GuideMyGrades

YOUR GOALS. OUR EXPERTISE.

EDEXCEL A LEVEL PSYCHOLOGY: QUESTIONS BY TOPIC

Psychological Skills (Topic 9)

AS and A Level Psychology Topic 9

72 questions · 900 marks · Mark schemes included

Pearson Edexcel AS (8PS0) and A Level (9PS0) Psychology, June 2016 - June 2025

guidemygrades.com
@Guidemygrades
@Guidemygrades
@Guidemygrades
info@guidemygrades.com
Piccadilly Business Centre, Unit C, Aldow Enterprise Park
Blackett Street, Manchester, M12 6AE

HOW TO USE THIS BOOKLET

Questions are grouped by sub-topic and run from the lowest mark tariff to the highest.
Click any heading or question row below to jump straight to it.
On every question page, click ANSWER in the top-right corner to jump to its mark scheme.
Diagrams, graphs, tables and data are printed exactly as they appeared in the original papers.

QUESTION	SOURCE	MARKS	PAGE
RESEARCH METHODS	18 questions · 216 marks		4
1. **Q2**	A Level Paper 3 June 2017	8	5
2. **Q2**	A Level Paper 3 June 2018	8	6
3. **Q2**	A Level Paper 3 June 2022	8	9
4. **Q1**	A Level Paper 3 June 2023	8	11
5. **Q2**	A Level Paper 3 June 2019	9	14
6. **Q1**	A Level Paper 3 November 2021	10	18
7. **Q2**	A Level Paper 3 June 2025	11	21
8. **Q1**	A Level Paper 3 October 2020	12	25
9. **Q2**	A Level Paper 3 October 2020	12	29
10. **Q1**	A Level Paper 3 June 2024	12	32
11. **Q2**	A Level Paper 3 June 2024	12	36
12. **Q1**	A Level Paper 3 June 2025	13	39
13. **Q2**	A Level Paper 3 November 2021	14	45
14. **Q1**	A Level Paper 3 June 2019	15	48
15. **Q1**	A Level Paper 3 June 2017	16	52
16. **Q1**	A Level Paper 3 June 2018	16	55
17. **Q1**	A Level Paper 3 June 2022	16	59
18. **Q2**	A Level Paper 3 June 2023	16	65
REVIEW OF STUDIES	18 questions · 216 marks		70
19. **Q3**	A Level Paper 3 June 2017	8	71
20. **Q3**	A Level Paper 3 June 2018	8	73
21. **Q3**	A Level Paper 3 June 2019	8	75
22. **Q3**	A Level Paper 3 October 2020	8	77
23. **Q3**	A Level Paper 3 November 2021	8	79
24. **Q3**	A Level Paper 3 June 2022	8	81
25. **Q3**	A Level Paper 3 June 2023	8	84
26. **Q3**	A Level Paper 3 June 2024	8	86
27. **Q3**	A Level Paper 3 June 2025	8	88
28. **Q4**	A Level Paper 3 June 2017	16	90
29. **Q4**	A Level Paper 3 June 2018	16	91
30. **Q4**	A Level Paper 3 June 2019	16	92
31. **Q4**	A Level Paper 3 October 2020	16	93
32. **Q4**	A Level Paper 3 November 2021	16	94
33. **Q4**	A Level Paper 3 June 2022	16	95

34. **Q4**	A Level Paper 3	June 2023	16	**96**
35. **Q4**	A Level Paper 3	June 2024	16	**97**
36. **Q4**	A Level Paper 3	June 2025	16	**98**
ISSUES AND DEBATES		36 questions · 468 marks		**99**
37. **Q15**	A Level Paper 1	June 2017	8	**100**
38. **Q14**	A Level Paper 1	June 2018	8	**101**
39. **Q11**	A Level Paper 1	June 2019	8	**102**
40. **Q15**	A Level Paper 1	October 2020	8	**103**
41. **Q12**	A Level Paper 1	November 2021	8	**104**
42. **Q12**	A Level Paper 1	June 2022	8	**105**
43. **Q12**	A Level Paper 1	June 2023	8	**106**
44. **Q16**	A Level Paper 1	June 2024	8	**107**
45. **Q15**	A Level Paper 1	June 2025	8	**108**
46. **Q16**	A Level Paper 1	June 2017	12	**109**
47. **Q5**	A Level Paper 3	June 2017	12	**110**
48. **Q15**	A Level Paper 1	June 2018	12	**111**
49. **Q5**	A Level Paper 3	June 2018	12	**112**
50. **Q12**	A Level Paper 1	June 2019	12	**113**
51. **Q5**	A Level Paper 3	June 2019	12	**114**
52. **Q16**	A Level Paper 1	October 2020	12	**115**
53. **Q5**	A Level Paper 3	October 2020	12	**116**
54. **Q13**	A Level Paper 1	November 2021	12	**117**
55. **Q5**	A Level Paper 3	November 2021	12	**118**
56. **Q13**	A Level Paper 1	June 2022	12	**119**
57. **Q5**	A Level Paper 3	June 2022	12	**120**
58. **Q13**	A Level Paper 1	June 2023	12	**121**
59. **Q5**	A Level Paper 3	June 2023	12	**122**
60. **Q17**	A Level Paper 1	June 2024	12	**123**
61. **Q5**	A Level Paper 3	June 2024	12	**124**
62. **Q16**	A Level Paper 1	June 2025	12	**125**
63. **Q5**	A Level Paper 3	June 2025	12	**126**
64. **Q6**	A Level Paper 3	June 2017	20	**127**
65. **Q6**	A Level Paper 3	June 2018	20	**128**
66. **Q6**	A Level Paper 3	June 2019	20	**129**
67. **Q6**	A Level Paper 3	October 2020	20	**130**
68. **Q6**	A Level Paper 3	November 2021	20	**131**
69. **Q6**	A Level Paper 3	June 2022	20	**132**
70. **Q6**	A Level Paper 3	June 2023	20	**133**
71. **Q6**	A Level Paper 3	June 2024	20	**134**
72. **Q6**	A Level Paper 3	June 2025	20	**135**

QUESTIONS

72 questions · 900 marks · grouped by sub-topic, lowest tariff first

SUB-TOPIC

RESEARCH METHODS

18 questions in this booklet

2 Researchers wanted to test the effect of prenatal alcohol exposure on the development of the hippocampus in the brain. They administered repeated 1g/kg doses of pure alcohol (ethanol) in a nutritionally adequate liquid diet to pregnant rats. Control groups were fed the same liquid diet except for the substitution of sucrose (sugar) for pure alcohol (ethanol).

The brains of 60-day-old offspring were investigated and those that were exposed to alcohol were found to have 20% fewer hippocampal cells compared to the control groups. Prenatal exposure to pure alcohol (ethanol) permanently reduced the number of hippocampal neurones without altering physical growth.

(Source: adapted from Barnes and Walker (1981))

(a) Explain **one** practical application of the above study.

(2)

(b) Justify whether the use of animals in this study was appropriate.

(6)

2 Prosocial behaviour and culture

Researchers wanted to investigate whether prosocial behaviour was similar cross-culturally and whether this trait increases as people become adults. They recruited 326 children and 120 adults of different gender and age from six countries. The six countries represented a wide range of human variation in terms of culture and geography.

To assess the level of prosocial behaviour participants had to choose between sharing a reward at a cost to them (prosocial) or keep it all at no cost to them (antisocial).

(Source: adapted from House et al. (2012))

The results of the American and Fijian participants are shown in **Figure 1**.

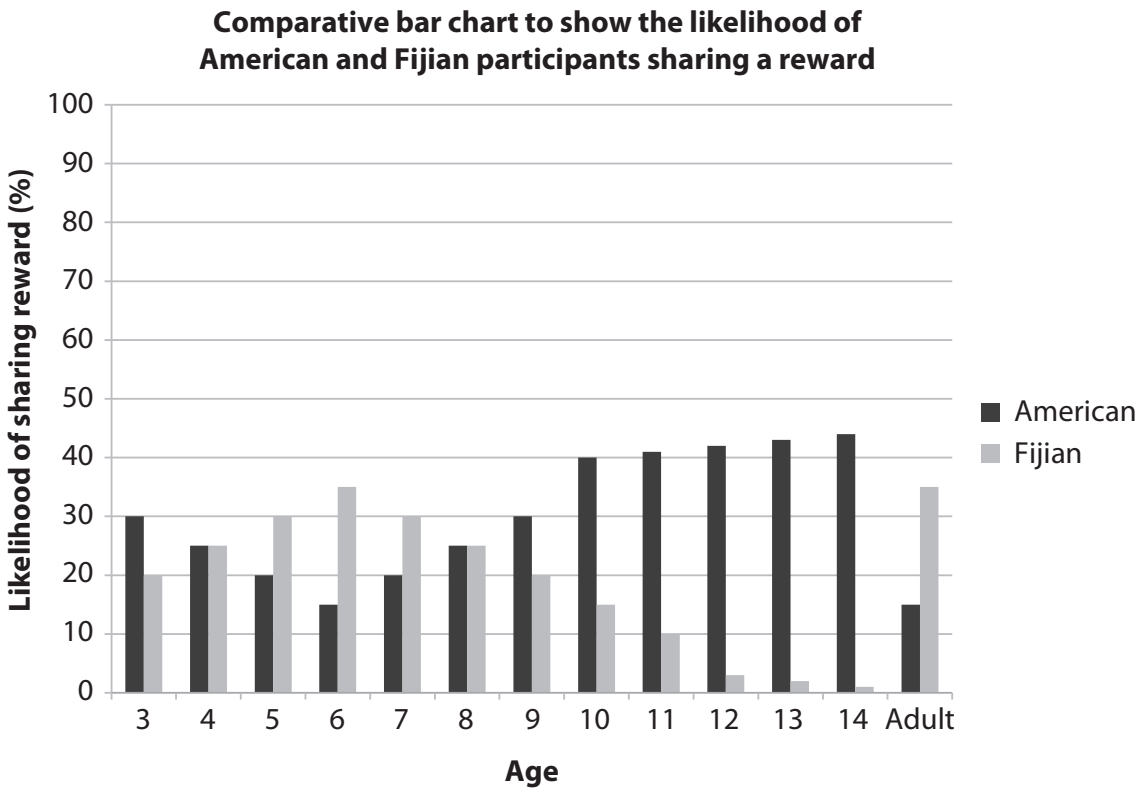


Figure 1

(a) Analyse the data provided in **Figure 1** to explain **two** conclusions that the researchers in the prosocial behaviour and culture study might draw from these results.

(4)

Conclusion 1

Conclusion 2

(b) The prosocial behaviour and culture study used a laboratory experiment.

Explain **two** weaknesses of using a laboratory experiment in the prosocial behaviour and culture study.

(4)

Weakness 1

Weakness 2

2 'Textisms' and literacy study

Researchers wanted to explore the relationship between children's knowledge of text message abbreviations and their standard of literacy.

The researchers gained informed parental consent for 88 British children aged 10–12 years old to be involved in their research study. They asked the participants to compose a series of text messages when provided with a set of scenarios. This gave a measure of the children's knowledge of text message (SMS) abbreviations called 'textisms'. An example of a 'textism' could be the use of contractions such as 'txt', 'plz', 'hmwrk'.

Subsequently the researchers measured the children's vocabulary scores using a standardised tool called The British Picture Vocabulary Scales II (Dunn, Dunn, Whetton & Burley, 1997).

The researchers found that the ratio of 'textisms' used to total words by the children was positively associated with their vocabulary.

(Source: adapted from Plester et al. (2009))

Table 4 shows the vocabulary scores and the ratio of 'textisms' to words used by the children in one class.

Child	Vocabulary score	Ratio of 'textisms' to words used in the scenarios
A	100	0.34
B	87	0.20
C	105	0.45
D	92	0.28
E	98	0.32
F	107	0.49
G	101	0.38
H	96	0.30
I	114	0.51

Table 4

(a) Calculate the standard deviation for the vocabulary score using the data in **Table 4**. Show your working and give your answer to **two** decimal places.

(4)

SPACE FOR CALCULATIONS

Standard deviation .....

(b) Explain **one** reason for using the standard deviation rather than the range as a measure of dispersion.

(2)

.....

.....

.....

.....

.....

.....

(c) Explain **one** improvement that could be made to the 'textisms' and literacy study.

(2)

.....

.....

.....

.....

.....

1 Eye contact study

Eye contact could be used as a non-verbal cue to help interpret an individual's behaviour. A longing gaze could be considered as liking someone, but too long a gaze could lead to discomfort. If the eye contact is too brief, there could also be feelings of discomfort due to suspicions about the individual's motives.

Researchers therefore wanted to investigate the length of time that people consider eye contact to be the most comfortable. They recruited 515 visitors to a Science Museum from 56 nations who had an age range of 11–79 years old, with 240 male and 275 female participants.

The researchers asked participants to watch a series of video clips of an actor making eye contact with them for various durations, ranging from 0.1 seconds to 10 seconds. Throughout the course of the study, the researchers used eight different actors, who were all white British, with half of them male and half female. Each participant only saw a single actor who was the same sex as themselves. After watching each video clip, the participant had to say if the duration of eye contact made them feel comfortable.

(Source: adapted from Binetti et al. (2016))

(a) Identify the dependent variable (DV) in the eye contact study.

(1)

The data was collected by the researchers and the results are shown in **Table 1**.

	Duration of eye contact from the actor						
	0.1 seconds	**0.5 seconds**	**1 second**	**3 seconds**	**5 seconds**	**7 seconds**	**10 seconds**
Number of males that felt comfortable (N = 240)	0	50	100	220	180	65	0
Number of females that felt comfortable (N = 275)	0	60	120	258	220	77	0

Table 1

(b) Explain **one** conclusion you can make using the data in **Table 1**.

(2)

Table 2 shows the percentage (%) of males and females that felt comfortable with an eye contact duration of 5 seconds.

	Eye contact duration of 5 seconds
% of males that felt comfortable	75%
% of females that felt comfortable	80%

Table 2

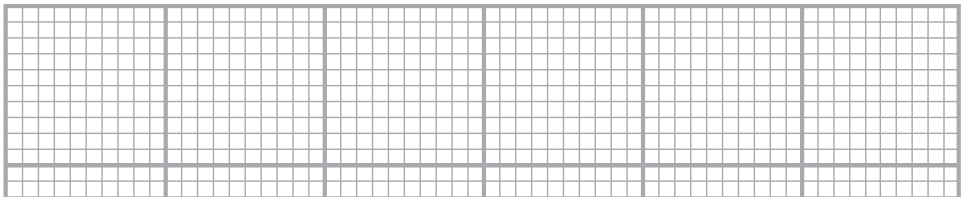
(c) Using the data in **Table 2**, draw a bar chart to represent the male and female data for eye contact with a duration of 5 seconds.

(3)

Title

.....

.....



(d) Explain **one** improvement that could have been made to the eye contact study.

(2)

.....

.....

.....

.....

.....

2 Job interview

Researchers wanted to investigate how long it took interviewers to make a decision to hire an employee through a job interview. The researchers wanted to see whether interviewers made an almost instant decision (in under a minute) to hire an employee, as suggested by previous research findings.

They collected data from 160 unstructured job interviews where students were hired for a job at a university careers fair. The researchers asked the interviewers to estimate how long it took them, in minutes, to make their hiring decision.

The estimated time that it took the interviewers to make a hiring decision was split into four categories:

- Under 1 minute
- 1 to 5 minutes
- 5 to 15 minutes
- More than 15 minutes.

The interviewers were fully informed about the aim of the study beforehand and gave their permission for their data to be used in a published research study.

(Source: adapted from Frieder et al. (2015))

The results of the job interview study are shown in **Table 3**.

Time taken to reach hiring decision	**Percentage (%) of interviewers who reported making their hiring decision in this time period**
Under 1 minute	5
1 to 5 minutes	30
5 to 15 minutes	20
More than 15 minutes	45

Table 3

(a) Calculate the ratio of those interviewers who reported making their decision in under 1 minute to those interviewers who reported making their decision in more than 15 minutes.

You must express the ratio to the lowest whole numbers.

(1)

SPACE FOR CALCULATIONS

Ratio .....

(b) The researchers also asked the interviewers who made a quick hiring decision to give some information about the factors that helped them make a quick decision.

The common themes given by the interviewers are shown in **Table 4**.

Contributing factor for quick decision in hiring an employee	Number of interviewers who reported this as a factor
Experience of interviewer	𝍸 //
Confidence of interviewer	///
Friendly pre-interview chat	𝍸 𝍸 𝍸
Interview late in the day	𝍸 𝍸

Table 4

Analyse the data in **Table 4** to explain **one** conclusion that the researchers might draw from these results.

(2)

.....

.....

.....

.....

.....

(c) Explain **two** ways that subjectivity could have influenced the job interview study.

(4)

(d) Explain **one** way the researchers could have made sure the job interview study was reliable.

(2)

1 Instagram study

Researchers investigated whether there was a difference in how an Instagram user perceived their own personality compared to how others would perceive their personality. Four Instagram users (group 1) and 65 observers (group 2), who did not know the Instagram users, were recruited for the study.

Instagram users (group 1) had to complete a self-report personality test that measured a number of personality traits, including extraversion and openness.

- Extraversion (categorised by sociable traits) included statements such as 'I see myself as enthusiastic'.
- Openness (a curiosity for artistic pursuits and appreciation for alternative viewpoints) included statements such as 'I see myself as open to new experiences'.

Each participant rated themselves on a scale from 1 (strongly disagree) to 7 (strongly agree), as shown in **Figure 1**.

Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree
1	2	3	4	5	6	7

Figure 1

The observers (group 2) viewed screenshots of the Instagram users' profiles. They were then asked to complete an adapted form of the same personality test to measure their perception of each of the four Instagram users (group 1).

The researchers compared the mean self-report scores of the Instagram users (group 1) to the mean scores as rated by the observers (group 2) on the different personality measures.

The results of the Instagram study are shown in **Table 1**.

Rater	Extraversion (1–7)	Openness (1–7)
Instagram user 1 self-rating	3.00	7.00
Observers' mean rating for Instagram user 1's profile	4.61	5.20
Instagram user 2 self-rating	3.50	6.00
Observers' mean rating for Instagram user 2's profile	5.12	5.91
Instagram user 3 self-rating	5.00	5.50
Observers' mean rating for Instagram user 3's profile	5.14	5.13
Instagram user 4 self-rating	3.50	6.50
Observers' mean rating for Instagram user 4's profile	3.61	5.60

(Source: adapted from Harris and Bardey (2019))

Table 1

(a) Explain **one** conclusion you can make regarding 'extraversion' using the data in **Table 1**.

(2)

(b) Explain **one** conclusion you can make regarding 'openness' using the data in **Table 1**.

(2)

(c) Explain **one** strength of the researchers collecting quantitative data in the Instagram study.

(2)

(d) The researchers in the Instagram study decided to carry out follow-up unstructured interviews with the observers (group 2).

Explain **two** strengths of using an unstructured interview with the observers (group 2) in the Instagram study.

(4)

1

2 Mobile phone use and well-being study

Researchers wanted to investigate the influence of mobile phone use on the self-reported well-being of participants.

The researchers reported that about 95% of Americans own a mobile phone and that extensive use of mobile phones is considered negative. Previous research had suggested mixed results regarding mobile phone use and well-being.

To assess the influence of mobile phone use on well-being, researchers from a German university recruited German speaking participants using volunteer sampling. Participants were asked to answer an online questionnaire measuring mobile phone use, satisfaction with life, and well-being.

For all measures, participants answered a number of statements using ranked (Likert) scales from 1 (strongly disagree) to 7 (strongly agree):

- 'Mobile phone use' – assessed problematic phone use within the past two weeks, with statements such as 'I have gone to bed later and slept less because I was using my mobile phone'. Each participant's overall mobile phone use was scored from 0–44, where a high score related to extremely problematic mobile phone use.
- 'Satisfaction with life' – assessed how far participants were happy with their current life, with statements such as 'In most ways my life is close to my ideal'. Each participant's overall satisfaction with life was scored from 5–35, where a high score related to extremely high satisfaction with life.
- 'Well-being' – assessed how far participants were happy with their current physical and mental health, with statements such as 'I am a happy person'. Each participant's overall well-being was scored from 0–25, where a high score related to extremely high well-being.

The researchers gathered the results and performed correlation analysis on their data.

(Source: adapted from Volkmer and Lermer (2019))

The results of the mobile phone use and well-being study are shown in **Table 3**.

Participant	Mobile phone use score (0–44)	Satisfaction with life score (5–35)	Well-being score (0–25)
A	42	10	2
B	38	12	5
C	26	17	9
D	8	23	22
E	16	19	18
F	12	22	22
G	16	15	15
H	33	9	6

Table 3

(a) Calculate the mean score for the participants' satisfaction with life using the data in **Table 3**. You must give your answer to **one** decimal place.

