



Examiners' Report June 2024

IAL Psychology WPS02 01

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Introduction

This paper provides a range of questions over the biological section and the learning theories and developmental section, as well as extended writing questions in section C. Many candidates showed good psychological knowledge across all areas. There were very few unanswered questions, with most candidates attempting all the questions, indicating good time management.

Some candidates still do not explain strengths and weaknesses across the paper. Centres should remind candidates that 'explain' questions need a justification/exemplification. Candidates are getting better at applying the context within an answer, though it is missing in some responses, especially when applying a research method scenario. Candidates should be reminded of the fact that A02 questions require application to details given in the context throughout their answer.

Some candidates were able to gain high marks through demonstrating their psychological knowledge in terms of the requirements of the command word. Other candidates did not always understand the requirements of the command word; candidates should be referred to the taxonomy of command words in the specification. This was noticeable in some of the extended open-response questions of 8 marks or above, where there was sometimes isolated knowledge and understanding. Some candidates included A03 in discuss essays, where it is not required. Centres can see the assessment objectives required for the extended response answers, in the levels based marking document on the Pearson website. For A03, points were sometimes not developed.

Question 1 (a)

Candidates have to state two conclusions from their chosen contemporary study.

McDermott (2008) was the most popular study. The best answers were able to accurately state two separate conclusions. Weaker answers for Hoefelmann et al. (2006) often misreported the results, especially regarding the effect of watching television. Some answers about McDermott (2008) got confused over high and low MAOA. The weakest answers cited results rather than conclusions or cited conclusions from other studies.

1 In your studies on biological psychology, you will have learned about one of the following contemporary studies:

- McDermott (2008)
- Hoefelmann et al. (2006).

Chosen study Hoefelmann

(a) State **two** conclusions of your chosen contemporary study.

(2)

- 1 He found that ~~For~~ the amount of hours students spent watching TV ~~was~~ were positive correlated with the hours they slept.
- 2 ~~Found~~ concluded that a healthy diet improves sleep duration as well as quality in Brazilian uni students.



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Examiner Comments

This gets 2 marks, 1 mark for each conclusion.

1 In your studies on biological psychology, you will have learned about one of the following contemporary studies:

- McDermott (2008)
- Hoefelmann et al. (2006).

Chosen study McDermott (2008)

(a) State **two** conclusions of your chosen contemporary study.

(2)

- 1 The greater ~~was~~ the monetary ~~the~~ loss the more aggressive the participants were to the person they believed to be responsible for their ~~the~~ loss, by giving the hot sauce.
- 2 ~~The participants~~ ~~genes~~ MAOA-L and MAOA-H didn't have that much of a significant difference between aggressiveness, however results show that genes do play a role in aggressiveness.



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Examiner Comments

This gets 1 mark for the first conclusion. The second conclusion is incorrect, there was a significant difference between MAOA-H and MAOA-L at 80%.

The candidate needs to mention 20% takings to get the mark.

Question 1 (b)

This question requires candidates to identify an improvement for AO1 and then justify/exemplify that improvement for AO3. The best answers were able to do this with clear reference to details from the chosen study and suggestions on how it could be improved. Other answers were able to achieve the AO1 mark but failed to offer a justification, or wrote about a weakness rather than how the improvement would make the study better. The weakest answers were generic and could have applied to several different studies.

(b) Explain **one** improvement that could be made to the sample used in your chosen contemporary study.

(2)

McDermott (2008) used a sample of 78 males, this sample is unrepresentative, therefore it cannot be generalisable to females. They should use a sample with an equal amount of females and males.



ResultsPlus
Examiner Comments

This gets 1 mark for he could have used females as he only used 78 males (so we know they are writing about McDermott due to the correct figure) to make it more generalisable. There is no further justification/exemplification so this does not gain any more marks.



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Examiner Tip

To gain the AO3 mark candidates must say how or why this improvement would increase generalisability.

(b) Explain **one** improvement that could be made to the sample used in your chosen contemporary study.

(2)
The sample could have included female participants as it included only 78 male participants. This would have meant that the study would have represented a target population increasing the studies population validity and overall generalisability.



This gets 1 mark for identifying that they could have used females as they only used 78 males, the 78 males lets us know which study they are writing about.

This gets another mark for the justification/exemplification that this would make if more generalisable as it would represent the target population.

Question 2 (a)

The best answers were able to fully operationalise the hypothesis and gained both marks. Some answers did not fully operationalise both variables, it often being the quality of sleep that was not operationalised. The weakest answers gave a hypothesis about a difference rather than a relationship. There were very few directional or null hypotheses.

(a) State a fully operationalised non-directional (two-tailed) hypothesis for Herbert's study.

(2)

There is a link between to playing computer games and the quality of sleep



This gets 1 mark as it is a partially operationalised non-directional hypothesis.

The playing computer games has not been operationalised, it would need something about number of hours.

The quality of sleep has not been operationalised, as there would need to be something about how this was measured.

(a) State a fully operationalised non-directional (two-tailed) hypothesis for Herbert's study.

(2)

There is a relationship between the number of hours a day spent playing videogames and the sleep quality on a scale from 1 being poor to 7 being excellent.



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Examiner Comments

This gets 2 marks. Both variables are clearly operationalised and it is a non-directional hypothesis.



