesman and Shields (1966) supported inheritance of schizophrenia with 42% MZ concordance compared to 9% DZ concordance. • Twin studies do not fully separate genes from the environment as most twins have similar nurture. • The use of drugs for mental health issues only manages the symptoms and a stress-diathesis model might be more appropriate than just nature causes so drugs should be combined with other treatments too. • Olds and Milner (1954) showed rats would repeatedly press a	

	lever stimulating the dopamine reward system (e.g. septal areas) which shows nature influence on addiction. • Olds and Milner (1954) used rats which have different chromosomes and brain structure to humans so the findings may not be generalisable. • Raine et al. (1997) compared murderers (NGRI) with controls using PET scans and found lower activity in the prefrontal cortex which may explain the impulsive and irrational actions so shows the nature influence in aggression. • Cooper (2005) analysed admissions for schizophrenia from 1949-1953 and found the rate of schizophrenia for single men was 4.1 times higher in social class 5 compared to social class 1. • It may be that social drift is the actual contributor of nurture to schizophrenia, as evidence (Goldberg et al., 1963) found social decline happened to the schizophrenic patients in adolescence. • Van den Oever et al. (2008) showed that cues associated with heroin lead to plasticity in the brain and not the drug itself. • The external cues associated with heroin in Van den Oever et al. (2008) influenced internal brain plasticity and reduced synaptic activity which shows that there is an interaction between nature and nurture in drug addiction.	

	• Bandura's studies showed that children would observe and imitate role model aggressive behaviour to a bobo doll. • Personality factors, such as those with the PEN personality, may contribute to aggressive behaviour and could be considered to be influenced by both nature and nurture factors. • Both nature and nurture factors are responsible for obedience according to agency theory with the potential for obedience being shaped by social milieu, so this is more of an interactionist view. • Social impact theory variables have received research support for nurture factors involved in behaviour but has been criticised for being too descriptive and it does not provide an understanding of the underlying psychological processes influencing behaviour. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (8 marks), AO3 (12 marks) **Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this will be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a logical assessment, containing logical chains of reasoning throughout which consider a range of factors. Demonstrates an understanding of competing arguments/factors but does not fully consider the significance of each which in turn leads to an imbalanced judgement being presented. (AO3)
Level 5	17–20 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates a full understanding and awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Q16.

Question Number	Answer	Mark
(a)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of the strength/weakness in the context of the study (AO2) One mark for justification of the strength/weakness (AO3) For example: Strength • One strength of volunteer sampling would be that only Facebook or Twitter users who are willing to be involved would come forward (1) so it is more ethical as Facebook and Twitter users would not feel pressured by being in the study about personality types which may have been the case if they had been approached by a researcher through opportunity sampling (1). Weakness • Volunteer samples tend to attract participants who have more time and have similar characteristics so the Facebook and Twitter users who were more sociable may have volunteered (1) which means the study into personality types of Facebook and Twitter users may not be fully representative of users of those social media platforms (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(4)**

Question Number	Answer	Mark
(b)	**AO2 (2 marks), AO3 (2 marks)** Candidate responses have to be drawn from evidence presented in Table 1. One mark for identification of each conclusion (AO2) One mark for justification of each conclusion (AO3). For example: • Facebook users tend to rate that they like the company of others more than Twitter users (1) because they had a mean score of 1.6 higher on the sociability questions than Twitter users (1). • Twitter enjoy thinking and like to do things like solve complex problems more than Facebook users (1) which is shown by a need for cognition score of 6.60 compared to 5.00 for Facebook users (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
(c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a strength of using primary data in the context of the study (AO2) One mark for justification of the strength (AO3) For example: • The data gathered about personality types of the users will have been collected for the purpose of the study so will be more valid (1) as the scores on personality types will have been operationalised by the researchers of the Twitter and Facebook study for the purposes that they intended so will reflect the users' personality (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	(2)

Question Number	Answer	Mark
(d)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness of using the mean score in the context of the study (AO2) One mark for justification of the weakness (AO3) For example: • The mean score given for personality type will be skewed by extreme scores (1) so the average personality type stated by the mean score may not represent the average personality type of a Twitter or Facebook user (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	(2)

Q17.

Question Number	Answer	Mark
(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an ethical consideration relevant to the study (AO2) One mark for justification/exemplification of the ethical consideration (AO3) For example: • The researchers would have had to consider the care and accommodation of the monkeys as part of the establishment licence (1). The Animal Scientific Procedures Act (1986) would require that monkeys would have to have suitably sized cages, appropriate number of monkeys in each cage, and access to water throughout the study (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(2)

Question Number	Answer	Mark
(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of operant conditioning to the findings of the study (AO2). Up to three marks for judgement/justification of how research evidence can support the findings of the study (AO3). **Application of operant conditioning to the study (AO2)** For example: • Positive reinforcement states rewarded behaviour is repeated and could account for the findings for Condition 1 where the monkeys repeatedly attempted the correct sequences with 30 attempts (1). • The monkeys in Condition 2 experienced variable ratio reinforcement where they received the food treat after they had performed the button presses leading to the highest response with 55 attempts (1). • The monkeys in Condition 4 were punished for incorrect button sequences which operant conditioning would assume extinguishes behaviour and was demonstrated by only 4 attempted presses which was the lowest of all conditions (1).	(6)

	Judgement/justification of how research evidence can support the findings of the study (AO3) For example: • Positive reinforcement is supported by Olds and Milner (1954) who found rats who were stimulated on the reward pathway continued to press a lever for further stimulation (1). • Ferster and Skinner (1957) identified that a variable ratio schedule of reinforcement produced the highest level of attempts and responses from animals such as rats and pigeons which supports the findings from condition 2 (1). • Skinner (1938) found that punishment following a behaviour would make the behaviour less likely which supports the low response rate of the monkeys in Condition 4 (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	

Q18.

Question Number	Answer	Mark
(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness in terms of validity related to the study (AO2). One mark for justification of the weakness (AO3). For example: • The participants had to rate their own fear and disgust which may have not been their true feelings so lacks validity (1) because they could have been embarrassed to admit being fearful of certain creatures so may have reduced their fear rating so it was not an accurate reflection of their true fear (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of evolution and natural selection to the findings of the scary and nasty beasts study (AO2). Up to three marks for judgement/justification of research evidence in relation to the study (AO3). **Application of evolution and natural selection to the study (AO2)** For example: • People may have been evolved to be fearful of the bull as it is a large animal so a threat to survival compared to a pigeon which is shown by the 3.84 rating compared to 1.48 (1). • Some spiders are poisonous and have a very different anatomy to humans so humans may have evolved to be both fearful of them and disgusted by them shown by high ratings of 4.39 and 4.47 respectively (1). • Humans could have evolved to be more disgusted by the tapeworm which is invasive compared to the snake which is an external threat shown by the higher score with a mean difference of 2 for the tapeworm (1).	(6)
	Judgement/justification of how far research evidence can account for the findings of the study (AO3) For example: • Chester et al. (2015) found a low functioning MAOA genotype was linked to greater aggression for 277 participants over a year suggesting that traits like aggression can be inherited so fear responses to large animals like bulls may be inherited too (1). • An individual may have learned to imitate the fear reaction to creatures such as spiders from role models so research such as Bandura, Ross, and Ross (1961) can account for this as they found children would learn to imitate aggression from role models towards a bobo doll (1). • Mertins et al. (2011) found male participants with a high functioning MAOA genotype showed greater prosocial behaviour to males with low functioning MAOA which could account for inheritance of prosocial behaviour so disgust of invasive creatures like a tapeworm may be inherited too (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	

Q19.