(1)

SPACE FOR CALCULATIONS

Mean .....

(b) The researchers decided to use a Spearman's rho test to see if there was a relationship between mobile phone use and well-being.

Complete **Table 4** and calculate Spearman's rho for the relationship between mobile phone use and well-being.

You must give your answer to **three** decimal places.

(4)

Mobile phone use score (0–44)	Rank	Well-being score (0–25)	Rank	d	d^2
42	8	2	1		
38	7	5	2		
26	5	9	4		
8	1	22	7.5		
16	3.5	18	6		
12	2	22	7.5		
16	3.5	15	5		
33	6	6	3		
				Total:	

Table 4

SPACE FOR CALCULATIONS

Spearman's rank correlation coefficient .....

(c) The researchers in the mobile phone use and well-being study used primary data.

Explain **one** weakness of using primary data for the mobile phone use and well-being study.

(2)

(d) Explain **one** strength and **one** weakness of using correlational research for the mobile phone use and well-being study.

(4)

Strength

Weakness

1 Twitter and Facebook study

Twitter and Facebook are popular social media platforms with many regular users. A group of researchers wanted to investigate whether personality was related to those who commonly used Twitter and Facebook.

The researchers recruited 300 participants from England via an advertisement posted on both Twitter and Facebook. There were 93 males and 207 females aged 18 – 63, with a mean age of 27. The participants gave informed consent and were asked a number of questions which were designed to measure three personality characteristics:

- Need for cognition: the tendency for a person to engage in and enjoy thinking. Items measuring the need for cognition included statements such as 'I like to solve complex problems'.
- Sociability: the extent to which someone enjoys the company of others. Items measuring sociability included statements such as 'I like being part of a loud crowd'.
- Neuroticism: the extent to which someone experiences feelings such as anxiety, worry, fear, jealousy, and guilt. Items measuring neuroticism included statements such as 'I have frequent mood swings'.

Statements were scored using ranked scale questions with seven options ranging from 'Strongly Disagree (1)' to 'Strongly Agree (7)'. The responses for need for cognition, sociability, and neuroticism were averaged for each participant to give a score from 1 to 7, where a high score indicated a high need for cognition, high sociability, or high neuroticism.

(Source: adapted from Hughes et al. (2012))

(a) Explain **one** strength and **one** weakness of the sampling technique used for the Twitter and Facebook study.

(4)

Strength .....

.....

.....

.....

.....

.....

Weakness .....

.....

.....

.....

.....

.....

A summary of the results from the Twitter and Facebook study are shown in **Table 1**.

	Twitter users		Facebook users	
	Mean (1–7)	**Standard deviation**	**Mean (1–7)**	**Standard deviation**
Need for cognition	6.60	0.87	5.00	0.94
Sociability	3.39	0.87	4.99	0.82
Neuroticism	2.69	0.99	4.03	1.12

Table 1

(b) Analyse the data provided in **Table 1** to explain **two** conclusions that the researchers in the Twitter and Facebook study might draw from these results.

(4)

Conclusion 1 .....

.....

.....

.....

.....

.....

Conclusion 2 .....

.....

.....

.....

.....

.....

(c) The Twitter and Facebook study used primary data.

Explain **one** strength of using primary data for the Twitter and Facebook study.

(2)

(d) The researchers in the Twitter and Facebook study used the mean score to analyse the data from their ranked scale questions.

Explain **one** weakness of using the mean score to analyse the data in the Twitter and Facebook study.

(2)

2 Open plan office study

Researchers wanted to see the impact that removing walls in a workplace office had on human interaction.

The researchers visited a company that had 'spatial boundaries' at work – such as office or cubicle walls – and observed the interaction between employees. At a later date they revisited the same company who had created an open office where the walls were removed, to create an 'unbounded' office space. The researchers again observed the interaction between employees.

The researchers observed the employees using hidden cameras both before and after the office space was changed by the company.

Two types of interaction were measured between employees:

- Face-to-face communication was recorded by tallying each time employees engaged in a conversation.
- Electronic communication was recorded by using the company server and totalling the number of emails or instant messages sent by employees throughout the study.

(Source: adapted from Bernstein and Turban (2018))

(a) The researchers in the open plan office study used a covert, naturalistic, non-participant observation when measuring face-to-face communication.

Explain **two** strengths of using this type of observation for the open plan office study in terms of validity.

(4)

1 .....

.....

.....

.....

.....

2 .....

.....

.....

.....

.....

.....

(b) The researchers in the open plan office study measured electronic communication (emails or instant messages) using quantitative data.

Explain **one** strength and **one** weakness of using quantitative data in the open plan office study.

(4)

Strength .....

.....

.....

.....

.....

.....

Weakness .....

.....

.....

.....

.....

.....

(c) Explain **one** weakness of the open plan office study in terms of generalisability.

(2)

.....

.....

.....

.....

.....

The results of the open plan office study are shown in **Table 2**.

	Before the open plan office was introduced	**After the open plan office was introduced**
Face-to-face communication (average minutes over the course of the study, per employee)	5260	1490
Electronic communication through email (average messages over the course of the study, per employee)	Sent 150 Received 170	Sent 210 Received 250
Electronic communication through instant messenger (activity over the course of the study, per employee)	480 messages	580 messages

Table 2

(d) Explain **one** conclusion you can make regarding the open plan office study using the data in **Table 2**.

(2)

1 Pets and social media study

Researchers wanted to investigate the perceptions of people with pets on social media websites.

Some people use social media websites/apps to look for new friends and others to connect with existing friends. Researchers wanted to investigate how women perceive men on social media websites in relation to a pet being in the profile picture.

The researchers devised a questionnaire to assess how men were perceived in two pictures by women. One picture was a man alone and the other was the same man holding a cat. Women aged 18–24 were asked a number of questions regarding personality characteristics of the man in the two pictures. The women rated the man in the two different pictures for extraversion, agreeableness and conscientiousness.

- Extraversion (categorised by active, sociable, talkative behaviour) included statements such as 'the man would be outgoing'.
- Agreeableness (categorised by cooperative, compliant, good-natured behaviour) included statements such as 'the man would sympathise with others' feelings'.
- Conscientiousness (categorised by careful, thorough, organised behaviour) included statements such as 'the man would pay attention to details'.

Each participant rated the man on a scale from 1 (strongly disagree) to 7 (strongly agree), as shown in **Figure 1**.

	Strongly disagree	**Moderately disagree**	**Slightly disagree**	**Neither agree nor disagree**	**Slightly agree**	**Moderately agree**	**Strongly agree**
The man would be outgoing	1	2	3	4	5	6	7

Figure 1

(Source: adapted from Kogan and Volsche (2020))

The researchers compared the mean scores given by the participants for the two pictures for the different personality characteristics.

The results of the personality ratings for the two pictures are shown in **Table 1**.

	Extraversion (1–7)	**Agreeableness (1–7)**	**Conscientiousness (1–7)**
Man alone	4.23	3.59	3.53
Man holding a cat	2.96	4.67	3.50

Table 1

(a) Explain **two** conclusions you can make using the data in **Table 1**.

(4)

1 .....

.....

.....

.....

.....

In a later question, the participants were asked about how likely they would be to add the man as a friend on their social media profile.

The likelihood of adding the man as a friend on their social media profile was rated on a scale from 1 to 10, where 1 indicated 'they would not consider it' and 10 indicated 'absolutely yes'.

Once the researchers had the data, they decided to conduct a Wilcoxon Signed Ranks test to determine whether there was a difference in the likelihood of adding the man as a friend on their social media profile in the two pictures.

(b) Complete **Table 2** and calculate the Wilcoxon Signed Ranks test for the pets and social media study.

(4)

Participant	Likelihood of adding the man alone as a friend	Likelihood of adding the man with a cat as a friend	Difference	Rank	Rank if positive	Rank if negative
A	7	5				
B	8	7				
C	5	6				
D	10	3				
E	7	7				
F	4	5				
G	6	3				
H	6	2				
				Total:		

Table 2

SPACE FOR CALCULATIONS

Wilcoxon T value .....

(c) Explain **one** strength and **one** weakness of using a questionnaire in the pets and social media study.

(4)

Strength

Weakness

2 Laptop versus longhand study

Researchers wanted to investigate the effectiveness of different forms of note-taking on achievement.

The researchers noticed that students were more often using laptops to record lecture notes compared to the traditional longhand pen and paper method. As such, they wanted to compare how effective each form of note-taking was for a group of participants.

37 university students from an American university were recruited for the study and were required to attend a lecture as part of their university course on educational psychology. The pre-recorded lecture lasted 23 minutes and consisted of text and images to remember and took place in their usual lecture hall.

The participants were split into two groups.

- Group A – Laptop note-taking (N=20)
- Group B – Longhand note-taking (N=17)

Both groups saw the same lecture separately and were given a filler/distracter task. The filler/distracter task involved vocabulary multiple choice questions to ensure any information from the lecture had entered their long-term memory.

After the filler/distracter task, participants were given 15 minutes to review their notes and were then tested on the lecture material. Testing of the groups involved 37 multiple choice questions based on the lecture material, which included assessment on 'image' and 'text-related' information.

(Source: adapted from Luo et al. (2018))

(a) Describe how the researchers of the laptop versus longhand study could have used a stratified sampling technique to recruit the participants.

(2)

The mean results for the test are shown in **Table 3**.

Group	Text-related performance (% correct responses)	Image-related performance (% correct responses)
Group A: laptop note-taking (N=20)	69	53
Group B: longhand note-taking (N=17)	70	67

Table 3

(b) Explain **one** conclusion you can make using the data in **Table 3**.

(2)

(c) The researchers in the laptop versus longhand study carried out a Mann Whitney U test to see if there was a difference in the overall performance of the groups of participants. They used a two-tailed (non-directional) test with a 1% level of significance and their observed/calculated value was 84.

Explain what this shows in terms of the overall performance of the groups in the laptop versus longhand study.

(2)

(d) The researchers in the laptop versus longhand study used a field experiment.

Explain **one** strength of using a field experiment for the laptop versus longhand study.

(2)

.....

.....

.....

.....

.....

.....

(e) Explain **two** improvements that could have been made to the laptop versus longhand study.

(4)

1 .....

.....

.....

.....

.....

1 Screen use and language skills

Researchers wanted to investigate the association between screen use and children's language skills.

They decided to conduct a review of studies, where they considered whether screen use was related to children's language skills.

More than 20 studies were included in the review with the following variables considered in relation to children's language skills:

- Quantity of screen use, which was the duration of time spent that parents reported their children watching television, movies or DVDs on devices (for example, tablets or televisions).
- Quality of screen use, which was the extent of exposure that parents reported their children had to educational programmes.
- Onset of screen use, which was the age that parents reported their children first began viewing screens.

The language skills of the children were measured using a Picture Vocabulary Test, which measured the extent to which a child understands language. The test had an average score of 100, with scores lower than 100 indicating less advanced language skills and scores higher than 100 indicating more advanced language skills.

(Source: adapted from Madigan et al. (2020))

There were 23 studies which considered the quantity of screen use and language skills. The results concerning average screen time (hours per week) from these studies are shown in **Figure 1**.

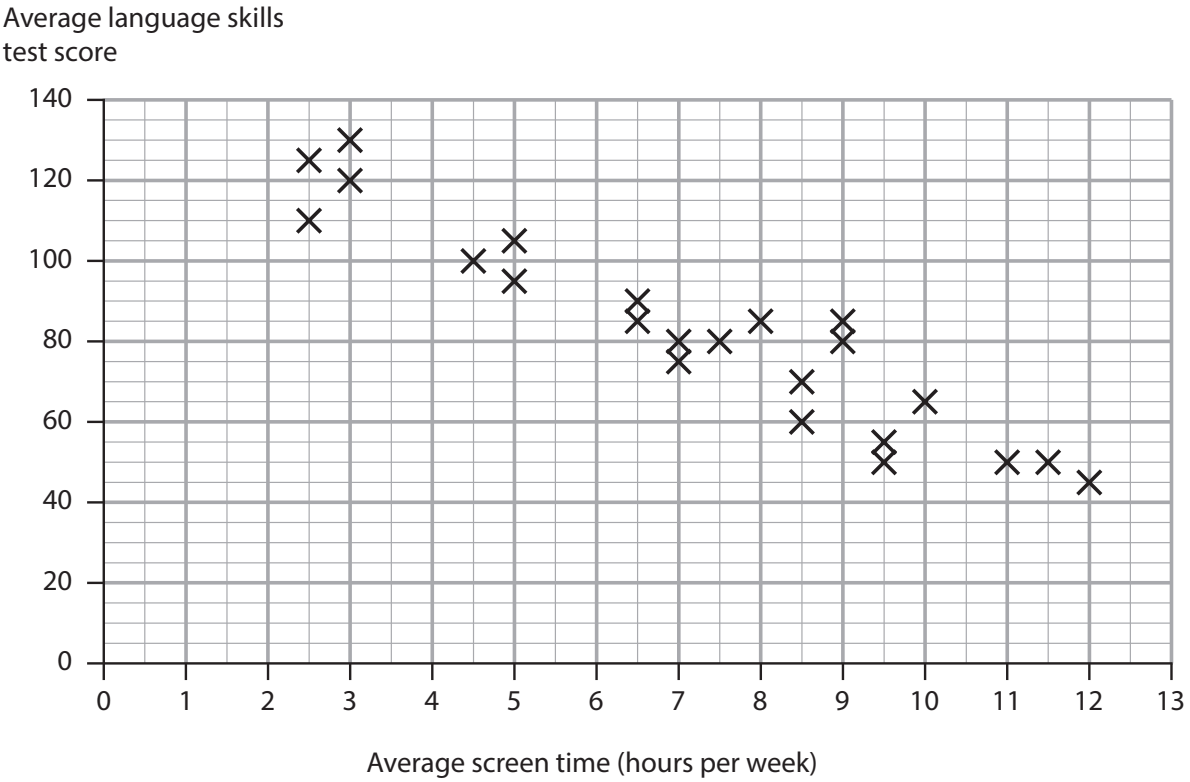


Figure 1

A scattergraph to show the relationship between average screen time (hours per week) and average language skills test scores

(a) Explain **one** conclusion that could be made from the data in **Figure 1** in terms of the quantity of screen use.

(2)

(b) Calculate the percentage of studies that found children's language skills to be **greater** than the mean of 100, out of all the studies which considered quantity of screen use.

You must give your answer to **one** decimal place.

(1)

SPACE FOR CALCULATIONS

Percentage .....

There were 10 studies which considered the quality of screen use and language skills. The results concerning time spent viewing educational content are shown in **Table 1**.

Study	Average time spent viewing educational content (hours per week)	Average language skills score
A	1.5	121
B	0.1	49
C	2.2	138
D	0.3	64
E	0.2	55
F	1.6	112
G	0.7	88
H	0.5	76
I	1.1	102
J	0.9	98

Table 1

(c) Explain **one** conclusion that could be made from the data in **Table 1** in terms of the quality of screen use.

(2)

There were 6 studies which considered the onset of screen use and language skills. The results concerning the age the children first began viewing screens are shown in **Table 2**.

Study	Average onset of screen use (in months)	Average language skills score
K	12	130
L	2	55
M	14	128
N	5	60
O	8	98
P	7	90

Table 2

(d) Explain **one** conclusion that could be made from the data in **Table 2** in terms of the onset of screen use.

(2)

(e) All of the research studies considered by the researchers had been through the process of peer review.

Explain **one** strength and **one** weakness of using studies that had been through the peer review process in the screen use and language skills study.

(4)

Strength

Weakness

(f) Explain **one** improvement that could have been made to the screen use and language skills study.

(2)

2 Navigation study

Researchers wanted to investigate whether there were sex differences in navigation strategy and efficiency.

The researchers created a virtual reality (VR) maze and placed five objects in various parts of the maze, such as a chair or a rubber duck. Participants were required to orientate themselves around the maze until they had seen all five objects, as indicated by black dots in **Figure 2**.

Figure 2 shows an aerial view of the maze and **Figure 3** shows the view a participant would have seen.

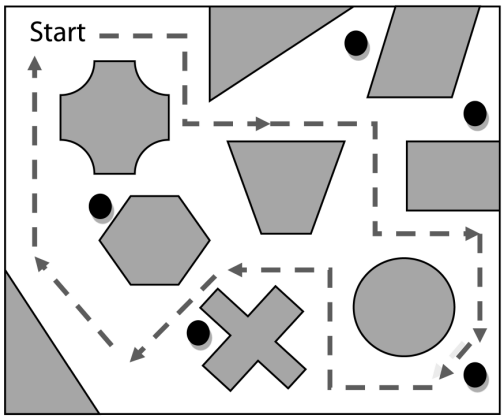


Figure 2

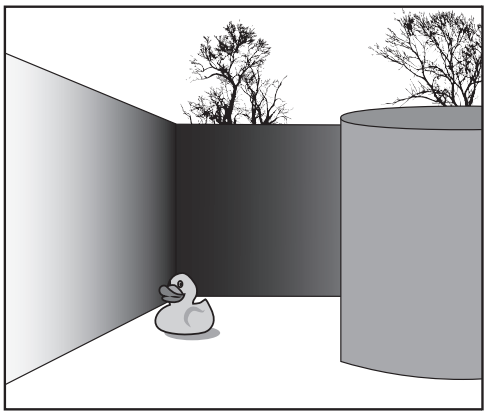


Figure 3

The researchers wanted to assess the strategy used by males and females after they had completed the maze.

(a) The researchers of the navigation study decided to recruit a sample of participants from the local town.

Describe how the researchers could have used a random sampling technique to recruit the participants for the navigation study from the local town.

(2)

(b) Explain **one** weakness of using a random sampling technique for the navigation study.

(2)

Figure 4 shows the strategies used by males and females in the navigation study.

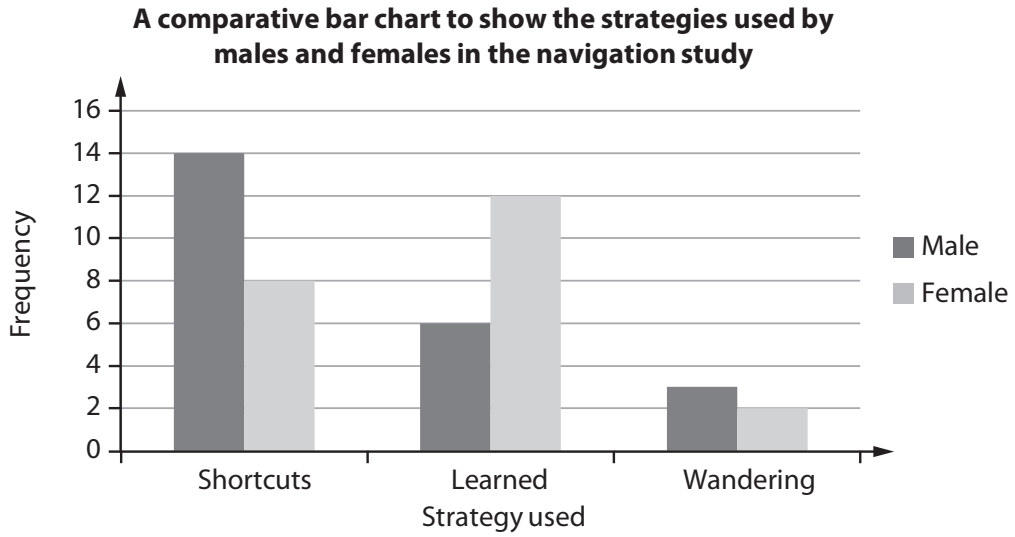


Figure 4

(c) Explain **one** conclusion the researchers of the navigation study could make using the data in **Figure 4**.

(2)

(d) The researchers of the navigation study also collected the time taken for males and females to complete the maze task.

They summarised their data using categories, which is displayed in **Table 2**.

	Less than 1 minute to complete the maze task	**More than 1 minute to complete the maze task**
Males	14	9
Females	10	12

Table 2

Using their summarised data, the researchers decided to carry out a chi-squared test to see if there was a difference in the time taken by males and females to complete the maze task.

Complete **Table 3** to calculate the chi-squared test for the navigation study.

You must give all your answers to **two** decimal places.

(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			
	More than 1 minute to complete the maze task	9	10.73			
Females	**Less than 1 minute to complete the maze task**	10	11.73			
	More than 1 minute to complete the maze task	12	10.27			
					Chi-squared =	

Table 3

(e) Explain **two** improvements that the researchers could make to the navigation study.

(4)

1 .....

.....

.....

.....

.....

1 Working memory training

Working memory training is where people repeatedly practise increasingly difficult working memory tasks to attempt to improve their cognitive performance.

Researchers wanted to see how working memory training affected recognition performance of a list of words. They recruited 100 participants who were allocated to either the working memory training group (Condition 1) or the control group (Condition 2).