Question Number	Indicative content	Mark
	AO1 (8 marks), AO3 (12 marks) **AO1** • The Scientific Procedures Act (1986) and the Home Office regulate psychological research with animals • Reduction is where the number of animals must be kept to a minimum • The accommodation/caging must be suitable for the animal being used in the research • The likely benefits of the research are compared to costs to the animals when assessing if the study can go ahead • Endangered species can be used if there is appropriate justification that other species cannot be used • Practically, animals may be selected with consideration given to similarity to humans (such as genes, brain) • Animal research can be controlled very precisely through keeping temperature and lighting regulated • Pavlov (1927) used dogs to show how a salivation response can be conditioned to various stimuli • Beeman (1947) found that aggressive responses reduced in rodents when they had been castrated, and aggressiveness increased when they were injected with testosterone	**(20)**
	AO3 **Ethical** • Damage to the brain of a human to study drugs would not be ethical • The likely benefits of research focus on the benefits for humans and not animals which is unfair • Ryder coined the term 'speciesism' and proposed it is morally wrong to treat animals differently to humans • Humans should protect their own species so if this means sacrificing animals then this is justified • Pavlov's (1927) experiment with dogs involved invasive procedures which would be difficult to justify with current guidelines • Harlow's (1958) research with monkeys violated the current Scientific Procedures Act (1986) and Home	

	Office guidelines as the animals suffered extreme distress and early death **Practical** • Differences in human and animal species means results may lack generalisability/validity • For example, the morning sickness drug thalidomide showed negative outcomes for humans but not for animals • Multiple generations can be studied with animals which would be impractical with humans • Drugs have been developed from animal research which has benefitted both animals and humans, such as insulin for diabetes (for animals and humans) and drugs for Parkinson's disease (for humans) • Pavlov's (1927) experiment with dogs lead to the discovery of classical conditioning which may justify the invasive procedures • Harlow's (1958) surrogate mother studies had important implications for adoption so perhaps the benefits outweighed the costs **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (8 marks), AO3 (12 marks) **Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this will be imbalanced. (AO3)

Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a logical assessment, containing logical chains of reasoning throughout which consider a range of factors. Demonstrates an understanding of competing arguments/factors but does not fully consider the significance of each which in turn leads to an imbalanced judgement being presented. (AO3)
Level 5	17–20 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates a full understanding and awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Q20.

Question Number	Answer	Mark
(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for comparing the observed/calculated value with a relevant critical value (AO2) One mark for justification of what this means for the findings of the study (AO3) For example: • The calculated value (4.8) is greater than the critical value (2.71) for a 5% level of significance (1). This means that those who played as a hero would show more prosocial behaviour than those assigned to play as the villain (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of social learning theory to the findings of the study (AO2). Up to three marks for judgement/justification of social learning theory to the findings of the study (AO3). For example: • The participants may have seen the hero/villain as a role model who they looked up to and admired (1). Bandura (1961, 1963) supports this as they showed children looked up to and imitated an adult role model acting violently which could explain them not posting the letter (1). • When playing the computer game participants will have remembered (retention) the prosocial/antisocial behaviour of the hero/villain (1). Whilst Bandura's experiments showed children retained the role model actions they were conducted in a laboratory setting is less useful to account for posting the letter as this lacks ecological validity (1). • The prosocial behaviour of the hero may have encouraged those assigned to the hero to pick up the letter which is motor reproduction (1). However, participants may have been genetically predisposed to being prosocial or antisocial which means social learning theory may not be a useful explanation of the study (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(6)**

Mark Scheme

Q1.

Question Number	Answer	Mark
(a)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of a strength/weakness in the junior to senior Pinocchio study (AO2) One mark for justification of each strength/weakness (AO3) For example: Strength • Using a cross-sectional design allowed the researchers to gather information about lying ability and frequency quicker than using a longitudinal design (1) because they could ask participants from the age categories to lie at a single moment in time, rather than having to take years to follow the same participants throughout their life, so it is faster to gain results (1). Weakness • The participants in the age categories are all different people so individual (participant) differences may have affected the frequency of their lying (1) because some participants may have been compulsive liars and so this could have skewed the results in some age categories which would have affected the validity of the findings about lying frequency (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	(4)

Question Number	Answer	Mark
(b)	**AO2 (2 marks), AO3 (2 marks)** Candidate responses have to be drawn from evidence presented in Table 2. One mark for identification of each conclusion related to the lying skill (AO2). One mark for justification of each conclusion (AO3). For example: • Young adults were the most able liars (1) which is shown by the lowest error rate of 8.55% and took the least time when telling a lie to a simple question (1). • Children aged 6-8 were the least able liars (1) as they had the highest error rate of over 20% and took the longest time to tell a lie to a simple question (1) **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
(c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness in terms of validity in the junior to senior Pinocchio study (AO2) One mark for justification of the weakness (AO3) For example: • Participants were told when to lie in the study so they may not have acted naturally so it lacks validity (1) because people choose whether and when to lie in real life situations for various reasons and are not told when to lie so the findings may not represent how people would lie in daily life (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
(d)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a strength in terms of reliability in the junior to senior Pinocchio study (AO2) One mark for justification of the strength (AO3) For example: • The participants in all age categories were given the same 15 questions so the study can be tested for reliability (1) because every participant was given identical simple questions so the study could be repeated and responses compared to assess consistency (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
(e)	**AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Figure 1. One mark for a conclusion with relation to the type of skew (AO3). For example: • The majority of participants lied very infrequently in the past 24 hours which is shown by the positive skew in Figure 1 (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(1)**

Question Number	Answer	Mark
(f)	**AO2 (1 mark)** One mark for mean score to one decimal place. • 2.1	**(1)**

Question Number	Answer	Mark
(g)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness of using a volunteer sampling technique in the junior to senior Pinocchio study (AO2) One mark for justification of the weakness (AO3) For example: • Volunteer samples tend to attract participants who are more motivated and have similar characteristics so the participants who volunteered may all have been infrequent liars (1) which means the study into lying ability and frequency may not be fully representative of the lying ability or frequency of people in the age categories used in the study (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Q2.

Question Number	Answer	Mark
(a)	**AO2 (2 marks)** One mark for a basic two-tailed (non-directional) hypothesis. Two marks for a fully operationalised two-tailed (non-directional) hypothesis. For example: • There will be a difference in in-person social interactions when a phone is present (1). • There will be a difference in the level of empathetic concern / connectedness when a phone is present and when a phone is absent (2). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
(b)	**AO2 (1 mark), AO3 (1 mark)** One mark for identifying the experimental/research design used in the study (AO2). One mark for justification of using the experimental/research design for this study (AO3). For example: • They used an independent groups design as the mobile device was present or absent (1). This allowed comparisons of empathy to be drawn which could not have been done if there was not a group without a device/ control group (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.**	**(2)**

Question Number	Answer	Mark
(c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identifying a strength of a field experiment for this study (AO2). One mark for exemplification/justification of the strength for this study (AO3). For example: • A field experiment allowed real life behaviour to be assessed regarding empathy and mobile device use (1) which increases ecological validity as participants would be in a natural setting for the conversations with a mobile device present/absent (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
(d)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of each weakness up to a maximum of two marks (AO2) One mark for justification of each weakness up to a maximum of two marks (AO3) For example: • The participants may not have similar opinions on what each number on the scale may be for high concern (1) which reduces the validity of the scale because the same level of empathy could be rated as different numbers on the scale depending on the respondent (1). • The scale does not allow the participant to expand on their view of how empathetic their conversation partner is generally (1) which means the ranked scale lacks validity as it is not truly measuring that person's level of empathy (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(4)

Question Number	Answer	Mark
(e)	**AO2 (3 marks), AO3 (3 marks)** Candidate responses have to be drawn from evidence presented in Table 1. One mark for identification of each conclusion (AO2) One mark for justification of each conclusion (AO3). For example: • There was a larger disagreement between participants when a mobile phone was present than when it was absent (1), as there was a larger standard deviation of 0.91 when a mobile phone was present compared to when it was absent with 0.66 (1). • Level of connectedness only had a difference of 0.31 between mobile phone present and absent (1) which suggests that presence/absence of a mobile phone does not have a large impact on how connected someone feels with their conversation partner (1). • Participants felt lower empathy for their conversation partner when a mobile phone was present (1), which was shown with an average of 3.54 for empathetic concern with a mobile phone present whereas it was 5.85 when it was absent (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(6)

Q3.