At the beginning of the study, all participants in Condition 1 and Condition 2 were read 20 target words. The participants then had to try and recognise the 20 target words from a list of 60 words, where 40 were new words. All participants were given two minutes to recognise as many of the target words as they could.

During the next three weeks:

- Condition 1 (working memory training group) completed a session of working memory training for 90 minutes, once a week.
- Condition 2 (control group) did no working memory training.

After the three-week period, the participants then performed another memory recognition task. As before, they had to learn a list of 20 words from a list of 60 words, where 40 were new words.

(Source: adapted from Matzen et al. (2016))

(a) State a fully operationalised directional (one-tailed) experimental hypothesis for the working memory training study.

(2)

(b) The number of words correctly recognised (out of 20) by participants was recorded as a measure of memory performance by the researchers.

State which level of measurement the number of words correctly recognised (out of 20) for each participant would be in the working memory training study.

(1)

(c) The working memory training study used a laboratory experiment to assess the memory of the participants.

Explain **two** strengths of using a laboratory experiment for the working memory training study.

(4)

(d) The mean results of the working memory training study are shown in **Table 1**.

Group	Performance on memory recognition task (out of 20) at the beginning of the study	Performance on memory recognition task (out of 20) at the end of the study
Condition 1 (working memory training group)	13.3	10.7
Condition 2 (control group)	11.9	12.1

Table 1

Explain **two** conclusions that could be made using the data in **Table 1**.

(4)

Conclusion 1

Conclusion 2

The results of the working memory training group at the end of the study are shown in **Table 2**.

Number of words recognised correctly (out of 20) at the end of the study	Frequency
0 – 5 words	10
6 – 10 words	40
11 – 15 words	30
16 – 20 words	20

Table 2

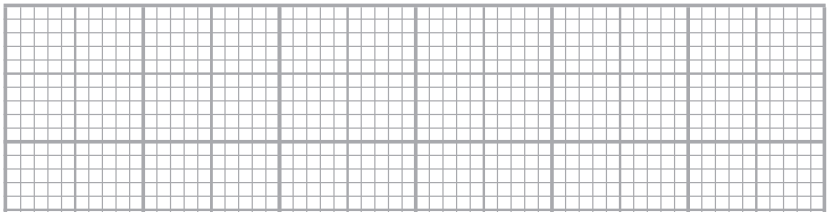
(e) (i) Draw a histogram to display the data in **Table 2**.

(3)

Title

.....

.....



(ii) Interpret the histogram you have drawn for (e) (i).

(1)

.....

.....

.....

(Total for Question 1 = 15 marks)

1 The iPhone Effect

Researchers wanted to investigate whether the presence of mobile phones influences the quality of in-person social interactions. In a field experiment, 100 pairs of participants were observed during the course of a 10-minute conversation.

The researchers recorded whether participants placed a mobile phone on the table or held it in their hand. The researchers measured the level of connectedness and empathetic concern at the end of the conversation for those with a mobile phone present and those where it was absent.

(Source: adapted from Mirsa et al. (1999))

(a) State a two-tailed (non-directional) hypothesis for the iPhone effect study.

(2)

(b) Explain why the experimental/research design used in the iPhone effect study was appropriate.

(2)

(c) Explain **one** strength of using a field experiment for this study.

(2)

(d) To measure connectedness and empathetic concern ranked scale questions were used where 1 indicated not close (connectedness) or no concern (empathetic concern) and 7 indicated very close (connectedness) or high concern (empathetic concern).

Explain **two** weaknesses of using ranked scale questions in the iPhone effect study.

(4)

(e) The results of the study are given below in **Table 1**.

	Mobile phone present		Mobile phone absent	
	Mean	Standard deviation	Mean	Standard deviation
Empathetic concern	3.54	0.91	5.85	0.66
Connectedness	5.05	0.76	5.36	0.64

Table 1

Analyse the data in **Table 1** to explain **three** conclusions that the researchers might draw from these results.

(6)

Conclusion 1

.....

.....

.....

.....

Conclusion 2

.....

.....

.....

.....

Conclusion 3

.....

.....

.....

.....

(Total for Question 1 = 16 marks)

1 Lecture notes and learning

Researchers wanted to see whether providing learning aids during a lecture would help students. Students attended an audio lecture on how car brakes function. Before the lecture, students were given either a skeletal outline (with headings and subheadings) or no learning aid at all (they were given notepaper). After the lecture, students were given a short-answer test that assessed their understanding of how car brakes function.

(Source: adapted from Bui et al. (2015))

(a) Identify the experimental/research design used in the lecture notes and learning study.

(1)

(b) Explain how **one** participant variable could affect the findings of the lecture notes and learning study.

(2)

(c) Explain **one** way the researchers in the lecture notes and learning study could make the study as generalisable as possible to the target population of students.

(3)

The researchers in the lecture notes and learning study decided to carry out a Mann-Whitney U test on the data.

(d) Complete **Table 1** and calculate Mann-Whitney U for the data in **Table 1**.

(4)

Experimental Group		**Control Group**	
Score on test with skeletal outline	**Rank**	**Score on test with notepaper**	**Rank**
85	16.5	67	10.5
46	5	45	3
55	7	33	1
89	19	79	14.5
55	7	45	3
90	18	71	12
78	13	45	3
55	7	67	10.5
92	20	65	9
85	16.5	79	14.5
Total		**Total**	

Table 1

SPACE FOR CALCULATIONS

U_a .....

U_b .....

U .....

(e) The researchers of the lecture notes and learning study need to decide whether to accept or reject their null hypothesis. They have been warned not to make a Type I error when doing this.

Explain to the researchers what a Type I error would be in the lecture notes and learning study.

(2)

(f) The researchers in the lecture notes and learning study are interested in publishing their work in the British Journal of Educational Psychology.

The British Journal of Educational Psychology publishes psychological research that makes a significant contribution to the understanding and practice of education.

Author Guidelines for the British Journal of Educational Psychology:

- We publish psychological research that makes a significant contribution to the understanding and practice of education.
- We aim to publish research which has a broad international appeal to researchers and practitioners in education.
- We welcome experimental studies, observations of classroom behaviours, interviews, and surveys.
- Important criteria in the selection process are quality of argument and educational significance.
- We tend to publish more quantitative than qualitative studies.

(Source: statement adapted from the Author Guidelines for the *British Journal of Educational Psychology*, published by the British Psychological Society (2015))

Explain what the peer review process would involve for the researchers in the lecture notes and learning study, including a consideration of the likelihood of their findings being published.

(4)

1 Junior to senior Pinocchio study

Approximately 1000 participants were recruited by researchers to visit a Science Centre to investigate lying ability and frequency. The researchers used a cross-sectional design for their study. The participants had their ability and frequency of lying measured and their results were then grouped into age categories.

To measure lying ability the participants had to respond to 15 simple questions with a 'yes' or 'no' response. For example, one question was 'can pigs fly?'. Participants were told to either tell the truth or lie depending on the colour of the yes / no response options. The researchers expected the most able liars to respond the quickest and with fewer errors when lying and the least able liars to either have a delayed response or give a reflex truthful response when told to lie.

To measure lying frequency, the participants were asked how many times they had lied in the past 24 hours to family members, friends and strangers in a face-to-face situation.

The age categories and number of participants used for the study are shown in **Table 1**.

Age (years)	Description	Number of participants
6–8	Early childhood	102
9–12	Mid childhood	295
13–17	Adolescence	101
18–29	Young adulthood	83
30–44	Mid adulthood	216
45–59	Older adulthood	134
60–77	Seniors	61

Table 1

(Source: adapted from Debey et al. (2015))

(a) Explain **one** strength and **one** weakness of using a cross-sectional design for the junior to senior Pinocchio study.

(4)

Strength

Weakness

Table 2 shows the average lying ability of the participants in each of the age categories.

Age (years)	Description	Error rate (%)	Response times (seconds)
6–8	Early childhood	20.20	3.83
9–12	Mid childhood	16.86	3.46
13–17	Adolescence	14.59	3.30
18–29	Young adulthood	8.55	3.25
30–44	Mid adulthood	9.03	3.50
45–59	Older adulthood	10.40	3.60
60–77	Seniors	12.65	3.60

Table 2

(b) Explain **two** conclusions you can make using the data in **Table 2** regarding the lying ability of the participants in the age categories.

(4)

1 .....

.....

.....

.....

.....

(c) Explain **one** weakness of the junior to senior Pinocchio study in terms of validity.

(2)

(d) Explain **one** strength of the junior to senior Pinocchio study in terms of reliability.

(2)

Figure 1 shows the lying frequency of the participants in the junior to senior Pinocchio study.

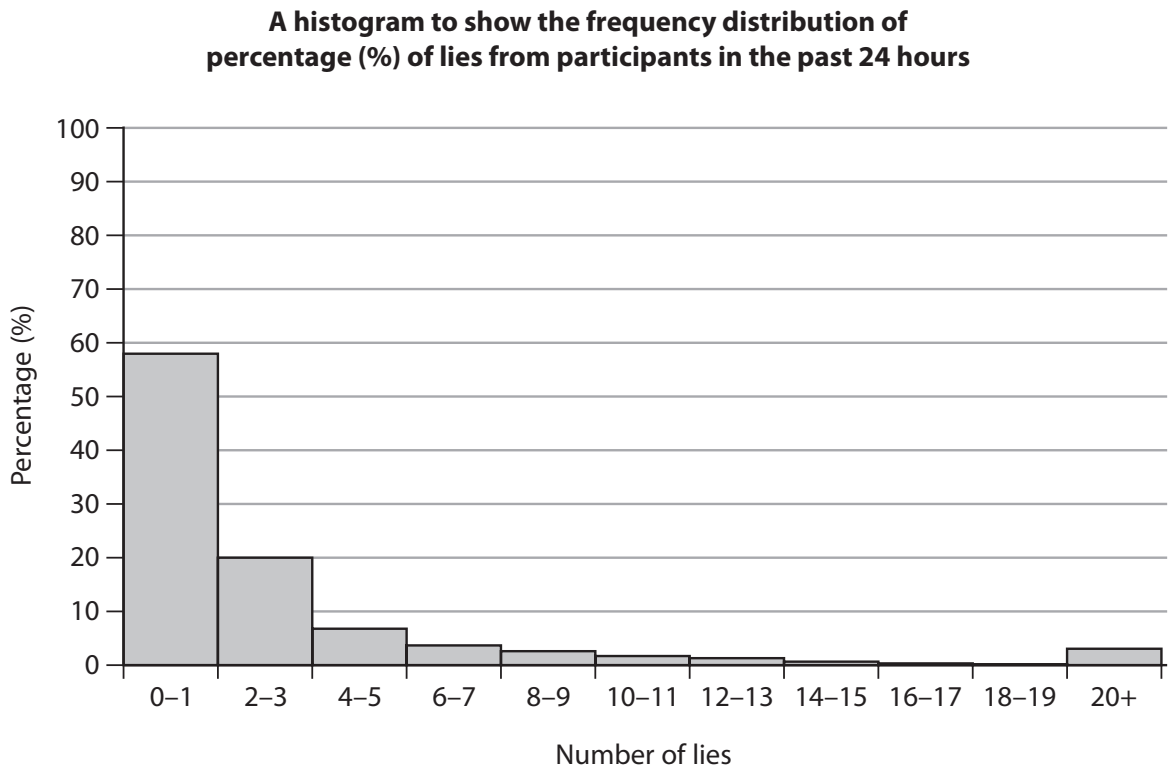


Figure 1

(e) State **one** conclusion that could be made from **Figure 1** with reference to the type of skew shown.

(1)

The lying frequency for each age category is shown in **Table 3**.

Age (years)	Description	Mean lying frequency (past 24 hours)
6–8	Early childhood	1.75
9–12	Mid childhood	2.5
13–17	Adolescence	3
18–29	Young adulthood	2.5
30–44	Mid adulthood	2
45–59	Older adulthood	1.75
60–77	Seniors	1.5

Table 3

(f) Calculate the overall mean lying frequency for the participants using the data in **Table 3**. You must give your answer to **one** decimal place.

(1)

SPACE FOR CALCULATIONS

Mean .....

(g) The researchers used a volunteer sampling technique to gather the participants for the junior to senior Pinocchio study.

Explain **one** weakness with using a volunteer sampling technique for the junior to senior Pinocchio study.

(2)

.....

.....

.....

.....

.....

2 Helping behaviour study

Researchers wanted to see whether being in close proximity to luxury goods would influence helping behaviour.

80 participants (40 males and 40 females) were either seen to be exiting a luxury shop in a prestigious area of Paris (20 males and 20 females) or were passers-by on an ordinary street in Paris with no shops (20 males and 20 females).

A female confederate was instructed to use crutches and carry a bottle of water in one hand and a packet of sweets in the other hand. When a participant was approximately five metres away, the confederate was required to 'accidentally' drop her bottle of water and packet of sweets and try to pick them up.

The participants, who were estimated to be aged between 20–70 years old, were judged to have helped the confederate when they offered to pick up the items or picked them up without asking. The confederate recorded the participant's sex, estimated age, whether they helped or not, and the location (outside the luxury store or on the ordinary street with no shops).

(Source: adapted from Lamy et al. (2016))

(a) The researchers in the helping behaviour study used opportunity sampling to recruit the participants for their study.

Explain **one** strength and **one** weakness of using opportunity sampling for the helping behaviour study.

(4)

Strength

Weakness

Table 3 shows the data collected by the confederates regarding the age of the participants for the helping behaviour study.

Estimated age of the participants	Did help the confederate	Did not help the confederate
20–35 years	51%	49%
36–50 years	62%	38%
56–70 years	68%	32%

Table 3

(b) Explain **one** conclusion you can make using the data in **Table 3**.

(2)

Table 4 shows the data collected regarding the participants' location.

	Did help the confederate	Did not help the confederate
Luxury shop (N = 40)	14	26
Ordinary street with no shops (N = 40)	31	9

Table 4

(c) Explain **one** conclusion you can make using the data in **Table 4**.

(2)

Table 5 shows the data collected regarding the participants' gender.

	Did help the confederate	Did not help the confederate
Male (N = 40)	20	20
Female (N = 40)	25	15

Table 5

(d) The researchers in the helping behaviour study decided to carry out a chi-squared test on their data from **Table 5**. They found an observed/calculated value of 1.27 for a one-tailed (directional) test at the 5% level of significance when df=1.

Explain what this shows in terms of the helping behaviour of the participants in the study.

(2)

(e) State **two** reasons why the researchers in the helping behaviour study used a chi-squared test to analyse their data in **Table 5**.

(2)

1

2

(f) The researchers collected quantitative data when recording whether the participant would help the confederate or not for the helping behaviour study.

Explain **one** weakness of using quantitative data for the helping behaviour study.

(2)

(g) The researchers used a field experiment for the helping behaviour study.

Explain **one** weakness of using a field experiment for the helping behaviour study.

(2)

SUB-TOPIC

REVIEW OF STUDIES

18 questions in this booklet

3 Superman vs The Joker

Playing computer video games is a very popular pastime, which has been suggested to have an influence on human behaviour. The characters within the games may encourage people to act in particular ways after engaging with the game for a period of time.

To assess the influence of computer video game characters on behaviour researchers recruited the help of 60 students aged 17 to 37 years old. The participants were divided into two groups where they played a violent computer video game as either Superman (a hero) or The Joker (a villain). Those assigned as Superman (a hero) had to protect another character from threats (prosocial behaviour) whereas those assigned as The Joker (a villain) had to attack another character (antisocial behaviour).

After 15 minutes participants were thanked and they left the laboratory where an apparently lost letter was lying on the floor. Researchers noted the number of participants who posted the letter in a postbox, which was close by, and those who ignored the letter. Those who posted the letter were considered to be acting in a prosocial manner whereas those who ignored the letter did not act prosocially.

(Source: adapted from Happ, 2013))

(a) The results of the Superman vs The Joker study are given below in **Table 2**.

	Superman (hero)	**The Joker (villain)**
Pick up and post letter	14	6
Ignore letter	16	24

Table 2

The researchers carried out a chi-squared (χ^2) test and found an observed value of 4.8 for a 5% level of significance with a one-tailed test.

Explain what this shows in terms of prosocial behaviour for those assigned to play as either Superman (hero) or The Joker (villain).

(2)

(b) Explain how useful social learning theory could be in accounting for the findings of the Superman vs The Joker study.

(6)

3 'Instigators' and an unethical act

A study examined the psychology of 'instigators'. 'Instigators' are people who surround an unethical act and influence the wrongdoer without directly committing the act themselves.

Student confederates were recruited to instruct participants to commit an unethical act. The unethical act was to vandalise a book in the university library by writing the word 'pickle' in pen on a specified page.

There were three conditions in the study:

- two student confederates instructed an unknown student to carry out the unethical act
- one student confederate instructed a close student friend to carry out the unethical act
- one student confederate instructed an unknown student to carry out the unethical act.

(Source: adapted from Bohns et al. (2013))

(a) Explain **one** ethical issue that could be violated in the 'instigators' and an unethical act study.

(2)

The findings of the study are shown in **Table 2** below.

	Two student confederates instructed an unknown student to carry out the unethical act	One student confederate instructed a close student friend to carry out the unethical act	One student confederate instructed an unknown student to carry out the unethical act
% of student participants that vandalised the university library book	87	80	62

Table 2

(b) Explain how far social impact theory can support the findings of the 'instigators' and an unethical act study.

(6)

3 Monkeying around

Researchers wanted to investigate the role of reward in the behaviour of monkeys.

They gave monkeys a task where they had to learn a sequence of three coloured buttons.

The monkeys experienced one of the following conditions:

- Condition 1: For pressing the correct sequence of buttons five times in a row, a food treat was provided
- Condition 2: For pressing the correct sequence of buttons between two and four times in a row (the amount changed each time), a food treat was provided
- Condition 3: A food treat was provided every 60 seconds, provided the correct sequence of buttons was pressed at least once during this time period
- Condition 4: For pressing an incorrect sequence of buttons, a mild electric shock was given.

The number of attempted button presses (in 10 minutes) and the number of correct button sequences (in 10 minutes) were recorded by the researchers.

The mean results of the monkeying around study are shown in **Table 5**.

Condition	Mean number of attempted button presses (in 10 minutes)	Mean number of correct button sequences (in 10 minutes)
Condition 1	30	22
Condition 2	55	40
Condition 3	20	15
Condition 4	4	2

Table 5

(a) Explain **one** ethical consideration that the researchers of the monkeying around study would have had to consider when conducting their investigation.

(2)

(b) Using research evidence, explain how operant conditioning could support the findings of the monkeying around study.

(6)

3 Computer video games study

Playing computer video games is a popular leisure activity, and has been claimed to be the fastest growing form of recreation in humans, with annual revenues from video games having surpassed those of Hollywood (Yi, 2004).

Popular computer video games can enable players to connect online via the Internet and allow individuals to purchase in-game rewards with either real or virtual money. The in-game rewards can benefit players by providing resources which give them a better chance to complete objectives within the game successfully.

A group of researchers wanted to see if the number of in-game purchases correlated with the time spent playing the online games against others. The researchers asked 30 participants how much time they spent playing online against others and the number of in-game rewards they purchased for money.

The results of the computer video games study are shown in **Figure 1**.

Scattergraph to show the relationship between the time spent playing the computer video game and the number of in-game rewards purchased

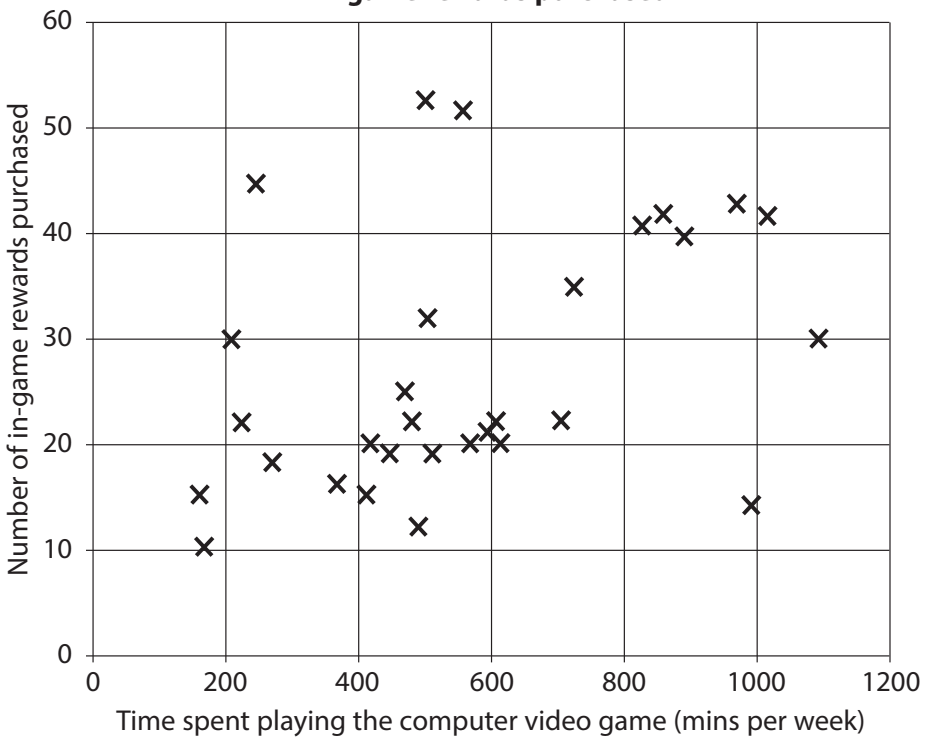


Figure 1

(a) The researchers decided to use a statistical test for their data to determine significance. They calculated an observed / calculated value of 0.411 for a Spearman's rho at the 5% level of significance for a two-tailed (non-directional) test.