Question Number	Answer	Mark
(a)	**AO2 (3 marks), AO3 (3 marks)** Candidate responses have to be drawn from evidence presented in Table 1. One mark for identifying each conclusion (3 AO2) and one mark for justifying each conclusion (3 AO3). • There were 47 right answers in the afternoon/evening compared with 45 right answers in the morning (1), so the time of day did not make much difference to performance (1). • In the afternoon, the 'larks' had a total of 20 and the 'owls' had a total of 27, which out of 40 may/may not be significant (1), so being classed as a 'lark' or 'owl' did/did not make a difference in performance overall (1). • In the morning, students scored 18 and 27 on creative/analytical tasks, respectively. In the afternoon/evening they scored 18 and 29 (1), so both the morning and the afternoon/evening creative tasks were performed more poorly than analysis tasks (1). • Overall, the 'larks' succeeded at 5 more analysis than creative tasks in the morning and 8 more in the afternoon/evening, whereas the 'owls' succeeded at 4 more analysis than creative tasks in the morning and 3 more in the afternoon/evening (1). Therefore, both groups performed better at analysis tasks than on the creative tasks, irrespective of whether the tasks were done in the morning or the afternoon/evening (1). **Look for other reasonable marking points.**	(6)

Question Number	Answer	Mark
(b)	**AO2 (1 mark) AO3 (1 mark)** One mark for evidence from data (AO2). One mark for justification of that evidence (AO3). For example: • **Evidence:** the scores for the 'Larks' are 10 and 15, and the scores for the 'Owls' are 8 and 12 (1). **Justification:** The numbers in the table are all quite similar considering they are mean averages out of 40, so there is not likely to be a significant difference/the scores are different from one another, so there is a likely to be a significant difference found (1). • **Evidence:** The scores for creative tasks are 10 and 8 whereas the scores for analysis tasks are 15 and 12, which suggests a difference. However, the scores overall for 'Larks' and 'Owls' are 20 and 25, so not that different out of 40 (1). **Justification:** For both the 'Larks' and the 'Owls' the analysis tasks are done better than the creative tasks so there might be a difference, although as the 'Larks' and the 'Owls' overall do not show that much difference in performance, probably no significant difference (1). • **Evidence:** The totals are 18, 27, 20, 25 out of 45, and the test would compare these numbers against one another, so as they are rather similar, there is probably not a difference/so there are differences here (1). **Justification:** The four totals would be compared to do a test, and they are not that different from one another, so probably there is no significant difference/they are different in some ways, so there might be a difference (1). **Look for other reasonable marking points.**	(2)

Question Number	Answer	Mark
(c)	**AO2 (2 marks)** One mark for stating it is not the case. One mark for stating that both variables are operationalised. Maximum of one mark if only one variable is operationalised. **Look for other reasonable marking points.**	(2)

Question Number	Answer	Mark
(d)	**AO2 (2 marks), AO3 (4 marks)** For each control: One mark for identifying the control (2 AO2). Two marks for explaining how to improve the effectiveness of each control (4 AO3). **Controls** • Participants did their tasks on the same day. • They were categorised using the same questionnaires as morning or evening people. • Tasks were set up as creative or analytic, and the same for everyone. • The times of day were the same for everyone. **Improving the effectiveness of the controls** **Questionnaire** Remove the self-report bias in the assessment of 'Larks' and 'Owls' (1) by an objective pre-test in the morning and evening (1). **Time of day** Remove the generalisation of when the 'Larks' and 'Owls' work best (1), so allow the participants to choose the time they take the task (1). **Tasks** Improve the assessment of the creative and analytical tasks (1) by asking a large sample of people who are already designated as 'creative' or 'analytical' to rate the tasks (1). **Same day** Remove order effects (doing one task influences your performance on the second task) (1) by counter-balancing (one group take their morning task first then their afternoon task, one group take their afternoon task first then their morning tasks, both on different days) (1). **Look for other reasonable marking points.**	(6)

Q4.

Question Number	Indicative content	Mark
	AO1 (8 marks), AO3 (12 marks) **AO1** **Clinical psychology** • In clinical psychology drug therapy features often as a main therapy, such as for schizophrenia or for depression, anorexia or OCD. • Anti schizophrenic drugs for schizophrenia (including new ones), anti-depressant drugs for unipolar depression, SSRIs for anorexia (to treat depression or OCD which often go with anorexia) and anti-depressants can also be used for OCD. • Drugs are prescribed by doctors and psychiatrists. • Other therapies and treatments in clinical psychology include cognitive behavioural therapy, which links to cognitive psychology and learning theories, and relates to the links between thoughts, feelings and behaviour and their consequences. • Humanistic therapies for mental health disorders such as person-centred therapy. • Rosenhan (1973) showed patients admitted wrongly (saying they had symptoms they did not and then acting normally) were not recognised as not having schizophrenia or a mental health disorder.	**(20)**

	Criminological psychology • In criminological psychology learning theories put forward ways of controlling aggression, such as rewarding 'good' behaviour (and possibly punishing unwanted behaviour). • Biological explanations include genetics, brain structure and hormones and can be used to remove the blame from criminals and the possibility of self-control. • In criminological psychology, explanations such as the self-fulfilling prophecy can explain a way society controls individuals by predicting who might likely to become a criminal. • Forensic psychologists/clinical psychologists have power in a situation (often) and that can be a form of social control.	

Child psychology

- In child psychology research into day care can show social control, such as advising about the staff-child ratio and what makes good day care for a society.
- In child psychology, issues around therapy or helping someone with autism.
- Attachment theory dictates the "norm" as to the type of child care and behaviour of children with their caregivers.

Health psychology

- Pengpid et al. (2013) considered screening and brief intervention for alcohol problems, and such interventions can be seen as control.
- Treatments for drug addiction can be seen as social control including learning theory treatments using classical conditioning principles.
- Drug replacement therapy can be used and involves power to those administering it.

AO3

Clinical psychology

- CBT asks the client to do homework but leaves choices to the client.
- Humanistic therapies (client centred) do give the client control as the therapist models a non-directive non-judgemental relationship whilst the client works on perhaps incongruence between their self-concept and their organismic self.
- Rosenhan's study showed the participants/patient as losing control in not being 'allowed out'.
- Drugs have to be prescribed and the patient/client does not have control over the situation.
- There is an element of control in that there is the power to section someone over mental health issues, so that person then does not have the control and knowing this might lead to them accepting therapy they might otherwise not accept.

	Criminal psychology • Drugs may control the behaviour of someone with an aggression issue, which can benefit society as that person fits in more with social norms. • Other methods such as case studies are used to show a wider picture and to suggest that a biological explanation might not be enough. Qualitative data can help to study individual differences and issues, which can help to tailor any treatment of or focus on offenders, and more focused treatment can mean more control for the offender (though prison by definition removes control). Drugs controlling behaviour can be seen as a form of social control. • Whenever behaviour is controlled by a schedule of reinforcements, the person doing the reinforcing has power over the person with the aggression/criminal issues.	

	Child psychology • Treatment/help for those with autism can be seen as a form of social control though the intention is to help the individual in their functioning, so this type of 'treatment' can be said to be less 'social control' than other treatments (such as drug therapy). • Day care and rules governing day care can be said to give power to society rather than to individuals or the children. Children can make choices in a day care setting (more perhaps now than in the past), so there is less social control perhaps though choices are limited to what is offered (what is offered is controlled). • Fostering and adoption for children who have had problems with forming attachments can be seen to be about conforming to social norms. • A child who does not conform is likely to be seen as a problem, and the care they are offered is likely to be affected by them not conforming. • Universality of application of attachment theory creates a bias towards particular cultures and child care arrangements.	

	Health psychology • Drug therapy is as much social control here as therapy used for offenders, as those prescribing the drugs and administering the programme have power over the client. • Drugs can involve aspects that are illegal and this can give power to society over the individual. • Biological explanations for criminal and antisocial behaviour can suggest that biological 'faults', such as those related to the amygdala, can 'cause' aggression. This leads to the suggestion that we should 'fix' the problem or remove someone from society proactively. • Learning theories can be used to help prisoners re-enter society by, for example, offering assertiveness training to replace aggression with being assertive. • Factors influencing jury decision making can include issues such as characteristics of the defendant. Any deviation from a 'neutral' verdict can be seen as a form of social control. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (8 marks), AO3 (12 marks) **Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this will be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a logical assessment, containing logical chains of reasoning throughout which consider a range of factors. Demonstrates an understanding of competing arguments/factors but does not fully consider the significance of each which in turn leads to an imbalanced judgement being presented. (AO3)
Level 5	17–20 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates a full understanding and awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Q5.

Question Number	Indicative content	Mark
	AO1 (8 marks), AO3 (12 marks) **AO1** • A science is able to produce hypotheses that are falsifiable • Science studies concepts in a reductionist manner vs. holistic • According to Popper to be a science there should be an overarching paradigm • A science uses data collection and hypothesis testing to progress knowledge in a research area • Biological psychology use animals where all conditions can be carefully and closely controlled • Methodology such as laboratory experiments is seen as fulfilling scientific criteria • Objectivity is considered to make something more scientific whereas subjectivity makes it less scientific • Social psychology use unstructured interviews and analyse qualitative data to explore concepts such as prejudice • Biological psychology uses physiological measurements to collect quantitative data, such as the analysis of blood tests	**(20)**

	AO3 • Concepts such as the id/ego/superego, though they may seem intuitively reasonable cannot be proven to exist so are unfalsifiable which is unscientific • Case studies of brain damaged patients can be useful in falsifying theories which is a feature of science • Social psychology can see the influence of obedience and prejudice but finds it difficult to operationalise these concepts which could be considered unscientific • Biological psychology can reduce human behaviour such as aggression to genetic factors such as the MAOA gene so could be considered reductionist and therefore more scientific • Cognitive psychology take a nomothetic stance in the search for general laws of how memory works which is a scientific approach • Experiments are used to confirm people as the same in their processes/strategies e.g. multistore model of memory is a scientific approach • The use of a high degree of control in biological psychology where all conditions can be carefully and closely controlled leaving little opportunity for confounding variables to affect results is scientific • Learning theories and cognitive psychology adopt experimental methods which can be seen as objective and therefore scientific • Social psychology uses experiments in a natural setting so can be affected by extraneous variables which is less scientific • Cognitive psychology has difficulties as it is attempting to measure brain functioning, something which is somewhat subjective and less scientific • The psychodynamic approach is often seen as the least scientific approach within psychology as so much of it is difficult to test, as well as subjective • Unstructured interviews using qualitative data are less controlled and empirical than experiments and can therefore be considered less scientific • As biological experiments in psychology collect empirical data which can be tested using statistical tests and hypotheses refuted or not so which is scientific **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (8 marks), AO3 (12 marks) **Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this will be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a logical assessment, containing logical chains of reasoning throughout which consider a range of factors. Demonstrates an understanding of competing arguments/factors but does not fully consider the significance of each which in turn leads to an imbalanced judgement being presented. (AO3)
Level 5	17–20 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates a full understanding and awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Q6.

Question Number	Indicative content	Mark
	AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **AO1** • Individuals obey authority figures when in an agentic state • People have evolved to obey authority as it gives them a survival advantage when in organised groups • People are born with a propensity to obey, but this is only realised when they are socialised into follow direct orders of authority figures • Moral strain may be experienced by individuals in the agentic state when they are carrying out orders they do not agree with **AO2** • Aaondians will obey the president to reduce water consumption when in an agentic state. • Citizens of Aaondi will have evolved to obey the president's order to reduce non-recyclable waste as doing so will give them a survival advantage as they are in an organised group and reduce larger amounts of waste. • Aaondians will be born with a predisposition to obey the president, and seeing the messages in their environment on TV/radio/billboards will lead to their obedience. • People in Aaondi who do not agree with growing the vegetables in their garden may experience moral strain when they have to carry out the order to avoid the fine.	**(12)**
	AO3 • Milgram's research showed that 'teachers' were willing to follow the direct orders of an experimenter to administer a potentially life-threatening electric shock • It is difficult to test the assumption that Milgram's participants evolved the potential for obedience as psychologists cannot go back into history to assess this • Blass (2012) looked at cross-cultural comparisons of obedience to authority and found very similar obedience rates cross-culturally which suggests all societies instil obedient behaviour during socialisation • Agency theory does not account for individual differences such as	

	personality factors, which have found to be influential in whether someone is obedient (e.g. Adorno and the authoritarian personality) • Biological factors are important in human behaviour and stimulation of the dopamine reward system when Aaondians recycle their waste may account for a change in behaviour instead of obedience to authority **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.**		
Level 0	0	No rewardable material.
Level 1	1–3 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4–6 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	7–9 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning. Leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	10–12 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q7.

Question Number	Indicative content	Mark
	AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **AO1** • Conformity is where an individual changes their behaviour to go along with the majority in a group. • Social impact theory suggests the number of individuals acting on a target source can influence how likely a behaviour is to be carried out. • Agency theory states that individuals are more likely to obey people they see as authority when in an agentic state. • Social identification is part of social identity theory and is when individuals carry out behaviours consistent with others they see as part of their in-group. **AO2** • Rhianna showed she conformed to the behaviour of her friends when at the festival as she danced and sang to music she would not have done when on her own. • At the festival Rhianna was with her three best friends so they would have had a large influence on her with lots of other people around too, but having a less proportional influence as the numbers increased. • Rhianna and her friends may have shifted into an agentic state when the artists encouraged behaviours and clapped their hands when the artist did so and therefore obeying a command. • The friends at the festival may see other people at the festival as part of their in-group of music lovers compared to people who do not like music festivals as their out-group so behaved as they felt people in their in-group would in dancing and singing along to the songs.	**(12)**

	AO3 • Asch (1951) found in his line experiment that the real participants conformed and gave the obvious incorrect response in 33% of trials which could support Rhianna changing her behaviour whilst at the festival. • Milgram, Bickman, Berkowitz (1969) showed as the number of individuals gawking at a window increased from 1 to 15 the percentage of passers-by imitating increased, with less proportional impact as the number of confederates increased. • Milgram's research supports the influence of legitimate authority figures on behaviour when he showed that people were willing to inflict lethal electric shocks on strangers when told to do so by a man in a uniform. • Bandura's research showed the influence of role models on learning to imitate behaviours from others so could be an explanation for Rhianna's behaviour as she may have observed and imitated her role models singing and dancing so is displaying this behaviour at the festival. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.**		
Level 0	0	No rewardable material.
Level 1	1–3 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4–6 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)

Level 3	7–9 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning. Leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	10–12 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q8.