Explain what this shows in terms of in-game purchases for the participants who played computer video games.

(2)

(b) Using research evidence, explain how far biological psychology could account for the findings regarding the purchase of in-game rewards in the computer video games study.

(6)

3 Scary and nasty beasts study

With animal phobias being one of the most prevalent mental health disorders researchers wanted to investigate the creatures people found most scary and revolting.

Researchers asked 1,798 participants to complete an online survey about 10 creatures, such as a spider or snail. They were shown each creature in a photograph in a random order. Participants had to rate their fear and disgust for each of the creatures on a scale from 1 (no fear/disgust) to 7 (extreme fear/disgust). A red panda was used as one of the 10 creatures shown to participants, as a control stimulus.

The results of the scary and nasty beasts study are shown in **Table 4**.

Creature	Mean fear (1–7)	Mean disgust (1–7)
Bull	3.84	1.62
Cockroach	3.10	4.16
Pigeon	1.48	2.01
Red panda	1.57	1.17
Snail	1.15	1.69
Snake	4.34	2.83
Spider	4.39	4.47
Tapeworm	3.60	4.83

(Source: adapted from Polák et al. (2019))

Table 4

(a) Explain **one** weakness of the scary and nasty beasts study in terms of validity.

(2)

(b) Using research evidence, explain how far evolution and natural selection could account for the findings of the scary and nasty beasts study.

(6)

3 Reconciliation after romantic conflict study

Researchers investigated male and female beliefs regarding how to reconcile after romantic conflict with their partner.

In the first part of their study they asked 20 males and 18 females to write down five acts or behaviours they believe that people of their own sex perform (or may perform) to attempt to reconcile with their partner after they have experienced romantic conflict.

The most common acts or behaviours that participants proposed are shown in **Table 5**.

Act or Behaviour
Communicate
Apologise
Forgive your partner
Spend time together
Give a kiss / hug / affection
Make your partner laugh
Take some space
Ignore partner / avoid partner
Vent to a friend
Cry
Drink alcohol

Table 5

In the second part of their study the researchers asked the participants to rate the perceived effectiveness of the acts or behaviours they had proposed in the first part of the study. They had to rate them from 1 (very ineffective) to 7 (very effective).

The mean ratings for the males and females are shown in **Table 6**.

Act or Behaviour	Males (1–7)	Females (1–7)
Communicate	5.99	6.13
Apologise	5.14	5.98
Forgive your partner	5.63	5.62
Spend time together	5.29	5.72
Give a kiss / hug / affection	5.15	4.99
Make your partner laugh	5.12	4.09
Take some space	4.66	5.02
Ignore partner / avoid partner	1.85	1.73
Vent to a friend	3.17	2.84
Cry	2.32	3.25
Drink alcohol	1.83	1.55

Table 6

(Source: adapted from Wade et al. (2017))

(a) The researchers wanted to see if there was a significant difference in the perceived effectiveness of crying. They conducted a Mann-Whitney U test and found an observed / calculated value of 110 for a 5% level of significance with a two-tailed test.

Explain what this shows in terms of the perceived effectiveness of crying in the reconciliation after romantic conflict study.

(2)

(b) Using research evidence, explain how far social learning theory could account for the findings of the reconciliation after romantic conflict study.

(6)

3 Anti-littering study

Researchers wanted to understand how norms would be enforced or maintained in real-world contexts. They wanted to see how people would respond to someone violating a social norm in different city locations.

The researchers chose to use littering and selected two city locations to run their study. The cities chosen were New York City in the USA and Bern in Switzerland. The study was conducted at a busy tram/subway stop in each city at the same time of day.

There were two independent variables in the study to investigate littering:

- Place – they compared New York City (a very large city in the USA) to Bern (a small city in Switzerland)
- Disorder – they compared an empty bin with no surrounding litter (clean) with a full bin with lots of surrounding litter (littered).

In all conditions, a confederate walked towards the bin and threw an empty plastic bottle that missed the bin and fell on the floor. The confederate did not pick up the bottle and continued walking.

The researchers observed the reaction of people close by and recorded whether they:

- gave direct sanction (for example, verbally confronting the confederate)
- picked up the litter themselves (norm maintenance)
- had no reaction.

(Source: adapted from Berger and Hevenstone (2016))

The results of the participants' reaction to the confederate in the anti-littering study are shown in **Table 6**.

	Place		Disorder	
	New York City, USA	**Bern, Switzerland**	**Clean**	**Littered**
Participant gave a direct sanction to the confederate	2%	12%	8%	2%
Participant picked up the litter themselves (norm maintenance)	9%	27%	16%	1%
Participant had no reaction to the confederate	88%	61%	76%	97%

Table 6

(a) Explain **one** practical application of the anti-littering study using the data from **Table 6**.

(2)

(b) Using research evidence, explain how far learning theories could account for the findings of the anti-littering study.

(6)

3 Screen advertising and children study

Researchers wanted to investigate the effect of screen advertising on what food or drink children consumed.

They conducted a meta-analysis on studies conducted from 1980 to 2018 on children aged between 2–18 years old in terms of how different forms of screen advertising affected what they consumed.

Screen advertising included TV and internet sites or internet adverts when playing games. They included all languages and countries in their inclusion criteria for the study, but excluded adults, non-screen advertising, and studies prior to 1980.

The researchers compared the findings from studies about food advertising to non-food advertising, such as for toys. 11 studies about food advertising on TV and 5 studies for internet-based food advertising were included in their analysis.

The researchers looked at two different methodologies:

- Experimental evidence, where children watched adverts embedded in TV or the internet and were offered food immediately afterwards, with studies varying the types of food available.
- Non-experimental evidence, through studies using various surveys/ questionnaires to consider the impact of screen advertising on body mass index (BMI).

For the experimental evidence, it was found that food advertising increased the immediate dietary intake of the children, where they consumed on average 60 calories more than children exposed to non-food advertising. In the non-experimental evidence, there was a significant positive association between the amount of food advertising children were exposed to and their body mass index (BMI).

The study concluded that exposure to unhealthy food advertising on TV and the internet increased the calorie consumption and body mass index (BMI) in children.

(Source: adapted from Russell et al. (2018))

(a) Explain **one** weakness of using a meta-analysis for the screen advertising and children study.

(2)

(b) Using research evidence, explain how far learning theories can account for the findings of the screen advertising and children study.

(6)

3 Preschool children and PE study

A researcher wanted to investigate the role of the teacher in preschool children's activity levels.

They visited different preschools in Hong Kong and observed a physical education (PE) lesson with children at preschool, aged 4 to 6 years old.

The PE lesson consisted of a highly structured 30-minute lesson which was repeated over 4 consecutive weeks. During the first two lessons, the children learned the routine and during the final two lessons, the children practised the routine. The researchers observed the children in the final lesson on the fourth week.

The teachers were split into two groups:

- More active – the teacher took more than 900 steps per lesson and gave praise throughout for physical activity.
- Less active – the teacher took less than 900 steps per lesson and did not give praise for physical activity.

The teachers and the children had their body weight and height measured before the study to determine their body mass index (BMI). The more active teachers had a lower BMI, but there were no significant differences in the children.

To measure the physical activity, a pedometer was used for teachers and children. A pedometer records the number of steps taken.

(Source: adapted from Cheung (2020))

The results of the preschool children and PE study are shown in **Table 5**.

		Average number of steps			
		More active male teacher with praise	**More active female teacher with praise**	**Less active male teacher with no praise**	**Less active female teacher with no praise**
Overall		1560	1555	765	760
Gender	**Boys**	1810	1600	1010	810
	Girls	1310	1510	520	710

Table 5

(a) Explain **one** practical application of the preschool children and PE study, using the data from **Table 5**.

(2)

(b) Using research evidence, explain how far social learning theory can account for the findings of the preschool children and PE study.

(6)

4 Psychology is the scientific study of the human mind and behaviour. The findings of psychological research have been used to help solve major problems across the world. However, it has been suggested that the findings of psychological research may have cultural and gender issues.

Evaluate the cultural and gender issues of Sherif et al. (1954/1961) and Rosenhan (1973), with reference to their methods and implications for the real world.

(16)

4 Evaluate the classic studies by Watson and Rayner (1920) and Raine et al. (1997) in how they could be used as a means of social control.

(16)

4 Evaluate the classic studies by Baddeley (1966b) and Watson and Rayner (1920) in terms of reductionism.

(16)

4 Evaluate the classic studies by Raine et al. (1997) and Sherif et al. (1954/1961) in terms of their scientific status.

(16)

4 Evaluate the classic studies by Raine et al. (1997) and Watson and Rayner (1920) in terms of the role of nature and nurture.

(16)

4 Evaluate Watson and Rayner (1920) and Sherif et al. (1954 / 1961) in terms of ethical issues.

(16)

4 Evaluate Rosenhan (1973) and Sherif et al. (1954/1961) in terms of their practical issues in design and implementation.

(16)

4 Evaluate Baddeley (1966b) and Rosenhan (1973) in terms of their scientific status.

(16)

4 Evaluate Rosenhan (1973) and Raine et al. (1997) in terms of ethical issues.

(16)

SUB-TOPIC

ISSUES AND DEBATES

36 questions in this booklet

15 Cognitive psychology is about the role of cognition/cognitive processes in human behaviour.

Assess whether cognitive psychology is reductionist.

(8)

14 Discuss the practical issues faced by psychologists when designing and implementing research in learning theories and biological psychology.

(8)

SECTION E: ISSUES AND DEBATES

11 There are many considerations that need to be taken into account when conducting research with human participants.

Assess how far research from social and cognitive psychology could be considered ethical.

(8)

15 Assess how far learning theories have developed over time.

(8)

12 Discuss the practical issues you considered in the design and implementation of your social psychology practical investigation.

(8)

12 Assess how far learning theories can be considered reductionist.

(8)

12 Assess the ethical issues involved when using animals for research in learning theories.

(8)

16 Assess the ethical issues of research conducted in biological psychology.

(8)

15 Discuss the practical issues you considered in the design and implementation of your learning theories practical investigation.

(8)

16 Matt is 16 years old and has been getting into fights when he goes out with his friends. His mother blames his friends, however Matt denies this and says he cannot control his own behaviour.

Evaluate how far social and biological psychology can explain Matt's behaviour. You must make reference to the context in your answer.

(12)

5 Companies that enable people to meet potential romantic partners are becoming increasingly popular. Some companies include a series of questions during registration that assist them in recommending which people are a potential 'match'.

Mandy decides to use a company to meet a potential romantic partner and is recommended a number of 'matches' who have similar interests. Mandy's mother disagrees with this approach and tells Mandy that romantic relationships are purely biological in basis.

Evaluate how far the biological approach can explain human behaviour such as meeting potential romantic partners. You must make reference to Mandy's situation in your response.

(12)

15 To what extent do social psychology and cognitive psychology consider human behaviour to be determined by nurture?

(12)

SECTION C: ISSUES AND DEBATES

5 When commuting to college Sam notices that whichever form of public transport he uses strangers rarely communicate with each other. He notices that people tend to sit alone where possible and avoid eye contact with other commuters whilst listening to music or reading a newspaper.

One morning there is an incident on the bus when he is going to college. Following the event, Sam notices everyone is communicating and making eye contact. Later, when Sam discussed this change in behaviour with his friend, she argued that communication is a learned behaviour and that people are not born to communicate.

Evaluate the extent to which human behaviour such as communication can be explained by learning theories.

You must make reference to the context in your answer.

(12)

12 To what extent is biological psychology scientific?

(12)

5 Aaondi is a country that has had the same president for 20 years. The president orders the citizens to grow specific vegetables in their gardens, reduce water consumption and minimise their disposal of non-recyclable waste. The president's orders are clearly displayed on billboards and are reinforced on television and radio every day. Aaondians have to pay a fine every time they do not follow the president's orders.

Evaluate how useful agency theory would be in explaining human behaviour such as that of the citizens of Aaondi. You must make reference to the context in your answer.

(12)

16 Evaluate issues of social control from social and biological psychology.

(12)

5 Janworth High School wanted their staff and students to exercise more. The head teacher found that students would not listen to staff about the benefits of physical activity, and that staff exercise rates did not go up after watching a video about the rewards of a more active lifestyle.

The head teacher subsequently invited an Olympic athlete to attend the school and give a motivational speech about the benefits of exercise to all the students. The speech was followed by a brief set of smaller group sessions with the athlete. The athlete also led a session with selected staff and students on the school field, where those involved had to work in teams and compete against each other for prizes.

The head teacher did a follow-up survey and found that for most staff and students their levels of exercise increased over the next month.

Evaluate the extent to which human behaviour such as exercise can be explained by social impact theory.

You must make reference to the context in your answer.

(12)

13 In cognitive psychology and learning theories you will have learned about the use of psychological knowledge in society, including key questions of relevance in society.

Evaluate the use of psychological knowledge from cognitive psychology and learning theories in society.

You must use concepts, theories and/or research from cognitive psychology and learning theories in your answer.

(12)

5 During the college summer holiday, Rhianna went to a large music festival where she saw musicians and bands who played various genres of music. These included rock, dance, hip hop, grime, and pop music genres. Rhianna enjoyed dancing and singing with her three best friends when listening to all of the music genres at the festival. They all joined in when the artists encouraged certain behaviours such as clapping hands or singing lyrics.

When listening to music on her iPhone, Rhianna really enjoys listening to rock and pop music genres but does not really like grime or hip hop.

Evaluate how far social psychology can account for human behaviour, such as that of listening to music.

You must make reference to the context in your answer.

(12)

13 To what extent does nurture influence cognitive and biological psychology?

(12)

5 Jay and his friends are 17 year-olds and are all learning to drive a car. Some of his friends are studying for their theory test and some are practising for their practical test. Nishka passed both tests on her first attempt whilst Oscar failed his first and second attempts at the theory test.

Jay enjoys watching Formula 1 car racing and his favourite driver won the championship last season. Jay loves Go Karting, and his father encourages and praises him. He recently won a race. Jay took his practical driving test, but he failed his first attempt due to speeding.

Until he can take his test again Jay is being driven to college by Nishka. She keeps forgetting the route to school so has to use a Sat Nav device on her phone to guide them.

Evaluate the extent to which human behaviour, such as the ability to drive, can be explained by biological psychology.

You must make reference to the context in your answer.

(12)

13 Marco has been suffering with memory processing issues that cause him to become confused. He is not always able to understand situations and becomes frustrated with the people around him.

Marco was arrested on two previous occasions for aggressive behaviour. He was also once found by police in a car park at 3am unable to find his way home.

Recently Marco got into a fight with a man who he thought was laughing at him. When the police arrived, the man said he was not laughing at Marco, but Marco told the police that the man was lying. The police arrested Marco. When they interviewed him, Marco struggled to remember exactly what had happened.

The police requested a doctor to examine Marco while he was in custody. The doctor decided to refer him for a brain scan for his memory processing issues.

Evaluate how well knowledge from cognitive psychology could explain Marco's situation.

(12)

5 Ada was reading a book about a woman who became a police officer and solved an important crime. She enjoyed reading the book so much that she read it all in a single day. Ada's mum has always really enjoyed reading books and Ada had always had excellent reports from school about her reading development.

Ada's friend Daniel does not enjoy reading and never has. He told Ada that he preferred to play video games, particularly games about sport. Daniel's dad enjoys reading and playing video games. When he was younger, Daniel had been asked to read more by his school and was always given extra support for his reading development.

Evaluate the extent to which human behaviour, such as the ability to read, can be explained by biological psychology.

You must make reference to the context in your answer.

(12)

17 To what extent is research in social and cognitive psychology socially sensitive?

(12)

5 Carli and Anthony are at their sixth form college and they are looking at social media pictures of Carli's recent 18th birthday party on Carli's mobile phone.

The pictures show that Carli's cake said 'Happy 18th Birthday' with no candles and there was a dry ice machine and no balloons. Carli was wearing jeans and a t-shirt. Anthony is confused as he thought the cake had Carli's name and 18 candles on it and thought there were pink balloons and that Carli wore a dress.

Carli laughs at Anthony, so he gets annoyed and he aggressively knocks the phone out of her hand and runs out of the classroom to the school field.

Evaluate the extent to which cognitive psychology can explain human behaviour, such as the situation regarding Carli and Anthony.

You must make reference to the context in your answer.

(12)

16 Evaluate whether social and cognitive psychology can be considered scientific.

(12)

5 Kristie is at school in her biology class, sitting next to her friend Dominique. Dominique regularly cheats on class tests and Kristie has witnessed this but always does her tests honestly. The teacher announces the class will have a progress test the next week.

Dominique is very popular and frequently tells other students what to do and they always follow what she says. Recently, she told Kristie to trip up another student as they were going down the stairs and she did so. As a result, Dominique invited Kristie to an exclusive party.

Dominique sees the biology teacher leave a copy of the forthcoming progress test on her desk as they leave the lesson. When they are alone, Dominique tells Kristie to sneak into the biology teacher's classroom during lunchtime and take photos of the forthcoming progress test. She tells Kristie that if she does, she will be rewarded like she was previously.

Kristie sneaks into the classroom and gets caught when taking photos of the test by the biology teacher. When asked why she has done this, Kristie says she was only following what another student told her to do.

Evaluate the extent to which human behaviour, such as the events at Kristie's school, can be explained by social psychology.

You must make reference to the context in your answer.

(12)

6 Assess the extent to which psychology could be considered a science.

(20)

6 Animals are sometimes used to conduct psychological research.

Assess the practical and ethical implications of using animals in psychological research.

(20)

6 Assess the role of both nature and nurture in psychology.

(20)

6 Assess how far psychology could be considered a reductionist explanation of human behaviour.

(20)

6 Assess the cultural and gender issues in psychological research.

(20)

6 Assess the impact of socially-sensitive research in psychology.

(20)

6 Assess the ethical issues in psychological research using humans and animals.

(20)

6 Assess the use of psychology in social control.

(20)

6 Assess how psychological understanding has developed over time, with reference to any **two** of the following applications to psychology:

- Clinical psychology
- Criminological psychology
- Child psychology
- Health psychology.