Question Number	Indicative content	Mark
	AO1 (8 marks), AO3 (12 marks) **AO1** • Ethnocentric implications are those that can apply to only one culture/set of people. • Eurocentric implications are those that can apply to European / Western concepts. • Cross-cultural research can be etic, emic, or have an imposed etic. • Ainsworth studied children using her strange situation procedure (SSP) in the USA and also Uganda. • Alpha bias is a tendency to exaggerate any differences between men and women which can then lead to stereotypical differences between the sexes being over-emphasised. • Beta bias is where the differences between men and women are minimised and male behaviour or thinking applied to females. • Androcentrism is considering male behaviour as normal and regarding female behaviour as abnormal when it is not the same as males. • Gender bias can occur during all stages of the research process from what is being studied through to the conclusions made. • Sherif (1954/1961) used the findings from a group of boys in an American summer camp and made generalised assertions about prejudice.	**(20)**

	AO3 • Rosenhan's (1973) choice of hospitals would have been representative of American hospitals in the 1970s but may have been very different to those in collectivist cultures so could be considered ethnocentric. • Sebastian and Hernandez-Gil (2012) showed differences between Spanish children and Anglo Saxons in digit span supporting differences within Europe so the differences beyond Europe are likely to be more pronounced. • Milgram's procedure has been replicated across the world and can be viewed as an etic form of research which has been used to suggest obedience is a universal trait. • Measurement of traits such as intelligence can be an imposed etic with not all cultures viewing quick thinking as a sign of high intelligence, such as the Baganda people of Uganda who value slow, careful, deliberate thought. • Viewing certain behaviours, such as hearing voices that are not there, as abnormal in one culture, such as the USA or UK and imposing this on other cultures who believe this is 'normal', such as Costa Rica, could be considered ethnocentric. • Sherif experienced both Turkish and American cultures so may have interpreted the findings with a more varied understanding of cultural differences. • Ainsworth's research using the SSP could be viewed as etic where the study was used in different cultures to determine attachment types and were compared to the 'normal' 'secure' type found most common in Baltimore.	

	• The work of David Buss in evolutionary psychology may be considered an example of alpha bias where male and female roles are clearly defined with women said to focus on children and prefer males who can provide resources with little scientific evidence to support the conclusions made can reinforce gender stereotypes in society. • Research emphasising the differences between males and females in terms of aggression being due to hormones like testosterone (e.g. Dolan et al., 1991) can exaggerate stereotypical differences between males and females but other research shows testosterone is important for female aggression too (e.g. Dabbs and Hargrove, 1997). • Rippon (2019) and Fine (2010) both highlight incidences where researchers are keen to report on sex differences in neuroscience whilst ignoring or minimising findings of any similarities, such as that of Ingalhaliker et al. (2014). • Milgram's original baseline experiment into obedience (1963) had a male-only sample and applied the findings to women but when he did a female-only sample the same percentage of women went to 450V so there does appear to be similarity in gender and obedience levels and could justify use of his original sample. • Bandura's research in the 1960's found differences in male and female aggression to the bobo doll with males showing greater imitative aggression but Bandura did account for the cultural context with females being socialised as less aggressive at the time.	

	• The focus of researchers, such as Bandura, Ross and Ross (1961), Bastian et al. (2011), Huesmann et al. (2003) on the role of TV or video games in aggression could be said to be more relevant to white males rather than research focussing on those relevant to females or more marginalised communities. • Sherif's research may be considered a form of beta bias where the assertions made regarding prejudice and discrimination concerning the role of competition and cooperation were gained from male-only samples and applied to women without additional validation. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (8 marks), AO3 (12 marks) **Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this will be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a logical assessment, containing logical chains of reasoning throughout which consider a range of factors. Demonstrates an understanding of competing arguments/factors but does not fully consider the significance of each which in turn leads to an imbalanced judgement being presented. (AO3)
Level 5	17–20 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates a full understanding and awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Q9.

Question Number	Answer	Mark
(a)	**AO2 (1 mark)** One mark for accurate ratio. • 1:9	(1)

Question Number	Answer	Mark
(b)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of appropriate conclusion (AO2) One mark for justification of conclusion (AO3) For example: • The most common reason for a quick decision in hiring an employee was friendly pre-interview chat (1) which is shown by 15 tallies which was five more than the next most common reason that the interview was late in the day (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(2)

Question Number	Answer	Mark
(c)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of each way that subjectivity could have influenced the study (AO2) One mark for justification of each way that subjectivity could have influenced the study (AO3) For example: • The interviewer gave an estimate about the time it took to make a decision which could have been subjective (1). This is because they might not have been accurate in their estimate of how long it took them to come to a decision (1). • The interviewers' primary reasons for making their decision was self-report data which could have been subjective (1). This is because they may have not been truthful in their reasons for hiring an employee or not (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(4)

Question Number	Answer	Mark
(d)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a way of making the study reliable (AO2) One mark for justification of the way of making the study reliable (AO3) For example: • The interviewers could have used standardised, structured interviews with the same questions for all interviewees to make the study reliable (1) because this would make the job interviews easy to replicate using identical closed questions with the different candidates for the job (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(2)

Q10.

Question Number	Answer	Mark
(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for comparing the observed/calculated value with a relevant critical value (AO2) One mark for justification of what this means for the findings of the study (AO3) For example: • The calculated value (0.411) is greater than the critical value (0.362) at the 5% level of significance (1). This means that there was a significant positive relationship between the number of in-game purchases and amount of time playing the computer video games (1). **Look for other reasonable marking points.**	(2)

Question Number	Answer	Mark
(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of biological psychology to the purchase of in-game rewards in computer video games (AO2). Up to three marks for judgement/justification of research evidence in relation to the study (AO3). **Application of biological psychology to the study (AO2)** For example: • The purchase of in-game rewards may provide stimulation to the dopamine reward pathway as they complete more objectives using the resources gained (1). • Males have greater testosterone which has been linked to increased competitive behaviour so could lead to more in-game purchases due to wanting to win more in the games compared to players who have less testosterone (1). • Purchasing the rewards may increase chances of success in the game and the individual may be seen as more desirable in terms of evolution, so it encourages them to purchase more (1).	**(6)**
	Judgement/justification of how far research evidence can account for the purchase of in-game rewards in relation to the study (AO3) For example: • Olds and Milner (1954) found rats who were stimulated on the reward pathway continued to press a lever for further stimulation, which could support the rewarding aspect of completing more objectives in the game (1). • Boys testosterone increases during early teens which is when aggressive behaviour and inter-male fighting increases (Mazur, 1983) which can support the link between players with higher testosterone and the purchase of more in-game rewards (1). • Bandura (1965) who showed children would be more likely to imitate a TV character who was rewarded compared to where behaviour was punished or with no consequence which shows vicarious reinforcement could equally explain the purchase of in-game rewards (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	

Q11.