(20)

MARK SCHEMES

official Pearson Edexcel mark schemes

Question Number	Answer	Mark
2(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
2(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)**

SECTION B: REVIEW OF STUDIES

Question Number	Answer	Mark
2(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
2(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)**

2(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)**

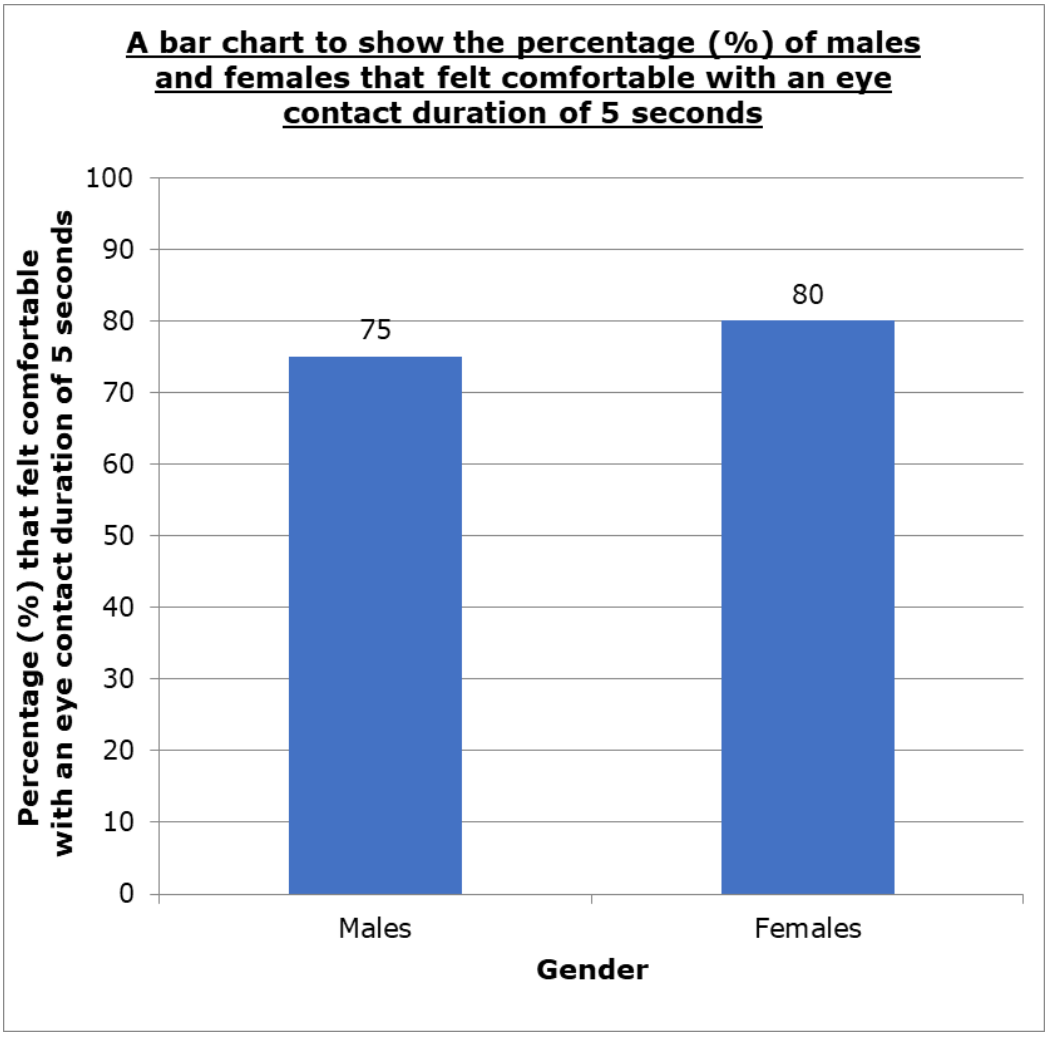
Question Number	Answer	Mark
2(b)	**AO1 (1 mark), AO3 (1 mark)** One mark for identification of a suitable reason (AO1) One mark for justification of the reason (AO3) For example: • The standard deviation is more sensitive than the range as a measure of dispersion (1) because the standard deviation takes 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
2(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)**

Section B: Review of studies

Question Number	Answer	Mark
1(a)	**AO2 (1 mark)** One mark for identification of the dependent variable (DV) in the eye contact study. For example: • Whether the participant felt comfortable or uncomfortable with the duration of eye contact (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(1)**

Question Number	Answer	Mark
1(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 (AO2). One mark for justification of the conclusion (AO3). For example: • The most comfortable duration of eye contact for all participants was 3 seconds (1) because males had the highest number who felt comfortable at 3 seconds with 220/240 and the females also had the highest number at 3 seconds with 258/275 (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

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

Question Number	Answer	Mark
1(d)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an improvement in relation to the eye contact study (AO2) One mark for justification of the improvement (AO3) For example: • The researchers could have asked the participants to view the actor of a different sex to themselves, rather than just the same sex actor (1) because this would have enabled them to see if the participant still felt comfortable with the duration of eye contact with members of the opposite sex which would be more representative of real-life interactions (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

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

Question Number	Answer	Mark
2(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
2(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
2(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)**

SECTION B: REVIEW OF STUDIES

Question	Answer	Mark

Question Number	Answer	Mark
1(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
1(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
1(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
1(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)**

Question Number	Answer	Mark
2(a)	**AO2 (1 mark)** One mark for correct mean score. • 15.9 (1). **Reject all other answers.**	**(1)**

Question Number	Answer	Mark
2(b)	**AO2 (4 marks)**	**(4)**

Mobile phone use score (0-44)	Rank	Well-being score (0-25)	Rank	d	d^2
42	8	2	1	**7**	**49**
38	7	5	2	**5**	**25**
26	5	9	4	**1**	**1**
8	1	22	7.5	**-6.5**	**42.25**
16	3.5	18	6	**-2.5**	**6.25**
12	2	22	7.5	**-5.5**	**30.25**
16	3.5	15	5	**-1.5**	**2.25**
33	6	6	3	**3**	**9**
				Total:	**165**

One mark for accurate completion of column d
One mark for accurate completion of column d^2
One mark for accurate substitution into equation

$$1 - \frac{6 \times 165}{8 \times (64 - 1)}$$

One mark for correct value of Spearman's rank correlation coefficient to three decimal places **-0.964.**

Question Number	Answer	Mark
2(c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness of using primary data for the mobile phone use and well-being study (AO2) One mark for justification of the weakness of using primary data for the mobile phone use and well-being study (AO3) For example: • The researchers will have to collect all the data about mobile phone use and well-being themselves so it can be more costly than secondary data (1) because they will have to create the data collection tool such as the questionnaire about mobile phone use, sample the participants and gather all the data concerning well-being so this can take far more time than using pre-existing data (1). • The researchers will have chosen themselves what they want to measure regarding mobile phone use and well-being and how, so may have been biased (1) because they may have chosen to use measurements of the mobile phone use and satisfaction with life in a way to elicit results consistent with their personal prior expectations, leading to subjective conclusions from their study (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(d)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of a strength/weakness of using correlational research for the mobile phone use and well-being study (AO2) One mark for justification of each strength/weakness of using correlational research for the mobile phone use and well-being study (AO3) For example: Strength • Using correlational research allowed the researchers to investigate the naturally occurring variable of mobile phone use which would be impractical to test experimentally (1) as people will have used their phones throughout the two-week period and for different purposes, such as for work or just for social interaction rather than giving them a contrived task to do, increasing the credibility of the research (1). • Correlational research uses quantitative data, such as the mobile phone use score out of 44, so is more objective and less biased than using qualitative data (1) because the number rating cannot be interpreted differently by different researchers, unlike the reasons for mobile phone use or their well-being, which could be more subjectively analysed (1). Weakness • The use of correlational research would not enable the researchers to establish cause and effect between mobile phone use and well-being (1), as they cannot be confident that it was mobile phone use that caused well-being because other factors may influence their well-being, such as an unexpected illness, and not mobile phone use (1). • Correlational research is unable to establish which is the causal variable, so findings about mobile phone use and well-being would lack credibility (1) because the researchers would not be able to confidently say whether a certain amount of mobile phone use caused well-being to be affected or if a specific level of well-being caused mobile use to be affected (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Section B: Review of studies

Question Number	Answer	Mark
1(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
1(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
1(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
1(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)**

Question Number	Answer	Mark
2(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
2(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
2(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
2(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)**

Section B: Review of studies

Question Number	Answer	Mark
1(a)	**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: • The women found the man alone more extravert than when holding a cat (1) which is shown as he was rated on average as 4.23 alone but lower on extraversion at 2.96 when holding a cat (1). • The women found the man holding a cat as more agreeable than the man without a cat (1). This is shown by a higher average rating of 4.67 out of 7 when holding a cat compared to 3.59 when alone in the picture (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
1(b)	**AO2 (4 marks)**	**(4)**

Participant	Likelihood of adding the man alone as a friend	Likelihood of adding the man with a cat as a friend	Difference	Rank	Rank if positive	Rank if negative
A	7	5	**2**	**4**	**4**	
B	8	7	**1**	**2**	**2**	
C	5	6	**-1**	**2**		**2**
D	10	3	**7**	**7**	**7**	
E	7	7	**0**	**-**	**-**	**-**
F	4	5	**-1**	**2**		**2**
G	6	3	**3**	**5**	**5**	
H	6	2	**4**	**6**	**6**	
				Total:	**24**	**4**

One mark for accurate completion of difference column
One mark for accurate completion of ranked difference column
One mark for accurate calculation of sum of both ranks
One mark for correct value of **T=4**

Question Number	Answer	Mark
1(c)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of a strength/weakness of using a questionnaire for the pets and social media study (AO2). One mark for justification of each strength/weakness of using a questionnaire for the pets and social media study (AO3). For example: Strength • The questionnaire asking about the personality traits of the man in the pictures is standardised so could be repeated with other participants to test for reliability (1) as the people responding will answer the same likert-style statements from 1-7 regarding how extravert they believe the man to be, so they can be compared and their responses can be checked for consistency (1). Weakness • The questionnaire regarding the two pictures of the man used closed-ended questions, only collecting quantitative data about his personality characteristics, so it lacks validity (1) so it would give limited insight into the participant judgement of his personality as the researchers would not know the underlying reasons why they find the man with and without the cat more or less extravert (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Number		
2(a)	**AO2 (2 marks)** Up to two marks for description of a using a stratified sampling technique for the laptop versus longhand study. For example: • The researchers would determine the strata for the student population across the educational psychology course (1) and then select student participants to meet the proportions in each stratum, such as the different ethnicities taking the university course (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
2(b)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Table 3. One mark for identification of a conclusion (AO2). One mark for justification of the conclusion (AO3). For example: • The participants taking longhand notes performed better on image-related content than those taking notes on their laptop (1) which is shown by a 14% higher score on the image-related questions on average for those taking longhand notes compared to the laptop note-taking group (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(c)	**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 (84) is less than the critical value (86) at the 1% level of significance for a two-tailed test (1). This means that there is a significant difference in the overall performance on the test between the laptop note-taking group and the longhand group (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(d)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a strength of using a field experiment for the laptop versus longhand study (AO2). One mark for justification of the strength of using a field experiment for the laptop versus longhand study (AO3). For example: • By using a field experiment the students would show real life behaviour when note-taking, so the researchers would have increased the ecological validity (1) because the students would have acted naturally when taking notes by laptop or longhand as they are in their usual lecture theatre, studying content from their educational psychology course (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(e)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of each improvement in relation to the laptop versus longhand study (AO2). One mark for justification of each improvement (AO3). For example: • The researchers could have asked participants from different universities across the USA to take the notes, rather than just those from a single university (1) because this would have enabled them to generalise their results to the whole of America as they would have a more representative sample of students when taking notes using a laptop or longhand (1). • The researchers could have ensured the method of note-taking assigned to them was the usual method used by the student (1) as this would enable them to compare the true performance of the different forms of note-taking as the student would be already be familiar with the method assigned, increasing the validity of their findings (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Section B: Review of studies

Question Number	Answer	Mark
1(a)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Figure 1. One mark for identification of a conclusion (AO2). One mark for justification of the conclusion (AO3). For example: • There was a negative correlation between quantity of screen use and children's language skills (1), such as those studies with 3 hours of screen use having language skills scores of 120 or more compared to those with more than 11 hours of screen use having language skills scores of 50 or less (1). • The more time children spend on screens, the weaker their language skills (1), which is shown by those with 12 hours screen use with 45 on language skills compared to those with 2½ hours of screen use scoring an average of 125 on the language test (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
1(b)	**AO2 (1 mark)** One mark for correct percentage. • 21.7% (1). **Reject all other answers.**	**(1)**

Question Number	Answer	Mark
1(c)	**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 (AO2). One mark for justification of the conclusion (AO3). For example: • There was a positive correlation between time spent viewing educational content and language skills (1). This is supported by study A where the children had a higher score with 121 on language skill and had 1.5 hours of viewing educational content compared to a low score of 49 and 0.1 hours in study B (1). • The more time children spent viewing educational content, the more advanced their language skills (1). For example, the highest average language score was 138 with the most amount of educational content being viewed of 2.2 hours compared to the lowest language score of 49 with the least time viewing educational content with 0.1 hours (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
1(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 conclusion (AO2). One mark for justification of the conclusion (AO3). For example: • There was a positive correlation between onset of screen use and children's language skills (1) which is supported by study L where the children had a lower score with 55 on language skill and started using screens at 2 months compared to a higher score of 130 and an average 12 month onset of screen use in study K (1). • The earlier children use screens, the weaker their language skills (1). For instance, the highest language score of 130 has a 12-month onset of screen use compared to the lowest language score of 55 with the earliest onset of screen use as 2 months (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
1(e)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of a strength/weakness of using peer reviewed studies for their research (AO2) One mark for justification of each strength/weakness of using peer reviewed studies for their research (AO3) For example: Strength • Using 23 peer reviewed studies to consider the impact of screen use on the children's language skills will be more trusted by organisations, the government and the public (1) so this is more likely to lead to acceptance that screen use can impact child development and organisations and the public will be more willing to reduce non-educational screen use for their children (1). • The 23 studies that have been through peer review will have been checked by experts within a relevant research field to children's language skills which gives credibility to the findings (1) because the peer reviewers can spot errors, omissions and make suggestions to improve the validity of the studies, so there will be greater trust in the conclusions into screen use and language skills in the children (1). Weakness • It may be that important research concerning the impact of screen use on children's language skills has been omitted due to possible publication bias (1) as there may be studies that found negative or non-significant findings regarding screen use that were never published and could have shown that overall that there was no relationship or a positive correlation between quantity of screen use and children's language skills (1). • Despite the 23 studies about screen use and language being reviewed by external experts, there is still the possibility of errors which have been missed, reducing the credibility of the study (1) as any errors missed in the peer review process can mean any conclusions made about screen use and children's language skills could lead to real-world changes that could be ineffective or even harmful (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
1(f)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an improvement in relation to the screen use and language study (AO2) One mark for justification of the improvement (AO3) For example: • The researchers could have included studies that used tests to measure language expression as well the understanding of language (1) which would have given them a more comprehensive understanding of the language skill of the children in relation to their screen use, increasing the validity and credibility of the findings (1). • The researchers could have used studies that directly monitored the children's screen use over the course of the study (1) which would have given them a more objective measure of the actual time spent using screens as the parent reports could have been biased, increasing the validity and credibility of the findings (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(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
2(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
2(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
2(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
2(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)**

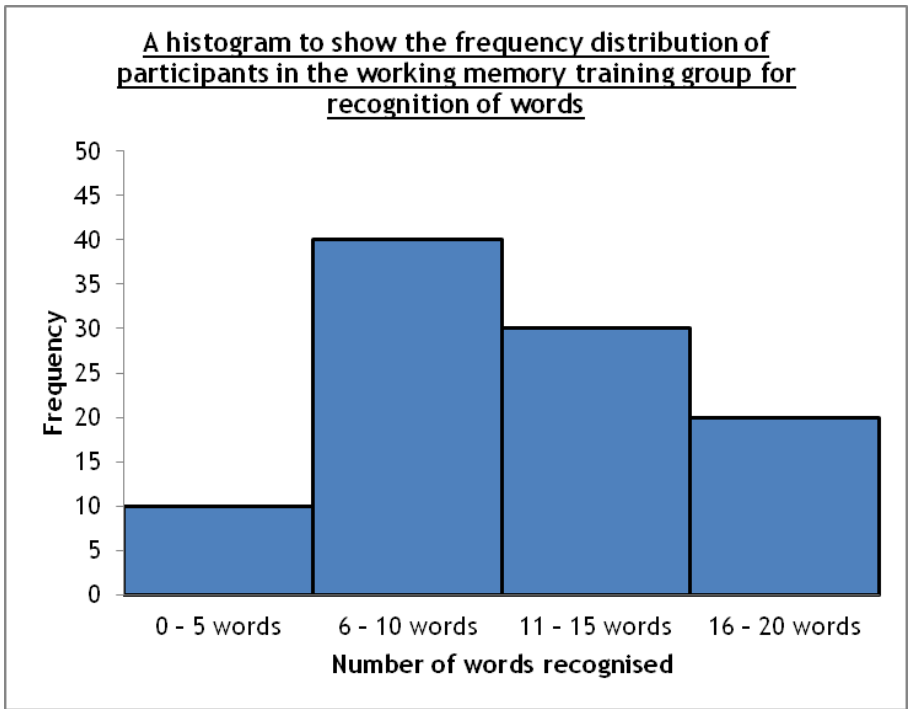
Section B: Review of studies

Number	Answer	Mark
1(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
1(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
1(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
1(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
1(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
1(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)**

Question Number	Answer	Mark
1(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
1(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
1(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
1(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
1(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)**

Question Number	Answer	Mark
1(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
1(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
1(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
1(d)	**AO2 (4 marks)** Experimental Group / Control Group Score on test with skeletal outline: Rank: **129** Score on test with notepaper: Rank: **81** 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
1(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
1(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)**

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

Question Number	Answer	Mark
1(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)**

Question Number	Answer	Mark

Question Number	Answer	Mark
2(a)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of a strength/weakness of using opportunity sampling for the helping behaviour study (AO2) One mark for justification of the strength/weakness of using opportunity sampling for the helping behaviour study (AO3) For example: Strength • By using the people exiting the luxury shops or on the ordinary street that were available at the time means that this method is very convenient (1) because the participants are readily available meaning that sampling people to check their helping behaviour does not take excessive time or effort compared to other sampling techniques (1). Weakness • As they have only used people exiting the luxury shops or on the ordinary street at the time, the participant sample may be biased and unrepresentative (1) because the people shopping or walking by may have been particularly unhelpful and so the conclusions about helpfulness would not be generalisable to the target population of people in that area (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
2(b)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Table 3. One mark for identification of a conclusion (AO2). One mark for justification of the conclusion (AO3). For example: • Older participants were more likely to help the confederate than the younger participants (1) because 68% of the 56-70 year olds helped compared to 51% of the 20-35 year olds (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(c)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Table 4. One mark for identification of a conclusion (AO2). One mark for justification of the conclusion (AO3). For example: • The participants exiting the luxury shop were less helpful than those on the ordinary street with no shops (1) because only 14/40 helped near the luxury shop compared to 31/40 on the ordinary street which is far more (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(d)	**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 (1.27) is less than the critical value (2.71) at the 5% level of significance for a one-tailed test (1). This means that there was no significant difference between the helping behaviour of the males and females in the study (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(e)	**AO2 (2 marks)** One mark for each appropriate statement for using the chi-squared test in the helping behaviour study for the data in Table 5. For example: • They are looking for a difference between the males and females in terms of helping behaviour (1). • The data was nominal because they were placed into one of four categories (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(f)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness of using quantitative data in the helping behaviour study (AO2) One mark for justification of the weakness (AO3) For example: • Using the number of people helping or not helping only gives restricted information about the helping behaviour of the participants which lacks validity (1) because they cannot know the underlying reasons for their behaviour so may not truly represent the helpfulness of the participants in the study as they may have normally helped but were just in a rush so did not help (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
2(g)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness of using a field experiment in the helping behaviour study (AO2) One mark for justification of the weakness (AO3) For example: • Using a field experiment in the natural setting of Paris may have extraneous variables that affected the participant level of helpfulness so could lack validity (1) because it could be that situational variables such as the presence of others near the confederate could have influenced whether the participant helped them so may not represent their usual behaviour (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Section B: Review of studies

Question Number	Answer	Mark
3(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
3(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)**

Question Number	Answer	Mark
3(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
3(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). **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.**	**(6)**

Number	Answer	Mark
3(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
3(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). **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.**	**(6)**

Question	Indicative content	Mark

Question Number	Answer	Mark
3(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
3(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). **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.**	**(6)**

Question Number	Answer	Mark
3(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
3(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). **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**	**(6)**

Question Number	Answer	Mark
3(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
3(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. **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.**	**(6)**

Question Number	Answer	Mark
3(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an appropriate practical application of the anti-littering study (AO2) One mark for justification of the practical application (AO3) For example: • A practical application is that keeping the area around bins clean can reduce further littering (1) because there was a difference of 15% in the norm maintenance when the areas around the bins were clean (16%) and when it was littered (1%) (1). **Look for other reasonable marking points**.	**(2)**

Question Number	Answer	Mark
3(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of learning theories to the findings of the anti-littering study (AO2). Up to three marks for judgement/justification of research evidence in relation to the study (AO3). **Application of learning theories to the study (AO2)** For example: • Social learning theory could account for the greater tendency to show norm maintenance in Bern (27%) compared to New York (9%) through the citizens copying their role models who may be more likely to keep areas clean and tidy (1). • The lower amount of direct sanctions in New York (2%) than Bern (12%) could be accounted for by operant conditioning as there may be a higher possibility of positive punishment in terms of retaliation in a large city like New York if an individual directly sanctioned someone littering compared to a small city like Bern in Switzerland (1). • By having cleaner areas, people may experience self-reinforcement for keeping the areas cleaner and could account for the higher chance of norm maintenance in the clean context (16%) compared to the littered context (1%). **Judgement/justification of how far research evidence can account for the findings of the study (AO3)** For example: • Bandura, Ross, and Ross (1961) showed children were likely to learn to imitate a role model acting aggressively and this could be the same for the citizens of Bern in Switzerland who may learn from their role models to keep areas tidier (1). • Skinner (1938) found that if animals were positively punished for their actions then they would be less likely to repeat the behaviour and so could support the idea that people may be less likely to directly sanction others due to previous negative experiences of retaliation (1). • It could be that research investigating conformity to majority influence, such as Asch (1951), explains why people keep tidier areas cleaner and they are following the social norm and not self-reinforcement, so may be more due to social psychology than learning theories (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(6)**

Question Number	Answer	Mark
3(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness of using a meta-analysis for the screen advertising and children study (AO2). One mark for justification of the weakness (AO3). For example: • The 16 studies included in the meta-analysis are likely to have used different methodology so this reduces the test-retest reliability of the study investigating screen advertising (1) because comparisons between the results found regarding the effect of screen adverts on children will be difficult as there will be a lack of replication in the procedures, meaning the researchers cannot directly test for consistency (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
3(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of learning theories to the findings of the screen advertising and children study (AO2). Up to three marks for judgement/justification of research evidence in relation to the study (AO3). **Application of learning theories to the study (AO2)** For example: • Children watching screen advertising could have observed a role model on the internet or TV adverts and then imitated their actions when they were eating which could account for the average 60 calories more for those who witnessed food advertising compared to the control group. • The children repeatedly watching food advertising on screens may have formed an association between the UCS of food and an NS/CS of the advert which led to a UCR/CR of pleasure so were more likely to seek out food after watching the adverts compared to those exposed to non-food advertising who may have formed this association for toys instead and so could account for the increased BMI in the study. • The children in the food group may have gained positive reinforcement from eating the food after watching the screen adverts so this encouraged them to continue to eat after watching food adverts, accounting for the increased calorie intake and BMI, compared to the non-food advertising group who may have gained pleasure from toys instead. **Judgement/justification of how far research evidence can account for the findings of the study (AO3)** For example: • Bandura (1963) found that children would model aggressive behaviour observed on TV by both a human and cartoon cat so could support how children who watch food-based screen adverts would imitate consuming the food and increasing their calorie consumption compared to the non-food advert group. • Pavlov (1927) showed that dogs could be conditioned to salivate to various stimuli, such as a metronome, when being paired with food which could support how children may have formed an association between food and the adverts, which leads to the adverts triggering food seeking in the children and account for the increased BMI over time. • Research from biological psychology, such as Olds and Milner (1954), could equally account for eating more calories after watching food-based adverts as pleasurable behaviours of eating food would activate the dopamine reward pathway and also emotional centres such as the amygdala which would strengthen the desire to consume	**(6)**

	more food in future so may explain the increased BMI too. **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	

Question Number	Answer	Mark
3(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an appropriate practical application of the preschool children and PE study (AO2) One mark for justification of the practical application (AO3) For example: • A practical application is ensuring teachers leading a PE class are trained to show higher levels of activity to encourage the pupils to also be more active (1) because the preschool children had 795 more steps on average with the more active teacher than with the less active teacher (1). • A practical application is ensuring teachers leading a PE class are trained to give higher levels of praise to encourage the pupils to be more active (1) because the preschool children had an average of 1558 steps with the teachers who gave them praise compared to an average of 763 steps with the teachers that did not praise them (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
3(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of social learning theory to the findings of the preschool children and PE study (AO2). Up to three marks for judgement/justification of research evidence in relation to the study (AO3). **Application of learning theories to the study (AO2)** For example: • Social learning theory would suggest the children considered the teacher as a role model which accounts for the both the boys and girls having more steps with the more active teacher, 1560 and 1555 respectively, and less steps with the less active teacher, 765 and 760 respectively (1). • Social learning theory would state the children were observing and imitating their teacher through motor reproduction which accounts for the difference in activity levels in the more active teacher class with 1560 or 1555 steps compared to the less active teacher class with 765 or 760 steps (1). • The higher amount of physical activity in the more active teacher class, with 1560 or 1555 steps than the less active class, 765 or 760, could be accounted for by external motivation as the teacher was praising the children in the more active class and not in the less active class (1). • The children in the more active teacher class may have been internally motivated to continue with higher physical activity in the final lesson and show more steps as they experienced beneficial effects of the exercise over time compared to those in the less active teacher class who had less steps on average (1). • The boys had higher physical activity when the teacher was male with 210 steps more in the more active class and 200 in the less active class, which was similar for girls, showing that the boys identified with the male teacher and the girls the female teacher more as role models (1). **Judgement/justification of how far research evidence can account for the findings of the study (AO3)** For example: • Bandura, Ross, and Ross (1961) showed children were likely to learn to imitate a role model acting aggressively or non-aggressively towards a Bobo doll and this could be the same for the preschool children copying the activity levels of their teacher leading the PE class (1). • Bandura (1965) found that when offering a positive reinforcement to children for aggressive acts they all significantly increased aggression regardless of whether they had seen the model rewarded, punished, or	**(6)**

	with no consequence so shows the power of reinforcement and supports the influence of praise in the more active class increasing physical activity levels. • Studies, such as Mazur (1983), have linked testosterone to aggression, so it may have been that biological factors were at least partly responsible for the more active children, such as if some had been exposed to greater levels of testosterone in the womb, so were more competitive than children who were less active (1). • Bandura, Ross and Ross (1961) found some support for the influence of the gender of the role model, with boys who viewed the male model displaying more physical and verbal aggression and girls who viewed the female role model displaying more imitative verbal aggression, so could provide some support the boys being more active with a male teacher and girls more active with a female teacher (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	

Question Number	Indicative content	Mark
4	**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 **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	**(16)**

	• 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)

SECTION C: ISSUES AND DEBATES

Question Number	Indicative content	Mark
4	**AO1 (6 marks), AO3 (10 marks)** **AO1** • Psychology can be used as a form of social control either in a positive way or a negative way in society. • Raine et al. (1997) used PET scans to examine the activity of the brains of 41 people charged with murder but pleaded NGRI • Before the PET scan participants in Raine et al. (1997) were required to work at a continuous performance task (CPT) that was based around target recognition for 32 minutes • Raine et al. (1997) concluded that violent behaviour could not be attributed to a single brain region and that multiple regions were involved as well as environmental factors • Watson and Rayner (1920) attempted to condition emotional responses to an infant child who was approximately 9 months before testing • Testing began in Watson and Rayner (1920) at 11 months and 3 days where a steel bar (the UCS) was struck behind Little Albert's head when paired with a white rat (the NS) • Watson and Rayner (1920) reported that Little Albert showed fear to the rat and other stimuli over a period of time due to the association with the loud noise which caused fear (the UCR / CR) **AO3** • Raine et al. (1997) found abnormal cortical/subcortical brain processes in murderers which could be used to screen the population. • Identifying potential criminals through brain scanning could lead to interventions being put in place which could help prevent serious crimes like murder. • The sample used in Raine et al. (1997) may lack generalisability so any form of screening may not be useful for most of the population. • The continuous performance task (CPT) and being in a brain scanner in Raine et al. (1997) may not be valid compared to real life so any measures of social control may not be useful. • The difficulty of isolating a single brain region for violent behaviour means that screening the population for violent behaviour would be very difficult and subjective. • As Watson and Rayner (1920) found a child could be conditioned to fear various stimuli, this could be used to condition society to buy products / link to advertising	**(16)**

	• Advertising or public health messages can be considered a form of classical conditioning through association of a product to positive outcomes • Aversion therapy is a treatment which uses classical conditioning principles to attempt to socially control/minimise drug use • Phobias can be treated using systematic desensitisation which is a form of control using relaxation techniques • Only one 11 month old male was tested in Watson and Rayner (1920) which is not representative of the general population so any treatments that are developed from this research may not be helpful for a lot of people • Little Albert's mother withdrew him from the study so his fear of rats (or other stimuli) cannot be tested to see if it can be extinguished so negative forms of social control could be long lasting **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)

	Indicative content	Mark

Number		Mark
4	**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 **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	**(16)**

	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)

SECTION C: ISSUES AND DEBATE

Question	Indicative content	Mark

Question Number	Indicative content	Mark
4	**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. **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	**(16)**

	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)

Section C: Issues and Debates

Question Number	Indicative content	Mark
4	**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. **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.	**(16)**

	• 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)

Section C: Issues and Debates

Question Number	Indicative content	Mark
4	**AO1 (6 marks), AO3 (10 marks)** **AO1** • Informed consent is when a researcher gives information to the participant or guardian if children are recruited and permission is given for their role in the research. • Deception is where a participant is lied to about their involvement in a study. • During Sherif's (1954/1961) study there was name calling and the groups raided each other's huts and burned their flags. • Researchers need to offer participants the right to withdraw from the study at any time with any record of their participation being destroyed. • Little Albert was exposed to unexpected noises using a steel bar and claw hammer behind his head causing fear responses. • Risk management must be considered when conducting research which is the consideration of any potential physical or psychological harm that might be caused by the study being done. • Competence is when a researcher must practice within the boundaries and extent of their abilities with an awareness of ethical issues and seek supervision where necessary. **AO3** • Principals and teachers of local schools gave permission for observation of potential participants in Sherif (1954/1961) and the purpose of the visit was explained to them which shows informed consent was given during participant selection. • Parents were contacted in Sherif (1954/1961) who were interviewed and were told the purpose and aim of the study before gaining their permission and that of a doctor on health grounds which shows they were not deceived and full informed consent was provided. • It could be argued that protection of participants was not fully followed in Sherif (1954/1961) as the boys could have suffered emotional or physical harm due to the events during the study. • The 'camp counsellors' were asked intervene when the Rattlers or Eagles proposals ran counter to health, safety and well being of them as participants so it could be argued that protection of participants was adhered to. • Sherif (1954/1961) aimed to investigate prejudice using experimental methods in a natural setting and they were able to do this with minimal ethical issues but repeating	**(16)**

	the study today would be difficult due to more strict ethical guidelines. • Little Albert withdrew from the study and his mother notified Watson and Rayer (1920) of this at least one month prior to the end of testing. • Watson and Rayner (1920) knew at least one month prior to Little Albert not being available for the research any longer but still chose not to try and extinguish his conditioned fears which raises ethical questions of the researchers. • Imposing unexpected noises to try and create fear in a child could have harmed Little Albert psychologically and he may have gone on to be fearful in the long term which violates protection of participants. • Watson and Rayner (1920) was conducted with few controls and in a haphazard fashion with inconsistent presentation of stimuli and unexpected outcomes such as when the dog barked three times and scared not only Little Albert but the adults too. • Watson and Rayner (1920) claimed Little Albert was healthy from birth and stolid and unemotional with relatively little harm expected but some researchers have claimed he was far from 'healthy' and died at age 6 of hydrocephalus (Beck et al. (2009) although this has been disputed (Powell et al., 2012). **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)

Section C: Issues and Debates

Question Number	Indicative content	Mark
4	**AO1 (6 marks), AO3 (10 marks)** **AO1** • In Rosenhan (1973) there were eight pseudopatients who went to 12 hospitals across the USA which varied with age and funding. • The pseudopatients in Rosenhan (1973) were all asked to say they could hear the same words 'empty', 'hollow', and 'thud' when they went to the hospital. • When at the hospital, the pseudopatients in Rosenhan (1973) were asked to record the behaviour of the staff and other patients in the hospital. • Sherif et al. (1954/1961) carefully selected a sample of 11 year old boys for their study in Robbers Cave state park. • The parents of the children in Sherif et al. (1954/1961) were told the aims of the study and were asked to not visit the camp to try and avoid homesickness. • The children in the Sherif et al. (1954/1961) study took part in competitive activities such as tug of war and baseball to see how this affected prejudice. • Quantitative and qualitative data were collected by camp counsellors throughout the Sherif et al. (1954/1961) study regarding the boys' behaviour throughout the different activities. **AO3** • The decision to select a variety of real hospitals across the USA means that the results about the diagnosis of mental health issues and the treatment of patients has increased validity. • By choosing to have all the pseudopatients to say the same thing when presenting themselves to the hospitals there is a standardised approach which increased reliability. • Asking healthy people to lie about having mental health symptoms in the design and implementation of the study means that the doctors were deceived and the study may therefore not actually be measuring the reliability and validity of diagnosis. • There have been suggestions that when implementing his study Rosenhan may have removed data from a pseudopatient that would have shown positive treatment in the hospitals (Cahalan, 2019) so his reported findings	**(16)**

	lack credibility. • By asking the pseudopatients to take their own notes whilst in the hospitals there is the possibility that they could have been biased in what they chose to report and also Rosenhan in choosing what to report in his published study so there is subjectivity. • Using such a rigorous method of selection for the boys when designing his study means that the differences in the behaviour of the boys could not be due to prior temperament and only due to the situation created for them by Sherif et al. (1954/1961). • Choosing to only use boys of 11 years old and from the USA in the design of the Robbers Cave study means there is limited generalisability of the findings about prejudice to adults, females, and other cultures. • When designing the study Sherif et al. (1954/1961) attempted to account for certain extraneous variables such as presence of parents which could have affected the children's natural behaviour at the camp in an attempt to increase the validity of the findings. • Sherif et al. (1954/1961) took place in Robbers Cave state park in a natural setting for a summer camp but this means there were uncontrolled variables that could have affected the boys' behaviour and undermined the cause and effect relationship between competition and prejudice. • As Sherif et al. (1954/1961) collected both qualitative and quantitative about the boys' behaviour throughout the different competitive and cooperative activities the data can be triangulated and inter-rater reliability established. **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)

Section C: Issues and Debates

Question Number	Indicative content	Mark
4	**AO1 (6 marks), AO3 (10 marks)** **AO1** • In Rosenhan (1973) there were eight pseudopatients who went to 12 hospitals across the USA which varied with age and funding. • The pseudopatients in Rosenhan (1973) were all asked to say they could hear the same words 'empty', 'hollow', and 'thud' when they went to the hospital. • When at the hospital, the pseudopatients in Rosenhan (1973) were asked to record the behaviour of the staff and other patients in the hospital. • Baddeley (1966b) tested the acoustic and semantic coding in the long-term memory by asking participants to remember the order of a list of words and excluded participants who failed a listening test in experiment one. • In his study, Baddeley (1966b) implemented a number of controls, such as the same four lists of words, and precise timings such as for writing down the words seconds and on the intervening filler task. • Baddeley (1966b) concluded that short-term memory and long-term memory largely coded information differently, with the STM relying largely on acoustic encoding and the LTM using semantic coding heavily. **AO3** • The decision to study staff behaviour in a variety of real hospitals is a somewhat holistic approach to considering the reliability and validity of diagnoses compared to a laboratory situation, so this reduces the scientific nature of the study. • By asking all the pseudopatients to say the same thing when presenting themselves to the hospitals there is a standardised approach which increased reliability, so this is to some extent scientific. • Rosenhan's (1973) study was reportedly measuring the reliability and validity of diagnosis, but by asking healthy people to lie about having mental health symptoms means that the doctors were deceived and the study may therefore not actually be testing this hypothesis, so this reduces the scientific rigour of the study. • Rosenhan's (1973) study may be considered less scientific as the pseudopatients were asked to take their own notes whilst in the hospitals and there is the possibility that they could have been biased in what they chose to report so there is subjectivity. • The pseudopatients in Rosenhan's (1973) study used	**(16)**

	direct observation of the staff behaviour and interactions with patients and recorded these quantitatively so could be considered empirical to some extent and therefore somewhat scientific. • Isolating acoustic and semantic coding in Baddeley's (1966b) study is a reductionist way to assess memory, so is considered more scientific. • Baddeley (1966b) used findings from his earlier 1966a study regarding STM to make hypotheses about what would happen in LTM, and refined this throughout the three experiments in 1996b study, so this is a scientific approach. • The use of controls in Baddeley's (1966b) study such as the lists of words and timings means that there was a standardised approach which increased reliability and therefore is considered more scientific. • By using a laboratory setting and removing participants who could not pass the listening test in experiment one, Baddeley (1966b) was excluding extraneous variables so could be more confident in inferring cause and effect, so his study is considered more scientific. • The process of simplifying memory into the short term and long-term memory and concluding it is coded differently is a reductionist approach and therefore 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)

Section C: Issues and Debates

Question Number	Indicative content	Mark
4	**AO1 (6 marks), AO3 (10 marks)** **AO1** • When carrying out research in psychology, there are ethical issues to consider, such as the BPS code of ethics and conduct (2009) which requires psychologists to show responsibility by protecting the participants in their study. • Raine et al. (1997) used 82 participants, including 41 murderers not guilty by reason of insanity (NGRIs) and 41 control participants. • Participants in Raine et al. (1997) carried out a continuous visual performance task for 32 minutes and then had a PET scan afterwards. • In Rosenhan (1973) there were eight pseudopatients who went to 12 hospitals across the USA which varied with age and funding. • The pseudopatients in Rosenhan (1973) were all asked to say they could hear the same words 'empty', 'hollow', and 'thud' when they went to the hospital. • When at the hospital, the pseudopatients in Rosenhan (1973) were asked to record the behaviour of the staff and other patients in the hospital. **AO3** • The participants in Raine et al.'s (1997) study who had schizophrenia were kept off their medication which whilst they consented could be seen as unethical as it could have caused them to have more distressing symptoms. • Controls in Raine et al. (1997) participated under protocols and consent forms approved by the Human Subjects Committee of the University of California, Irvine, so there was full informed consent obtained. • As the murderers were NGRIs, there could be a question of how far they were aware of their ethical rights and understood the procedure of Raine et al. (1997), questioning if they were able to give fully informed consent. • The continuous performance task given to the participants in Raine et al.'s (1997) study did not cause any distress to the murderers and would not therefore breach ethical principles such as the BPS code of ethics and conduct (2009) in terms of protecting them from harm.	**(16)**

	• Participants in Raine et al. (1997) only underwent a single PET scan, so the possible impact on their health and well-being as a result of their exposure to the radioactive tracer would be negligible, protecting them from long-term harm. • There are potential ethical concerns of governments using Raine et al.'s (1997) findings to impose brain scans on wider society as they may claim they could prevent potential crimes as some brain differences between the murderers and controls were found in the study. • Asking healthy people to lie about having mental health symptoms when presenting themselves means that the doctors were deceived as they were under the impression the pseudopatients were telling the truth. • Rosenhan (1973) took steps to protect the identity of the hospitals used and the pseudopatients so he did try to ensure confidentiality when conducting his study. • Staff at the hospitals in the study were reported to have ignored patients and dehumanised patients, which may have damaged the psychological well-being of staff in other hospitals and those that were innocent of this claim. • The abuse Rosenhan's (1973) research claimed to be occurring in mental health hospitals may have deterred people requiring help and support from seeking it, fearing they would be abused, so could have inflicted harm on wider society. • There have been suggestions that when implementing his study Rosenhan may have removed data from a pseudopatient that would have shown positive treatment in the hospitals (Cahalan, 2019) so his reported findings may have created unnecessary harm to staff at hospitals. • Rosenhan later told a research and teaching hospital that he would send more pseudopatients over a period of 3 months but none were sent, deceiving the hospitals and potentially causing harm to real patients who were treated suspiciously due to Rosenhan's claim. **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)

Section C: Issues and Debates

15	**AO1 (4 marks); AO3 (4 marks)** **AO1** • Reductionism involves breaking aspects of human behaviour into individual parts. • The multi-store model explains memory a simplistic processing system of three stores. • Many models of memory in cognitive psychology consider how the brain operates in a similar manner to a computer. • Cognitive psychology also used case studies of brain damaged patients which gather detailed information. **AO3** • Research into cognitive psychology often uses simplified tasks, like word lists, which reduce memory to a system of information processing. • Multi-store model assumes attention and rehearsal is required for memory which is reductionist as it ignores how people recall experiences they have not rehearsed. • Bartlett's (1932) reconstructive memory relies on schemas which come from whole life experience therefore is holistic so not all cognitive psychology can be considered reductionist. • The case of HM demonstrated the ability to learn procedural skills without rehearsal, showing that reducing memory to a set of stores is insufficient to explain how all memory works so cognitive psychology should be more holistic. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks) AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs assessment/conclusion in their answer.**		
Level 0	0	No rewardable material.
Level 1	1–2 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 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	5–6 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 may be imbalanced. (AO3)
Level 4	7–8 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Question Number	Indicative content	Mark

14	**AO1 (4 marks); AO2 (4 marks)** **AO1** • Practical issues include trying to control research to ensure replicability to increase reliability. • The use of animals or rare/limited populations to represent general theories of human learning can lead to generalisability issues. • The practical issue of achieving findings that represent real life requires researchers to limit the artificiality of tasks and environments. • Some methods can be expensive to undertake leading to the practical issue of cost implications for researchers. **AO2** • Within learning theories, Pavlov (1927) undertook a similar experiment numerous times with multiple dogs using controlled conditions. • Raine et al. (1997) used murderers pleading NGRI in their study which represents a population who may not be representative of others. • Bandura's studies of modelling took place in an artificial setting for the children who played individually behind a screen so have limited ecological validity. • CT scans are cheaper than PET scans but they do not show brain activity, only brain anatomy, so the cost benefit may outweigh the usefulness of the scans. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer.		
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed, but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Question Number	Indicative content	Mark