Question Number	Answer	Mark
(a)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Table 1. One mark for identification of a conclusion related to extraversion (AO2) One mark for justification of the conclusion (AO3). For example: • The Instagram users saw themselves as less extraverted than the observers did (1) as observers gave consistently higher ratings such as for user 2 where observers gave a 1.62 higher rating on average than the user (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
(b)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Table 1. One mark for identification of a conclusion related to openness (AO2) One mark for justification of the conclusion (AO3). For example: • The observers saw the Instagram users as less open to new experiences than they did (1) which is shown by lower average ratings such as 5.20 for user 1 compared to a self-rating of 7 (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
(c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a strength in the context of the Instagram study (AO2) One mark for justification of the strength (AO3) For example: • Quantitative data in terms of the rating given to extraversion or openness will be more objective and less biased than qualitative data (1) because the number rating cannot be interpreted differently by different researchers unlike the reasons for the extraversion or openness ratings that could be more subjectively analysed (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
(d)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of each strength in the context of the Instagram study (AO2) One mark for justification of each strength (AO3) For example: • Qualitative data in terms of the reasons for the ratings will be generated which is more valid than numbers (1) because greater detail will allow the researchers to understand why the personality ratings were given which will give a better insight into the judgments made (1). • Comparing the qualitative data to the quantitative ratings will increase the internal validity of the Instagram study (1) because it will allow the researchers to check the observers verbal opinions against the numerical ratings to see if they are consistent with one another (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(4)**

Q12.

Question Number	Answer	Mark
(a)	**AO2 (1 mark) AO3 (1 mark)** One mark for identification of an appropriate practical application of the study (AO2). One mark for justification of the practical application (AO3). For example: • One application is that the government should advise women to abstain from alcohol during pregnancy (1). This is because the rats exposed to ethanol had fewer hippocampal cells than those exposed to water which suggests drinking during pregnancy has negative consequences (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for identification of each argument for or against the use of animals in the study (AO2) Up to three marks for justification of each argument for or against the use of animals in the study (AO3) For example: • Research using animals can be easily controlled such as the doses of alcohol given to the rats (1) which means a justification for using animals in this study is that it can be repeated to test for reliability (1). • The study administered alcohol to pregnant rats which could permanently damage their offspring (1) and such a procedure cannot ethically be carried out with humans which is one reason for using animals instead (1). • The study is giving pregnant rats alcohol to see the effect on their offspring which may not be a valid comparison (1) as rats have a different number of chromosomes / less complex brain structure than humans so the effects of alcohol may not occur in humans (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(6)**

Q13.

Question Number	Indicative content	Mark
	AO1 (6 marks), AO3 (10 marks) **AO1** • Ethical principles come from the BPS Code of Ethics and Conduct (2009). • And are under 4 main headings: respect, integrity, responsibility and conduct. • Studies have to abide by the principles, and areas where there are difficulties in studies can include giving the right to withdraw. • Making sure the researcher is competent to do the study. • Getting informed consent. • Not causing distress and being sure to offer a debrief so that the participants leave in the same state as they start the study in. • Considering risk assessment to protect from harm. • Watson and Rayner's **aim** was to see if they could classically condition a phobia in a child. • Raine et al.'s aim was to see if there are brain differences in structures related to aggression in people pleading not guilty to murder by reason of insanity. • These people had shown aggression and were having a PET scan, so it was a good opportunity to get data. **AO3** **Aims – age of sample** • Watson and Rayner (1920) wanted to classically condition one child, Little Albert, and focused on a baby – issues of using one child, informed consent, and the rights of the child – whereas Raine et al. (1997) aimed to look at differences in brain structures and related issues in adults but in a power relationship with the law.	**(16)**

	Methods they chose because of their aims **Distress** • Raine et al. (1997) used scanning, which would be unfamiliar to the participants. The ethical principle of responsibility means that they had to cause no harm. Similarly, Watson and Rayner (1920) had a scary procedure in their study. They acted out the conditioning using the noise of a metal bar hit behind Little Albert's head and this was scary for him.	

	• In 1920 although there were ethical requirements, e.g. the APA code, the BPS Code of Ethics and Conduct (2009) was not in force – in fact not in force for Raine et al. either, and it can be said that ethical requirements have tightened and changed over that time. **The ethics of the evidence-based conclusions that might come from the aims** • Raine et al. (1997) found differences in the brain and concluded that differences in the brain can cause aggression. The evidence-based conclusions have ethical implications because of the principle of responsibility and doing no harm. Watson and Rayner also had far-reaching implications as Little Albert could have been left with a phobia that generalised to all furry things. • Watson and Rayner's (1920) study also had ethical implications as the evidence-based conclusions showed that fear can be conditioned. Raine et al.'s study could be used to 'look for' possible murderers before any event and do something about it (using brain scanning) before a crime is committed. This is a consequence of their aims that they needed to think through given the ethical issues of respect, responsibility, integrity and competence.	

	Ethics related to their procedure, not so much their aims • Raine et al. (1997) had to find a control group and to do that they had to have another set of participants, giving stress to more participants. They had to match their participants, such as having some in the control group with schizophrenia to match the main group as some in this group had schizophrenia. Their aim was to find cause and effect conclusions, so they needed a control group. • Watson and Rayner (1920) did a single case study, so they did not put anyone else through the stress as Raine et al. did. One child was enough for their aim. **Consent** • Although Albert's mother gave consent there is doubt as to whether it was fully informed as she was an employee of the hospital Watson worked in. The adults in Raine et al. might have been able to understand to give consent, but they were within the criminal system and might not have been empowered to refuse consent.	

	Distress • Albert's distress was very apparent and long-lasting, especially since he was not de-conditioned due to his mother removing him from the study. (Although subsequently it has been discovered that he died at the age of 6 years old.) • Raine et al.'s participants would not have suffered long-lasting damage from the scan used in the same way. **Code** • Both did have ethical codes to abide by. However Raine et al. being more recent would have been more cognisant about ethical codes, and ethics would have been tighter in 1997 compared with 1920. **Consequences of conclusions** • The scanning on the participants (those pleading NGRI) was for their defence, and it is to be wondered how far Raine et al.'s evidence-based conclusions might be used by the defence or the prosecution and whether the researchers were competent to deal with such issues or whether they needed to consider what their aims led to. • Watson and Rayner's finding could be used by a society to the detriment of the individual. Or it could be used to help individuals, such as with the use of systematic desensitisation as a therapy, so ethically there were 'good' reasons for learning about classical conditioning in humans as well as 'bad' reasons. • Raine et al.'s study could be used to 'look for' possible murderers before any event and do something about it (using brain scanning) before a crime is committed, which would go against the principle of being innocent until proven guilty. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) **Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q14.

Question Number	Indicative content	Mark
	AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **AO1** **Learning – social learning theory (SLT)** • Social learning is about behaviour being modelled and then repeated. • There are features to social learning such as paying attention to behaviour and being motivated to repeat it. • Social learning theory can work by using a model to model 'calm' in stressful situations. • Social learning theory suggests we learn by observing and modelling those who are similar to us, such as same gender. • We are motivated to repeat these behaviours by the actual or perceived reward they bring.	**(12)**

	AO2 • Lu's mother seems to have modelled aggression and anger, and Lu is likely to have seen her mother as a role model (when she was a child), and so her worry that she is copying her mother's behaviour is likely to be the case – she has learned through social learning theory mechanisms. • Lu's partner could act as a calming model and could help with housework to take the pressure off and also do that calmly to model the calm behaviour that Lu wants. • When Lu thinks, she models on her mother. That is likely as they are the same gender, as well as her mother being a likely role model as she was constantly in Lu's life when Lu was a child, and probably looked up to her mother at that time. • By rewarding herself when she is calm, as the therapist suggests, she will replace the reward that she has associated with anger with an association with calm. • She will then provide the role model that she wishes for her children so that they will not develop anger as she fears. • The father's role as a model is limited since his absence at work leaves Lu in the children's presence for most of the time.	