Question Number	Indicative content	Mark
11	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Respect requires researchers to keep participant details private and confidential. • Respect involves giving full informed consent to the participant before the research study. • Responsibility involves being protecting participants from harm. • Respect includes offering the participants the right to withdraw from the research at any time. **AO3** • Case studies in cognitive psychology regularly give participants a pseudonym to protect their identity, such as H.M., so this research is therefore ethical. • Sherif (1954/1961) had an individual interview the parents to explain the purpose and aim of the study and gain permission for the boys to participate in all camp activities and give their own permission so this shows informed consent was obtained. • Participants in Milgram's research showed visible signs of distress when they thought they were electrocuting the learner so by not protecting participants social psychology research may not be ethical. • Researchers working with H.M. could offer the right to withdraw but due to his impaired memory the extent to which this was followed is questionable, so this research may not be ethical. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Ccandidates must demonstrate an equal emphasis between knowledge and understanding vs assessment/conclusion in their answer.		
Level 0	0	No rewardable material
Level 1	1–2 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 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	5–6 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 may be imbalanced. (AO3)
Level 4	7–8 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

15	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Classical conditioning (Pavlov, 1927) proposed that a neutral stimulus became associated with an unconditioned instinctive response. • Operant conditioning developed to account for human responses that were conditioned because of consequences. • Bandura extended operant conditioning to explain learning behaviour from observing others rather than direct reinforcement. • Bandura advanced social learning theory with social cognitive theory to account for individual autonomy and new sources of modelled behaviour. **AO3** • Pavlov (1927) gave a narrow explanation of human conditioning, although this remains valid for a limited range of behaviours, such as phobias, however it has been superseded over time by more comprehensive explanations of learning behaviour. • Operant conditioning principles remain in use for many reward systems, such as token economy programmes, but there has been limited direct development of this theory over time. • Bandura's research in the 1960s showed role models could increase aggression through modelling with recent studies such as Bastian et al. (2011) continuing this research with modern media. • Bandura (1999) continues to develop social cognitive theory reflecting further understanding of cognitive processes and how changes in society, such as social media, are changing the way behaviour is modelled and reproduced. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs assessment/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 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	5–6 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 may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Question Number	Indicative Content	Mark

12	**AO1 (4 marks), AO2 (4 marks)** **AO1** • Practical issues impact on choices that researchers make when selecting measures in their research to meet the aims of a study. • Gathering a sample, such as random, volunteer or opportunity, would depend on the access a researcher has to the target population. • Deciding what apparatus or materials to use in a study could be an issue that depends on the time or money available to a researcher. • Ethical issues such as gaining fully informed consent would need to be considered against potential for causing demand characteristics that impact on the findings. **AO2** • The questionnaire about personality and obedience was designed using items from the F-scale to increase the reliability of our measures of personality. • We used an opportunity sample as each student took five questionnaires home to family members as we did not have access to a range of ages within college. • The questionnaire was piloted with two teachers to check understanding of the items as our deadline for the work did not allow us time to ask more than two. • To meet ethical guidelines we included an explanation of the questionnaire and how the data would be used so our family members could read this and decide whether or not to complete the questions. **Answers must relate to the social practical of a questionnaire to gather both qualitative and quantitative data.** **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer		
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments, but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Question Number	Indicative Content	Mark

12	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Reductionism means looking at the smaller, isolated parts of human behaviour when studying and measuring it. • Holism looks at the whole person instead as it considers the influences of experience/culture/socialisation on human behaviour. • Watson and Rayner (1920) focussed on the pairing of a stimulus and response between a rat and Little Albert's emotional reaction. • Scientific research may reduce complex human actions into isolated specific variables when testing the learning of behaviour. **AO3** • Operant conditioning reduces learning to simplistic rewards and punishments in suggesting that a desired consequence can sufficiently explain learned behaviour. • Social learning theory suggests learning is more holistic and includes cognitive processes involved attention to role models that individuals identify with, so not all theories of learning are reductionist. • As Watson and Rayner (1920) only focussed on stimulus-response associations they ignored possible external factors for Little Albert's emotional reaction, some features of learning theory could be considered reductionist. • Learning theories may ignore the whole picture involved in learning behaviours because of their focus on the isolated components of behaviour as they are underpinned by empiricism and scientific testing, such as Skinner's (1948) study of pigeons. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs assessment/conclusion in their answer.**		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 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	5–6 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 may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Question Number	Indicative Content	Mark

12	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Animal research is governed by the Scientific Procedures Act (1986) to make sure it is conducted with consideration for the animals safety and welfare. • Animals should be given appropriate conditions to live in to ensure they are well looked after and cared for, before, during and after experimental testing. • Pavlov (1927) studied salivation in dogs to theorise that people and animals could be conditioned to behave in certain ways. • The three R's include replacement where animal use only takes place when necessary; refinement of procedures to minimise harm; and reduction of the number of animals used. **AO3** • The Bateson Cube is used to determine a cost-benefit analysis of research using animals, which helps determine whether the potential benefits to humankind outweigh any harm that may be caused to animals during the research to ensure ethical issues are considered carefully in research. • Small animals such as rodents can be housed in small laboratory spaces, which allows researchers to maintain ethical considerations of suitable conditions whilst having sufficient animals to undertake testing with, so ethical issues can be met. • Pavlov (1927) inserted a tube into the dogs to collect the saliva to be measured, which may have caused unnecessary pain to the dogs as conditioning could be tested in other ways, so not all research with animals is fully ethical. • Skinner studied pigeons and attempted to train them to carry missiles during WWII, this is unethical as the animals would have been sent to their deaths, however during the time of war it was considered acceptable to attempt to use animals so it was necessary to use pigeons in this way. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs assessment/conclusion in their answer.**		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 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	5–6 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 may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Question Number	Indicative Content	Mark

16	**AO1 (4 marks), AO3 (4 marks)** **AO1** • The BPS code of ethics and conduct (2009) includes the overall principles of respect, competence, integrity, and responsibility. • Researchers are required to inform the participants of their right to withdraw from participating in studies at any time. • A debrief should be given at the end of a study to ensure the participants are aware of the outcomes of research and the findings that may relate to them and ensure their wellbeing. • The ethical considerations under the Animals (Scientific Procedures) Act 1986 guidelines would need to be considered when designing research to test biological ideas and theories. **AO3** • Researchers in biological psychology should ensure their participants are legally competent to consent, especially in studies such as Raine et al. (1997) where the 41 NGRI's were doing so as part of a sentencing process for murder. • Wong et al. (1997) undertook MRI scans of 19 violent male criminals in Broadmoor hospital where the prisoners may not have felt they had the autonomy to be able to withdraw due to their position as prisoners. • In studies such as Barzman et al. (2013), where 17 boys aged 7-9 from a psychiatric hospital were tested for aggressive hormones like testosterone in saliva and rated for aggression, a debrief should ensure there is no labelling effect on the children, and they understand that such a correlation is not deterministic. • Andy and Velamati (1978) stimulated the hypothalamus and basal ganglia of cats and found they had aggressive seizures, such research would now need to consider the criteria of refinement, reduction, and replacement to be implemented under current ethical guidance. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs assessment/conclusion in their answer		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 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	5–6 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 may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Question Number	Indicative Content	Mark

15	**AO1 (4 marks), AO2 (4 marks)** **AO1** • The process of gathering a sample requires the use of sampling techniques such as volunteer, opportunity, random or stratified sampling to gather representative participants. • Issues of validity come from making sure that variables are clearly operationalised, and that data is recorded in a non-biased and objective way. • Making sure the procedure is standardised so researchers are able to replicate the investigation to ensure consistency of findings should be considered in designing research. • During an observation researchers can use inter-observer checks to increase the reliability of the information being recorded by each researcher. **AO2** • We were limited in choice to an opportunity sampling technique as we were observing whichever drivers were driving on the road outside our school on the day that we conducted the observation. • Our independent variable was the gender of the driver which we operationalised as male or female and the dependent variable was the measure of speed in seconds between two agreed positions along the road. • We conducted a pilot study to test our measure of fast and slow driving, in timing the teacher driving her car at the speed limit between the two points to ensure all researchers understood how to record the data . • Three students independently gathered data at the same time about the gender of the driver and the time in seconds between, so we could compare records to check for reliability. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer		
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments, but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Question Number	Indicative Content	Mark

16	~~AO1 (4 marks); AO2 (4 marks); AO3 (4 marks)~~ **AO1** • Obedience is the process of following a direct order from an authority figure. • Social impact theory assumes multiplicative factor of strength, immediacy and number influence social behaviour. • Biological psychology includes the evolutionary element of human behaviour. • Hormones such as testosterone may lead to aggression. **AO2** • Matt may have been told by a gang leader to hit another person. • Matt may be influenced by a high-status friend to be aggressive. • He may be fighting to show that he is stronger than other males around him. • As Matt is 16 years old, he has increased levels of testosterone. **AO3** • Blass (2012) suggests that obedient behaviour is similar cross-culturally and therefore is a plausible explanation of Matt's behaviour. • Social impact theory does not consider individual differences like personality and sees humans as passive so may not fully explain behaviour. • Raine (1997) suggests that brain activity is different in convicted murderers so biological explanations that focus on the brain rather than evolution may be a better explanation. • Freud suggests that unconscious processes play a significant role in aggression not hormonal imbalances, therefore it may be that neither social or biological explanations can explain Matt's aggression. **Look for other reasonable marking points.**	**(12)**

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 1	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)

Question Number	Indicative content	Mark
5	**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 **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.**	**(12)**

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)

15	**AO1 (6 marks); AO3 (6 marks)** **AO1** • Nature relates to innate characteristics such as genes, hormones, and the brain. • Nurture relates to environmental factors such as drugs, disease, and diet. • Psychologists are interested in the nature-nurture debate to find the source of behavioural traits in individuals. • If we know if behaviour is caused by nature or nurture, we can establish suitable strategies for modifying behaviours. • Social psychology explains human behaviour through the influence of groups and personality. • Cognitive psychology attempts to explain how memory works using models such as the multi store model which emphasises nurture in the need for attention and rehearsal. **AO3** • The case of HM supports the existence of nature affecting the memory as he was unable to remember new factual information after surgery. • Clive Wearing (Blakemore, 1988) supports nurture to a certain extent because an illness prevented new memories being stored. • Blass (2012) found little difference between obedience cross-culturally which suggests that a nature explanation underpins obedience to a certain extent. • Milgram's variations show differences in obedience and conformity as a result of proximity and status which can, to an extent, be used to reduce situations result in blind obedience. • Social Impact Theory suggests the number of sources and targets can influence obedience in group situations, therefore the environment can play a significant role. • Peterson & Peterson (1959) showed the influence of rehearsal on short term memory which is a nurture factor that can be applied to some extent to improving student learning. **Look for other reasonable marking points.**	**(12)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (6 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs judgement/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–3 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A judgement/decision 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) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material leading to a judgement/decision being presented. Candidates will demonstrate a grasp of competing arguments but response may be imbalanced. (AO3)
Level 3	7–9 Marks	Demonstrates accurate knowledge and understanding. (AO1) Displays a mostly developed and logical argument, containing mostly coherent chains of reasoning. Demonstrates an awareness of competing arguments, presenting a judgement/decision which may be imbalanced. (AO3)
Level 4	10–12 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments and presents a balanced response, leading to a balanced judgement/decision. (AO3)

Question Number		
5	**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). **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.**	**(12)**

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)

Question Number	Indicative content	Mark
12	**AO1 (6 marks), AO3 (6 marks)** **AO1** • To be scientific psychology should have a high degree of control which should minimise extraneous variables as far as possible • Hypothesis testing is used to enable concepts to be falsified. • Science uses a hypothetico-deductive model for experimental research. • A scientific approach will look for cause and effect relationships. • In order to be defined as a science an approach should conduct research in a controlled, artificial setting to aid replication. • Scientific concepts tend to be studied independent of their context so are reductionist. **AO3** • Raine et al. (1997) used the same continuous performance task and ensured medication did not affect the brain scans, so studies such as this are scientific. • When testing the effects of recreational drugs, such as alcohol, biological psychologists hypothesise the impact that it will have, for example to increase serotonin and elevate mood, which contributes to it being scientific. • The role of hormones such as testosterone could be assessed using the hypothetico-deductive model where data is collected on those with high or low testosterone to see how this influences behaviour, which suggests biological psychology is scientific. • Brain scans are used in biological psychology which can be replicated using different participants in a controlled, artificial setting in a laboratory so this approach is scientific. • Biological psychology uses correlation which does not explain the underlying causes behind relationships so to some extent it is not scientific. • Evolution and natural selection takes into account the environment, socialisation, and the interrelationships between them so is not a fully reductionist concept so this is not wholly scientific. **Look for other reasonable marking points.**	**(12)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (6 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs judgement/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–3 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A judgement/decision 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) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material leading to a judgement/decision being presented. Candidates will demonstrate a grasp of competing arguments but response may be imbalanced. (AO3)
Level 3	7–9 Marks	Demonstrates accurate knowledge and understanding. (AO1) Displays a mostly developed and logical argument, containing mostly coherent chains of reasoning. Demonstrates an awareness of competing arguments, presenting a judgement/decision which may be imbalanced. (AO3)
Level 4	10–12 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments and presents a balanced response, leading to an effective nuanced and balanced judgement/decision. (AO3)

Number	Indicative content	Mark
5	**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. **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	**(12)**

	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)

Question	Indicative content	Mark

16	**AO1 (6 marks), AO3 (6 marks)** **AO1** • Social control is when individual or group behaviour is regulated so they comply with social norms and structures. • Exercising social control can be a conscious decision by those in power to elicit behaviours they want to see from others. • Understanding factors affecting obedience can help give insight into how to prevent unacceptable control of others. • Biological research can be used to legitimise the social control of minority out-groups, such as criminals. • Some biological explanations see behaviour as pre-determined, categorising individuals as inherently different making them more susceptible to being controlled by others. • Biological psychology has contributed to drug-based treatments for substance misuse which help an individual control addiction. **AO3** • Social structures are hierarchical to promote harmony and an organised society, suggesting we have evolved a predisposition towards control and obedience for the benefit of survival. • Milgram (1963) demonstrated that authority figures can elicit control over others to commit actions they may not normally do, leading to individuals being controlled by those in power. • Sherif (1954/1961) found that the use of superordinate goals can help groups in conflict work together and reduce out-group hostility where they feel superior to the other group. • Raine (1997) found differences in the brains of murderers which could be used to justify the screening of individuals to find out if they are more likely to become criminals than other members of society. • Court-Brown (1965) suggested controlling patients with XYY chromosomes by keeping them hospitalised given their increased likelihood of aggressive behaviour. • Drug treatments can be considered a medical 'straightjacket' that masks the environmental triggers leading to addiction by subduing physical dependency, controlling cravings but not treating causes. **Look for other reasonable marking points.**	**(12)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (6 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.		
	0	No rewardable material.
Level 1	1-3 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	4-6 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	7-9 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	10-12 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)

Question Number	Indicative content	Mark
5	**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. **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.	**(12)**

	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)

13	**AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)** **AO1** • Cognitive psychology can explain how individuals process, store and retrieve information in short and long term memory to understand individual differences in memory functioning. • Reconstructive memory shows how new information may be assimilated into existing memories and result in changes that cause individuals to incorrectly recall events and experiences. • Social learning theory provides knowledge about the influence of identifying with role models to show why individuals replicate some of the behaviours they observe. • Operant conditioning demonstrates how positive reinforcement can be used to reward desired behaviours to encourage that behaviour to be repeated again. **AO2** • Understanding processes in working memory can be applied in practical solutions, such as 'cogmed' interventions that help people with Dyslexia improve their processing speed. • Police questioning techniques have improved to prevent leading questions manipulating the memory trace of witnesses to crimes and increase accuracy of testimonies. • The media can limit access to unsuitable role model behaviours such as aggressive behaviours, through age restricted content, such as film classifications or computer game ratings. • Institutions such as schools can utilise concepts of reward through merit systems, house points, or certificates to encourage desired behaviour in their students in the school setting. **AO3** • Dunning et al. (2012) showed that verbal working memory was improved in children who used working memory tasks and computer programs, so cognitive psychology can be applied well to improving educational attainment. • Yuille and Cutshall (1986) found that eye witnesses to real life crimes were more accurate than laboratory experiments suggest, so cognitive research into memory accuracy may not be useful if it does not reflect real life situations. • Eron et al. (1972) measured the level of violence in television programmes watched by seven to eight year olds and measured their aggressiveness, finding a positive correlation between the two, so this helps society tackle issues of aggression in the media. • It could be considered unethical to manipulate the behaviour of vulnerable individuals such as children through the use of systems aimed at the modification of behaviour without the individuals being fully aware of this manipulation, limiting how well learning theories can be utilised in society. **Look for other reasonable marking points.**	**(12)**

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.		
	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)

Question Number	Indicative content	Mark
5	**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. **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	**(12)**

	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)

13	**AO1 (6 marks), AO3 (6 marks)** **AO1** • Nurture refers to the environment, interactions, and experiences that a person has over the duration of their lifetime. • Nature refers to the internal, innate aspects of a person that they are born with such as their physiological attributes. • Amnesia may occur following damage to brain regions because of an environmental influence. • Brain functioning can be influenced by nurture such as drug taking behaviour to achieve reward pathway excitation. • Nurture can include cultural experiences that change memory process through building individual schemas. • The environment can influence brain functioning, such as through exposure to toxins in the womb resulting in early developmental damage to the brain. **AO3** • Nurture is difficult to isolate when studying memory or brain functioning and so the influence of nurture on these components of human behaviour may never be completely measurable. • Raine et al. (1997) found differences in the brains of murderers (NGRI's) suggesting that violence is a result of brain functioning in the prefrontal cortex, so nurture may not have a strong influence. • The case of HM shows that human memory is a function of the brain but that an environmental process can change the operation of human memory, so nature and nurture are linked. • Olds and Milner (1954) found that stimulation of neural pathways resulted in the experience of pleasure, so while a neural response is an innate process it is the drug intake that triggers this, which would be nurture. • Bartlett's (1932) theory of reconstructive memory highlights how we use prior experiences and schemas that are part of individual personal history, so memory is highly influenced by nurture. • The influence of cannabis during pregnancy has been claimed by Chia-Shan Wu et al. (2011) to interfere in pre-natal brain maturation leading to deficits in higher-order cognitive functions, meaning nurture can influence both biological and cognitive psychology simultaneously. **Look for other reasonable marking points.**	**(12)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (6 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs judgement/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–3 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A judgement/decision 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) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material leading to a judgement/decision being presented. Candidates will demonstrate a grasp of competing arguments but response may be imbalanced. (AO3)
Level 3	7–9 Marks	Demonstrates accurate knowledge and understanding. (AO1) Displays a mostly developed and logical argument, containing mostly coherent chains of reasoning. Demonstrates an awareness of competing arguments, presenting a judgement/decision which may be imbalanced. (AO3)
Level 4	10–12 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments and presents a balanced response, leading to a balanced judgement/decision. (AO3)

Question Number	Indicative content	Mark
5	**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. **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	**(12)**

	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)

13	**AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)** **AO1** • The multi-store model of memory assumes that processing is a structural feature of human cognition which includes rehearsal and encoding as part of memory processing. • The central executive is said to be the control centre responsible for focussing attention and inhibiting distraction from multiple information inputs into our short-term memory. • Research into memory processes in cognitive psychology has included the use of brain scanning techniques to try and find the locations of memory functions like the central executive. • Episodic memory is time and spatially referenced information about life events that an individual has experienced. **AO2** • Marco may not have rehearsed the events of the fight with the other man and so cannot fully remember what took place as he had not transferred this to his long-term memory store. • Marco demonstrates cognitive confusion which could indicate he has abnormal executive functioning, explaining why he lacks an ability to process what is taking place around him and becomes frustrated and aggressive. • The referral for a brain scan could provide empirical evidence for Marco's memory processing to help him understand why he was found by police at 3am unable to get home. • Marco recalled the fact that the man was lying but had an inability to recall exactly what happened during the fight, which may show an issue with his memory of life experiences and an episodic dysfunction in his long-term memory store. **AO3** • Peterson and Peterson (1959) found that when STM rehearsal was prevented using an interference task, participants could not recall the trigrams after 18 to 30 seconds, so rehearsal appears to be required for transfer of information to LTM. • Marco's frustration and aggression may not be the result abnormal executive processing, as Raine et al. (1997) found that brain functions, such as reduced glucose metabolism in bilateral prefrontal cortex, could be linked to aggression. • Schwindt and Black (2009) conducted a meta-analysis of fMRI studies of Alzheimer's disease which showed that Alzheimer's disease patients show decreased activation in the MTL, so the brain scan could help find out if Marco has this type of disorder. • Ostergaard (1987) studied a 10-year-old boy with brain damage to his episodic but not semantic memory as he could make academic progress, which suggests that Marco could have damage to one feature of his long-term memory. **Look for other reasonable marking points.**	**(12)**