	AO3 **Evaluation points** • There is good evidence from SLT that anger can be controlled by modelling techniques, and this is within a person's capability. • Bandura's work (1961/1963) shows that children **do** copy aggression (including the same sex model) when aggression is modelled in real life or on the screen. • Learning theories, though, also rely on evidence from animals so might not be generalisable to humans, such as Skinner's work on operant conditioning. • If a therapeutic technique is likely to work, or works, then the theory the technique rests on is in a way seen to be a good theory. • If the therapist used social learning principles to explain to Lu the issues, and they worked on understanding and accepting the past, and this works (the therapy did work for Lu), then this can be seen as evidence that social learning explanations are useful. • Although without thorough investigation of course, this is speculation. • It might be that there is no one explanation for all of Lu's issues but a combination of different explanations, as nature (biological aspects) can combine with nurture (learning from the environment) to lead to behaviour. • There are drug treatments that can "calm" a person down, and hormone therapies also exist. • As Lu's mother also showed anger and aggression, it is possible that any aggression or anger is inherited. • Lu may have inherited some such features of limbic system and the amygdala shown to be involved in aggression. • Since Lu thought she was calm before having children, maybe a hormonal change has occurred and increased her level of aggression. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.**		
Level 0	0	No rewardable material.
Level 1	1–3 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4–6 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	7–9 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning. Leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	10–12 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q15.

Question Number	Indicative content	Mark
	AO1 (6 marks), AO3 (10 marks) **AO1** • Ethnocentric implications are those that can apply to only one culture/set of people • Eurocentric implications are those that can apply to European / Western concepts • Male researchers may selectively use information to promote stereotypical differences between the sexes • Rosenhan's (1973) participants infiltrated 12 hospitals in five American states with a variety of funding and conditions • Pseudopatients in Rosenhan's (1973) study complained of hearing voices saying 'empty', 'hollow', and 'thud' • Sherif et al. (1954/1961) used only 11 year old boys in their research into prejudice in the Robbers Cave State Park • Sherif et al. (1954/1961) created superordinate goal activities where the Eagles and Rattlers to work together when the truck got 'stuck' and when the water supply 'failed' • Rosenhan (1973) had three women and five men who acted as pseudopatients to try and gain admission to hospitals • Sherif et al. (1954/1961) used cooperative tasks such as collecting beans and tug of war	**(16)**
	AO3 **Methods** • Sherif experienced both Turkish and American cultures so may have interpreted the findings with a more varied understanding of cultural differences • However, Sherif was still likely to have interpreted his findings using an individualist outlook so may be ethnocentric/eurocentric • Rosehan's choice of hospitals would have been representative of American hospitals in the 1970s but may have been very different to those in collectivist cultures so could be considered ethnocentric • Hearing voices (symptoms given in Rosenhan, 1973) may not be a symptom of mental illness in some cultures so could be considered culturally biased • As Sherif et al. (1954/1961) used only males, his research of how prejudice can be created may not apply to females so could be considered androcentric • As Rosenhan (1973) had a mix of males and female participants the research is more representative of mental health diagnosis and treatment for both genders • Sherif et al. (1954/1961) used cooperative tasks such as collecting beans and tug of war which may be applicable to both individualist and collectivist cultures	

	Implications for the real world • Sherif et al. (1954/1961) was carried out in an American state park so implications about reducing prejudice through cooperation may only be representative of US/Western culture • Implications about the reliability/validity of diagnosis from Rosenhan (1973) are relevant to the DSM which is not a universal diagnostic tool • Implications about reducing prejudice through cooperation from Sherif et al. (1954/1961) may not be relevant to females so could be considered androcentric • Reliability/validity of mental disorders affect both genders so the implications of Rosenhan (1973) may be accurate and useful **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) **Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q16.

Question Number	Indicative content	Mark
	AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **AO1** • Evolution is the process of change in all forms of life over generations • Personality theory suggests a biological basis to personality which affects human behaviour • Hormones such as testosterone contribute to human behaviour • The limbic system has a reward pathway involved in providing pleasure for behaviours such as eating, exercise, and sex **AO2** • Evolutionary theory suggests survival and continuation of the species is upmost so would choose potential partners that can provide healthy children • People may be more attracted to others with similar personality characteristics who are chosen as 'matches' so two extroverts may be more compatible/desirable to one another • Inherited / acquired hormone levels such as testosterone may influence choice of potential partner or aggressive behaviour • A romantic partner can stimulate the reward pathway in the brain producing dopamine which will reinforce the desire to continue the relationship with that person	**(12)**
	AO3 • Research supports aggression as an evolved solution to adaptive problems, such as Daly et al. (1982) who linked domestic abuse to dissuasion of romantic partners from infidelity • Burger (2009) found evidence for personality characteristics such as empathy and desire for control linked to obedience which supports the influence of personality on human behaviour • Research linking hormones like testosterone to human behaviour is correlational so it may be that other factors are more responsible for seeking romantic partners • Evidence supporting the role of the reward pathway in the brain to behaviour (e.g. Olds and Milner, 1954) may use animals which may not be generalisable to humans **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.**		
Level 0	0	No rewardable material.
Level 1	1–3 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4–6 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	7–9 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	10–12 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Q17.

Question Number	Indicative content	Mark
	AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **AO1** • Social learning is about behaviour being observed and then imitated. • Social learning theory suggests we learn by observing and modelling those who are similar to us, such as same gender. • Operant conditioning proposes positive reinforcement which is when behaviour that is rewarded is more likely to be continued in future • Classical conditioning is when a neutral stimulus (NS) becomes associated with a response after repeated pairings with an unconditioned stimulus (UCS). **AO2** • People may have observed significant others avoiding eye contact with others on public transport so imitated this. • Sam may have noticed a male of a similar age who had a trait he wanted like being handsome communicate with others so began talking to others to model them. • Communication after an incident on public transport may be reassuring and act as a positive reinforcer. • People may have learned not to communicate on the bus as they had experienced repeated harassment (UCS) when communicating with others on public transport (NS) leading to fear (UCR/CR).	**(12)**

	AO3 • Bandura (1961, 1963) showed behaviour can be learned through modelling with children copying adult role models to perform aggressive or non-aggressive acts, so this may also be the case with communication. • Skinner (1948) found pigeons learnt superstitious behaviour through food pellets which was reinforcing, so communication may serve as positively reinforcement so is continued. • However, studies such as Skinner (1948) used animals which may lack generalisability so this may not be helpful to explain the behaviour of humans on Sam's bus. • Caspi et al. (2002) found individuals possessing the MAOA-L gene showed greater antisocial behaviour when they experienced severe childhood maltreatment, which shows the influence of both internal and external factors on human behaviour and could be the same with communication. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.**		
Level 0	0	No rewardable material.
Level 1	1–3 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4–6 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	7–9 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	10–12 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

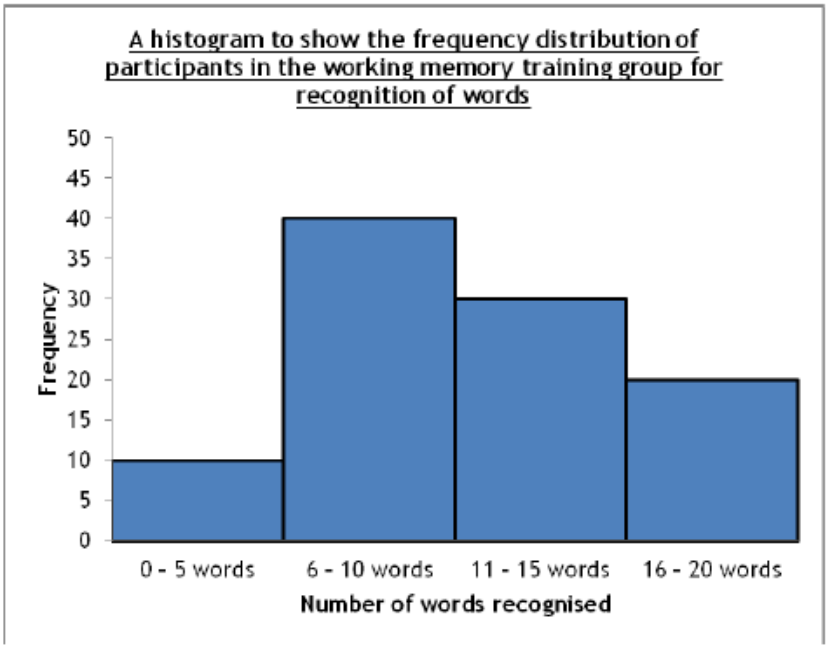
Q18.