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.		
	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)

Question Number	Indicative content	Mark
5	**AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)** **AO1** • A genetic predisposition is where an individual has the genetic information to give them the ability to have an increased likelihood of developing a trait. • The brain has two hemispheres, with the left hemisphere of the brain being predominantly used when processing language and the right hemisphere more active during spatial tasks. • The dopamine reward pathway gives reinforcement to individuals who do things that they find pleasurable by releasing dopamine and gives them motivation to repeat the act. • A phenotype is where the inherited genotype from parents is combined with environmental factors in an individual's life to give the expressed traits. **AO2** • Ada's mum enjoys reading and so does Ada so it may be that she has a gene which predisposed her to be able to have a higher level of reading development. • Ada may have greater development of her left hemisphere of the brain as she enjoys reading which requires language processing whereas Daniel may enjoy tasks involving more spatial ability like the video games as he does not like reading. • When she reads Ada may have enhanced dopamine initially to encourage her to read more but Daniel may not have the same increase in dopamine as he does not enjoy reading so he does not have the same motivation to want to read books. • As Ada's mum enjoys reading, her mum may have the gene(s) for enhanced reading development which may have become an expressed trait when combined with her environment where Ada may have been encouraged to read and been rewarded by her excellent reports from school. **AO3** • Chester et al. (2015) found that low functioning MAOA genotype in 277 female and male participants was linked to greater aggression, so it may be that there is also a gene for aggression, which could be the same for	**(12)**

	reading ability and so could account for Ada's advanced reading development. • Studies that use PET scanning to measure brain activity for tasks such as reading take place in artificial controlled settings so may not represent the brain activity of an individual in their everyday life. • Evidence from Volkow et al. (2009) supported the dopamine changes in the brain for drug abuse and addiction with short term increases for use of drugs but deficits in addicted individuals, so the same changes in dopamine could happen when Ada is reading so it motivates her to continue reading. • Social learning theory could equally explain Ada's enjoyment of reading or Daniel's enjoyment of television as they could have been observing and imitating their parents as role models so biological psychology is not the only explanation for Ada and Daniel's behaviour. **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)

17	**AO1 (6 marks), AO3 (6 marks)** **AO1** • Socially sensitive research has implications beyond the research itself impacting on researchers, individuals, or groups in society. • Sensitivity can also arise as people might be treated differently because of the way research findings are interpreted or reported. • Psychologists should separate their roles of researcher and member of society to ensure there is no abuse of their power. • Cognitive research that looks at information processing is unlikely to have socially sensitive implications to individuals or society. • Participants in Reicher and Haslam (2006) knew they would be on television but may not have realised how much their behaviour may change in the mock prison. • Sieber and Stanley (1988) suggested five key features of socially sensitive research that required consideration, which has led to ethical improvements when researching socially sensitive topics. **AO3** • Cohrs et al. (2012) suggested personality types were indicators of prejudice which could lead to screening the population for those traits and marginalisation of those individuals. • Patients with memory loss, such as Clive Wearing, are often vulnerable and sensitivity should be shown to ensure they and their carers fully understand the implications of the research. • Sherif (1954/1961) showed that conflict comes more from the situation, such as competition over material resources, than from the person which is less sensitive to individuals in society. • However, cognitive research has contributed insensitively to issues of racial difference, with Goddard (1913) using intelligence tests on immigrants arriving in New York, and subsequently claiming that specific groups were "feeble-minded" and influencing American social policies for immigration. • Reicher and Haslam (2006) needed social sensitivity in explaining to society their findings and in debriefing participants who were by then known to the public for their actions in the prison. • Although Berghmans (1998) suggests a high level of decision-making capacity is needed for valid consent to participate in some research, and so questions whether people with dementia, even in the early stages of the disorder, would really satisfy this criteria. **Look for other reasonable marking points.**	**(12)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (6 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs judgement/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–3 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A judgement/decision 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) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material leading to a judgement/decision being presented. Candidates will demonstrate a grasp of competing arguments but response may be imbalanced. (AO3)
Level 3	7–9 Marks	Demonstrates accurate knowledge and understanding. (AO1) Displays a mostly developed and logical argument, containing mostly coherent chains of reasoning. Demonstrates an awareness of competing arguments, presenting a judgement/decision which may be imbalanced. (AO3)
Level 4	10–12 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments and presents a balanced response, leading to a balanced judgement/decision. (AO3)

Question Number	Indicative content	Mark
5	**AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)** **AO1** • Multi store model states that to remember information in the long term someone needs to pay attention to it and then rehearse it. • Schema theory states memory for events rely on schemas which are packets of knowledge about how an event usually happens and so where there are gaps in recall, people use their schema to fill in the gaps. • Reconstructive memory assumes people hold stereotypes that can affect the accuracy of the memory as these are used to reconstruct events which can be inaccurate. • Episodic memory is for personal experiences and are linked to the place and time that they happened but are prone to being transformed or interfered with, leading to forgetting. **AO2** • Anthony may not have been paying attention and rehearsed what the cake looked like at the party, which is why he misremembered it as having candles and Carli's name. • Anthony may have a schema that birthdays have balloons and cakes with candles so where he could not remember he filled in the gaps in his recall with these details consistent with his schema for birthday parties. • Anthony may have a stereotype of girls at a birthday party having pink balloons and wearing a dress, which he has incorporated into his memory of Carli's party, but this is an inaccurate reconstruction of the events. • Anthony may have difficulty in remembering the cake, candles, and what people were dressed like as he is at college so his episodic memory for the birthday party may have been interfered with or transformed. **AO3** • Peterson and Peterson (1959) showed how preventing rehearsal using an interference task led to the majority of trigrams being forgotten after 18 seconds so supports the importance of rehearsal in keeping information so could account for Anthony misremembering the cake.	**(12)**

	• Research into cognitive psychology commonly uses artificial tasks using word lists and trigrams which are not everyday uses of memory and so may not represent human everyday memory for conversations and important dates, so may not account for Anthony's memory of the party. • Bartlett (1932) supported reconstructive memory, including schema theory, with the War of the Ghosts story where participants transformed details such as canoes to boats and rationalised details to make it fit with their schema, so could support why Anthony misremembered Carli's party. • Biological psychology may also explain why Anthony got angry and knocked the mobile phone out of Carli's hand due to higher levels of testosterone in Anthony as he is male and this could have made him act more impulsively and aggressively. **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)

16	**AO1 (6 marks), AO3 (6 marks)** **AO1** • Science involves the empirical investigation of observable and measurable phenomena to gain insight into human behaviour. • Science uses objective methods to gather and analyse data about human behaviour, such as in the cognitive topic Sebastian Hermnedez-Gill (2012) measured the digit span of the children. • Falsification is the idea that for a theory to be scientific, it must make predictions that can be tested and potentially show which aspects are incorrect. • Standardised procedures and the use of the experimental method allow researchers to isolate specific variables, for example, in the cognitive topic, Lab experiments are used to investigate components of memory. • Reductionism, in relation to psychology as a science, is the approach of breaking down complex human behaviours into simpler, measurable components. • Controlling extraneous variables refers to the process of minimizing the influence of variables other than the independent variable that could affect the outcome of an experiment which is crucial because it allows researchers to establish cause and effect relationships **AO3** • Milgram (1963) used a laboratory context to test obedience which included the measurement of obedience in the level of voltage participants gave when ordered, so these measures can be considered scientific as it allows clear cause and effect to be established. • Sebastian Hernandez Gill (2012) collected quantitative data, where participants had to get 2/3 sequences correct to measure digit span, this is scientific as it reduces the risk of research bias. • In social psychology, falsification can be difficult, for example in social identity theory it explains behaviour like in-group favoritism, but it doesn't consider other situational factors like competition, reducing its scientific status. • Baddeley's study had a standardised procedure as, words were presented at a rate of one every 3 seconds via a projector, therefore this consistent procedure across all conditions enhanced the reliability of the findings, supporting psychology's status as a science. • Case studies in the cognitive topic often focus on unique, in-depth accounts of individuals, such as brain-damaged patients (e.g. HM), which limits the ability to break behaviour down into universally measurable components reducing the scientific credibility of conclusions drawn. • Sherif's Robbers Cave study lacked control over extraneous variables due to its natural camp setting, making it difficult to determine if intergroup conflict was caused by the manipulated variables and challenges the study's scientific credibility. **Look for other reasonable marking points.**	**(12)**

Question Number	Indicative content	Mark
5	**AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)** **AO1** • Agency theory states that individuals are more likely to obey people they perceive to be an authority figure when in an agentic state. • An authoritarian personality is where someone who has experienced harsh parenting has an admiration of rules and respects authority so is more likely to obey authority figures. • Social impact theory states the closeness of individuals acting on a target source can influence the likelihood a behaviour is to be carried out. • Social identity theory suggests that as part of social identification people assume the behaviours and norms of their in-group and become prejudiced to their out-groups. **AO2** • Kristie may have shifted into an agentic state when Dominique told her to sneak into the teacher's classroom and take photos of the forthcoming test and did so therefore obeying her command. • It may be that Kristie has an authoritarian personality, as she could have experienced harsh parenting, so was more likely to obey authority figures, so could explain why Kristie obeyed Dominique's order for her to sneak into the teacher's classroom to take photos of the test. • Dominique told Kristie directly in a one-to-one situation to sneak into the teacher's classroom to take photos of the test, so this would have a large impact on her in how she would respond due to immediacy of her as a social source. • Kristie may see Dominique and the other students as part of her in-group and the teachers and other staff at school as her out-groups, so it may be that following the norms of the student group at her school is to steal a test, rather than study for it, which would be advocated by the teachers in the out-group. **AO3** • Milgram's research into obedience showed that a majority of people were willing to obey an authority figure who was in a lab coat (uniform) to give a lethal electric shock when told to do	**(12)**

	so, supporting the influence of legitimate authority figures on individuals such as Kristie. • Elms and Milgram (1966) found that fully obedient individuals scored higher on the 'F-scale', which measures levels of authoritarianism, compared to defiant participants, so could support Kristie being more obedient to Dominique if she had this personality type. • Milgram, Bickman, Berkowitz (1969) showed support for fewer individuals having a larger influence on a target source, but the theory does not consider the impact of personality so it could be personality factors affecting Kristie into obeying Dominique's command. • Operant conditioning suggested people repeat behaviours when they are given a positive stimulus, and could also explain why Kristie snook into the teacher's classroom to take photos of the test as she wanted a reward as she had previously from Dominique, so social factors may not be a complete explanation for human behaviour. **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)

Question Number	Indicative content	Mark
6	**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 **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	**(20)**

	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)

Question Number	Indicative content	Mark
6	**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 **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	**(20)**

	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)

Number	Indicative content	Mark
6	**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. **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	**(20)**

	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)

Question Number	Indicative content	Mark
6	**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 **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	**(20)**

	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)

Question Number	Indicative content	Mark
6	**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. **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	**(20)**

	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)

Question Number	Indicative content	Mark
6	**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. **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	**(20)**

	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)

Question Number	Indicative content	Mark
6	**AO1 (8 marks), AO3 (12 marks)** **AO1** • The BPS code of ethics and conduct (2009) requires psychologists to show responsibility by protecting the participants in their study. • Psychological research needs to ensure respect by allowing participants to leave the study when they wish without any pressure to remain in the research. • When conducting psychological research with humans, the researchers are expected to keep all participant records anonymous and confidential. • Research investigating psychological issues could involve telling the participants everything about the study in giving full informed consent or sometimes the researchers are allowed to purposely deceive the participants. • Psychological research involving animals requires a personal licence which requires the researcher to only kill any animals when necessary and in an appropriate way. • A majority of the research used for the review by Carlsson et al. (2000) used animals to show that there were other neurotransmitters than just dopamine involved in schizophrenia, so the benefits must have been considered against the costs for these studies before they were allowed to be conducted. • When necessary, endangered species of animals can be used in psychological research when it is considered to benefit the species as a whole in terms of its survival. • The Animal Scientific Procedures Act (1986) states that protected animals are any living vertebrate, other than humans, and any living cephalopod. **AO3** • Burger (2009) wanted to protect the participants in his study by using a two-step screening process to exclude any individuals who may have a negative reaction to the experience in his obedience study. • It could be said that Milgram (1963) did not protect the participants in his obedience experiment as they reported experiencing psychological distress and three participants had full-blown seizures. • Sherif et al. (1954/1961) allowed two of the boys from the group called the Eagles to leave the study due to	**(20)**

	homesickness so research can investigate prejudice whilst also being ethical. • When conducting his research into the diagnosis of mental health disorders, Rosenhan (1973) took steps to protect the identity of the hospitals used and the pseudopatients. • If participants or their location are identifiable in psychological research, this could negatively affect the participants or their local area if the research is considered socially sensitive. • Fully informing participants of the aim of the study may lead to changes in their behaviour so the results will lack validity, but lying to the participants to prevent this may upset the participants and lead to them not wanting to participate in future research. • Van den Oever et al. (2008) had their study approved by The Animal Users Care Committee (Netherlands) so they were able to show they could competently handle the rats and killed them in an appropriate way. • It could be argued that Harry Harlow's research into attachment using monkeys led to unnecessary harm and suffering for the animals and led to early death that was avoidable for research purposes. • Using animals in research studies is considered by some as controversial because animals that are considered similar to humans are not treated in the same way as humans. • Humans have benefitted from animal research in psychology through advancement in understanding about conditions such as schizophrenia and potential treatments for this such as antipsychotic medication, so this may outweigh the costs for the animals. • Skinner (1948) used pigeons in his research regarding operant conditioning which are considered a protected animal so his research could have been more ethical if he had not used a protected animal, such as an insect. • Skinner (1948) used minimal animals in his research as he chose to use only eight pigeons so it could be considered ethical as he used the minimum number required. **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)

Question Number	Indicative content	Mark
6	**AO1 (8 marks), AO3 (12 marks)** **AO1** • The debate is concerning the extent to which psychology could be used as a form of social control, to help retain order but could be to exert undue control over citizens. • Raine et al. (1997) used PET scans to examine the activity of the brains of 41 people charged with murder and found differences in their scans compared to control participants. • Watson and Rayner (1920) reported that Little Albert showed fear to the rat and other stimuli over a period of time due to the association with the loud noise which caused fear (the UCR / CR). • Advertising or public health messages can be considered a form of classical conditioning through association of a product to positive outcomes. • Aversion therapy is a treatment which uses classical conditioning principles to attempt to socially control/minimise drug use. • Phobias can be treated using systematic desensitisation which is a form of control using relaxation techniques paired with the phobic stimulus. • Drug therapy can be used to give people powerful chemicals which can be a form of social control for mental health issues or addiction. • Social learning theory states that people copy their role models so can promote the use of censorship which is a form of social control. **AO3** • If psychology is used to harm people then this would lead to diminished respect, application and use of psychological knowledge which could mean people miss out on helpful aspects of psychological research. • The findings from Raine et al. (1997) could be used to screen the population and restrict the freedom of people who have similar brain activity to murderers which may be unnecessary incarceration. • Using brain scanning to identify potential criminals could lead to interventions being put in place which could help prevent serious crimes like murder. • As Watson and Rayner (1920) found a child could be conditioned to fear various stimuli, this could be used to	**(20)**

	condition society to buy products / link to advertising. • Society may benefit from advertising public health messages using classical conditioning such as the association between not smoking and better health so can lead to increased life expectancies and less disease. • Aversion therapy has been used to reduce alcohol dependency by using an emetic drug to cause sickness, so can reduce alcohol misuse in society and improve productivity and decrease alcohol related illness and death. • Aversion therapy has been misused as a supposed 'cure' for homosexuality by forcing individuals to experience unpleasant unethical experiences like electric shocks being paired with pornography. • The use of systematic desensitisation is more ethical than flooding as a measure of social control as the patient/client has control over how quickly they move through the therapy and if they go back a step. • Use of systematic desensitisation can help with the removal of phobias such as agoraphobia which can help someone socialise again and go back to work, benefiting the economy thorough productivity and taxes. • Drugs for mental health can cause sedation and restrict what behaviours people show which controls their behaviour to a list of acceptable behaviours which those in power control what is allowable in society. • Methadone drug treatment has been used to help stabilise heroin addiction and over time can help reduce number of drug deaths and diseases through sharing dirty needles, such as HIV or hepatitis-C. • Censorship of media can be used to prevent people becoming desensitised to violent and aggressive behaviour which social learning theory suggests they may imitate, so can potentially reduce violence in society. • Censorship of media can be used as a form of propaganda to control a society's understanding of major world issues and misinform them of atrocities and can then lead to groups being blamed and victimised unfairly. **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)

Question Number	Indicative content	Mark
6	**AO1 (8 marks), AO3 (12 marks)** **AO1** • The DSM has changed over time, with the most recent DSM-5, by modifying diagnostic features to account for evidence regarding developments in mental health issues. • Exposure to Western television due to technological advances has increased over time, which has been linked to increased dissatisfaction over body image and weight. • Technological advances in brain scanning have led to the development of EEG, CT and PET scans, with the later invention of fMRI scans which are still being refined to improve its temporal precision. • Research conducted in the 1960s showed role models, including those on television, could increase aggressive behaviour through imitation and more recent research has shown humanness to be a factor in violence. • Methods used to study genetics has developed over time, with family and twin studies, then adoption studies and more recently methods such as Genome-Wide Association Studies (GWAS) and studies to identify copy number variants (CNVs). • Over time knowledge of mental health conditions has developed, with more recent research evidencing the role of neurotransmitters beyond dopamine, which was the focus of the original neurotransmitter hypothesis for schizophrenia. • Memory research has had advancements over time which has helped develop knowledge of how errors in recall can occur and this has helped the Police and courts to understand the inaccuracy of memory and how to improve procedures. • In child psychology, over time knowledge has developed about attachment which has led to influences on day care and the understanding of how deprivation could potentially affect a child's development. **AO3** • The DSM-5 has consolidated autistic disorder, Asperger's disorder and pervasive developmental disorder into autism spectrum disorder to represent a single continuum of mild to severe impairments, showing understanding of mental health issues has changed over time. • The latest scientific findings from research in genetics and neuroimaging has been integrated into the DSM-5 to improve	**(20)**

	clinicians' ability over time to identify diagnoses based on common causes. • Becker et al. (2002) found key indicators of disordered eating were significantly more prevalent in Fijian women following exposure to Western television over time, compared to only one reported case of anorexia by the mid-1990s. • Brain-scanning techniques are used in clinical psychology and can now show both the structure and function of the brain of mental health patients, in contract to only the structure or activity of the brain with CT or PET scanning. • The invention of fMRI has enabled children in child psychology and pregnant women to be scanned without the exposure to radiation of older imaging techniques, making the procedure safer and giving a greater understanding of human behaviour and development. • Bandura's research showed children imitated role models to act aggressively towards a Bobo Doll, with more recent research such as Bastian et al. (2011) suggesting violent video games diminish humanity which has been shown to increase violence and has developed psychological understanding of aggression. • Jamieson and Romer (2021) investigated US television and gun violence between 2000 and 2018 and showed a positive correlation between TV violence involving guns and actual murders due to firearms, especially amongst youths, suggesting violent media may be contributing to acceptance of guns for violent purposes. • Research in the 1960s using twins suggested there was genetic influence on the development of schizophrenia (e.g. Gottesman and Shields, 1966), and Tiwari et al. (2010) reviewed evidence from family, twin, and adoption studies over time and suggested a strong genetic component, with estimated heritability of 81%. • More recent genetic methods have tried to build on previous findings for the biological basis of mental health issues, with some identifying specific genes or copy number variants, such as 22q11 deletion, the RELN gene, and Xq23 (see Tiwari et al., 2010) that have been linked to mental health conditions such as schizophrenia. • The review by Carlsson et al. (2000) considered studies carried out over time on the role of neurotransmitters beyond dopamine being involved in schizophrenia, including glutamate, serotonin and GABA and has enabled a more complete understanding of the role of neurotransmitters in the condition.	

	• In the 1950s typical antipsychotics were used such as chlorpromazine with the later development of atypical drugs such as clozapine in the 1960s (which were introduced clinically in the 1970s) and more recently there have been third generation drugs being tested involving glutamate, showing the progression of treating mental health over time. • Barlett's (1932) work showed how memory is reconstructive in nature, with Loftus and Palmer (1974) showing evidence that leading questions could affect memory of eyewitnesses, and with more recent research in this area, a better understanding of the factors affecting eyewitness testimony have been developed over time. • Bowlby's (1944) '44 juvenile thieves' study suggested that deprivation affected their later behaviour and has influenced psychological research over time to investigate the possible influence of deprivation on the child, which has been used in areas such as day care where findings about the outcomes have been mixed in terms of social, emotional and cognitive development. **Look for other reasonable marking points.**	