Question Number	Answer	Mark
(a)	**AO2 (2 marks)** One mark for a basic directional (one-tailed) experimental hypothesis. Two marks for a fully operationalised directional (one-tailed) experimental hypothesis. For example: • Participants in the working memory training group will recognise more of the words (1) • Participants in the working memory training group will recognise more of the words out of 20 compared to the participants who had no working memory training (2) **Look for other reasonable marking points.** **Answers must relate to the scenario.**	(2)

Question Number	Answer	Mark
(b)	**AO2 (1 mark)** One mark for stating the level of measurement used in the working memory training study. For example: • The number of words out of 20 would be an interval/ratio level of measurement. **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	(1)

Question Number	Answer	Mark
(c)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of each strength related to the study (AO2). One mark for justification of each strength (AO3). For example: • The study assessing working memory training will have high internal validity as there will be few situational variables (1) because the study took place in a controlled, artificial setting which minimises the influence of noise distracting the participants during the memory task (1). • The study assessing working memory training had a standardised procedure so can be replicated to test for reliability (1) because both the working memory and the control group were given the same 20 target words and did the same recognition task (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.**	(4)

Question Number	Answer	Mark
(d)	**AO2 (2 marks), AO3 (2 marks)** Candidate responses have to be drawn from evidence presented in Table 1. One mark for identification of each conclusion (AO2) One mark for justification of each conclusion (AO3). For example: • Working memory training led to a poorer working memory at the end of the study (1) which is shown by a mean decrease of 2.6 words from the beginning to the end of the study (1). • Not having working memory training (the control group) did not significantly affect working memory (1) which is shown by a difference of just 0.2 words on average from the beginning to the end of the study (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(4)

Question Number	Answer	Mark
(e) (i)	**AO2 (3 marks)** One mark for correct/appropriate title (see graph below for suitable example) One mark for correct/appropriate labelling of axes (see graph below for suitable example) One mark for correct plots of data points (see graph below for correct plotting)  	(3)

Question Number	Answer	Mark
(e) (ii)	**AO3 (1 mark)** One mark for appropriate interpretation from the histogram. For example: • There is a positive skew as the participants scored more at 6-10 and less in 11-15 and 16-20 words (1). **Look for other reasonable marking points.** **Answers must relate to the graph from (e)(i).**	(1)

Q19.

Question Number	Answer	Mark
(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a relevant ethical guideline applied to the study (AO2) One mark for justification of the potential for the guideline being violated (AO3) For example: • The student being asked to vandalise the book would not be aware they are in a research study (1), so there may be a lack of informed consent as the student is unaware of the study aims and has not given permission to be involved (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(2)

Question Number	Answer	Mark
(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of social impact theory to the findings of the study (AO2). Up to three marks for judgement/justification of social impact theory to the findings of the study (AO3). **Application of social impact to the study (AO2)** For example: • Social Impact theory would agree with the findings that two sources would have greater social impact than a single source on the participant, due to there being a greater number (of social sources) instructing the student (1). • The strength of the relationship between source and target is important and can explain why the unethical act was more likely to be carried if there was a close relationship compared to when there was a single unknown confederate (1). • The theory would support a higher number of unknown sources giving a 25% greater obedience (87-62) than when there was a single unknown source acting on the target individual (1).	**(6)**
	Judgement/justification of how far social impact theory is a suitable explanation for the findings (AO3) For example: • Berkowitz et al. (1969) also showed that a greater number of sources had a larger social impact on participants when gawking at a sixth floor window which supports the finding of the study (1). • However, agency theory could equally explain the findings as the participant may have been acting on behalf of the confederates in an agentic state to vandalise the book (1). • However, social impact theory cannot explain *why* more sources have a greater social impact and it is just a predictive model rather than an understanding of why conformity/obedience occurs (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	

Q20.

Question Number	Answer	Mark
(a)	**AO2 (1 mark)** One mark for identification of the experimental/research design used in the lecture notes and learning study. For example: • They used an independent groups design as participants were given either a skeletal outline or notepaper (1).	(1)

Question Number	Answer	Mark
(b)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification a relevant participant variable applied to the stimulus (AO2). One mark for justification of how the participant variable could affect the findings (AO3). For example: • Prior knowledge of the student regarding how car brakes function could affect the score on the test (1) as those with prior knowledge score a higher mark on the test regardless of learning aid provided (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(2)

Question Number	Answer	Mark
(c)	**AO2 (1 mark), AO3 (2 marks)** One mark for identification of a relevant way to make the lecture notes and learning study generalisable (AO2). Up to two marks for justification/exemplification of how this could improve generalisability (AO3). For example: • The researchers could use a stratified sample of students (1) which could involve recruiting proportional numbers of students from each subject at the university (1) so the final sample is representative of all students from different subjects, not just those taking a single course (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	(3)

Question Number	Answer	Mark
(d)	**AO2 (4 marks)** | Experimental Group		Control Group	
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Score on test with skeletal outline	Rank	Score on test with notepaper	Rank
Total	**129**	Total	**81** | • One mark for correct totals (both the control and the experimental groups must be correct for mark). • One mark for $10 \times 10 + \frac{10 \times 11}{2}$ • One mark for correct figure for U_a (i.e. minus the total of the ranks). $Ua = 10 \times 10 + \frac{10(10+1)}{2} - 129 = 26$ (U_a and U_b can be the other way around and mark still given) • One mark for correct figure for U_b (i.e. minus the total of the ranks). $Ub = 10 \times 10 + \frac{10(10+1)}{2} - 81 = 74$ Note: U = the smaller value i.e. = 26. No marks for this but if given and no other working then full marks credited.	**(4)**

Question Number	Answer	Mark
(e)	**AO1 (1 mark), AO3 (1 mark)** One mark for identification of what a Type I error is (AO1) One mark for exemplification/reasoning of what a Type I error would be in the lecture notes and learning study (AO3) For example: • A type I error is when the researcher incorrectly accepts the experimental hypothesis rather than the null (1), so the researchers may incorrectly conclude that a skeletal outline is better than notepaper when there is no difference (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
(f)	**AO2 (2 marks), AO3 (2 marks)** Up to two marks for explanation of review process for the researchers of the lecture notes study (AO2) Up to two marks for reasoned judgements regarding the likelihood of the research being published (AO3) **Application of peer review to the study (AO2)** For example: • The lecture notes study would be sent to be scrutinised by (other) experts in the same area of educational research to judge its scientific credibility (1). • Experts in the same field of Educational Psychology will judge the quality of the lecture notes study in terms of its experimental approach (1). • Experts in the same field of Educational Psychology will judge the originality of the lecture notes study in terms of its contribution to educational research (1). **Judgement of likelihood of the study being published (AO3)** • The use of quantitative data gives scientific credibility as this is how students are normally assessed through exams so it is more likely to be published (1). • The study is experimental with a comparison between lecture notes and notepaper so there is a greater likelihood of the study being published in this journal (1). • It is a novel way to experimentally assess the impact of learning aids so is likely to contribute significantly to educational research which means it is likely to be published (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.**	(4)