ResultsPlus
Examiner Tip

When asked to write a hypothesis make sure that all variables are fully operationalised to achieve the top marks. Use the information in the scenario.

Question 2 (b)

The best answers were able to gain all 4 marks by reading the question carefully and giving the final answer to the correct number of decimal places. Those answers that did not gain all 4 marks sometimes did not show their working out for each stage of the calculation. Some answers stopped after the first step in the calculation.

- (b) Calculate Spearman's rank for the data gathered by Herbert by completing **Table 1**.

Your answers **must** be to **two** decimal places.

The formulae and statistical tables can be found at the front of the paper.

You **must** show your working out.

(4)

Number of hours a day spent playing computer games	Rank 1	Quality of sleep	Rank 2	d	d^2
2	2.5	6	5.5	-3	9
3.5	4	5	4	0	0
6	6	3	2	4	16
4	5	2	1	4	16
2	2.5	4	3	-0.5	0.25
1	1	6	5.5	-4.5	20.25
Total for d^2					61.5

Table 1

Space for calculations

$$1 - \frac{6(61.5)}{6(6(6)-1)} = 1 - \frac{369}{6(35)} = 1 - \frac{369}{210}$$

$$= -0.76$$

Spearman's rank -0.76



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Examiner Comments

This gets full marks for a correct answer.

Even though all stages of the calculation are not shown, they must all have been completed successfully to achieve the correct answer.

Question 2 (c)

The main answer for this question is about measuring a relationship, followed by the use of ordinal data. Candidates are then required to justify/exemplify this. The best answers were able to do this, however some answers did not gain the AO3 mark. There were some incorrect answers for not giving reasons for the use of Spearman's rank.

(c) Explain **one** reason why Herbert used the Spearman's rank test for his data.

(2)

Herbert used Spearman's rank test because it is a test of correlation. He was looking for a correlation between quality of sleep on a scale of 1 to 7 and hours of video games played.



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Examiner Comments

This gets 1 mark for it was a test of correlation. The second sentence repeats this so cannot get the mark again.



ResultsPlus
Examiner Tip

Do not repeat what has already been written as it will not gain any more credit.

(c) Explain **one** reason why Herbert used the Spearman's rank test for his data.

(2)

Spearman's rank test the correlation between two co-variables, Herbert wanted investigate the relationship between computer games and the quality of sleep, so Spearman rank test works the best for Herbert.



This achieves full marks:

1 mark for identifying that it is a correlation.

Another mark for the justification/exemplification that he is looking for a relationship between quality of sleep and hours spent playing computer games.

Question 2 (d)

Candidates have to identify a weakness in relation to the scenario for the AO2 mark, followed by justification/exemplification for the AO3 mark. The most common weakness was around the sample, such as the use of only one university. The best answers were able to identify the weakness then explain why or how this was a weakness. Other answers identified the weakness but failed to gain the AO3 mark, often just writing a psychological term with no justification/exemplification of that term. Some answers did not link their answer to the scenario so gave a generic response.

(d) Explain **one** weakness of Herbert's study about computer games and quality of sleep.

(2)

One weakness of Herbert's study about computer games and quality of sleep is that it is not generalisable to the wider population due to all participants being from the same age range and university. If participants age range was higher and from other universities, generalisability could increase.



ResultsPlus
Examiner Comments

This gets 1 mark for identifying that it is not generalisable as he only used students from the same university. There is no further justification/exemplification.



ResultsPlus
Examiner Tip

When justifying or exemplifying an answer for an explain question, using a term such as 'generalisability' on its own with no further explanation does not gain the AO3 mark.

(d) Explain **one** weakness of Herbert's study about computer games and quality of sleep.

(2)

His sample size only consisted of 6 participants, As it is a small sample it cannot be generalisable to the population. This makes the results of Herbert's study lose validity as ^{the} ~~it~~ ^{correlation} cannot be applied to ~~everybo~~ everybody's experience.



ResultsPlus
Examiner Comments

1 mark for identifying that it is a small sample of 6. The 6 gives the link to the scenario, as they have had to work this out from the previous table.

Another mark for the justification/exemplification that it loses validity as the correlation cannot be applied to everyone's experience

Question 3

There were a range of answers for this question. The best answers showed in-depth knowledge about the menstrual cycle in relation to the infradian rhythms and linked their answers to the scenario, with the very best being able to achieve all 4 marks. Answers that gained fewer marks often did not give enough distinct points in relation to the scenario. Most answers were able to link to the scenario at least once, however, only the best sustained the application throughout their answer so limiting the number of marks they could achieve. Weaker answers showed some confusion about how levels of hormones increased or decreased at various points within the menstrual cycle.

Describe the role of infradian rhythms on Kaiko's menstrual cycle.

The menstrual cycle is an infradian ~~is~~^{rhythm} which lasts for longer than 24 hours. It can last from 28-30 days for a regular woman. Her hormones such as FSH, LH, progesterone and oestrogen fluctuate throughout the cycle, but the latter two are ^{at their} highest roughly one week before the menstruation starts. Kaiko gets angrier a week before menstruating due to pre-menstrual syndrome symptoms such as mood-swings, fatigue, irritation, etc as her hormone levels are highest then, and calms down during her menses as the progesterone and oestrogen levels drop. Kaiko finds masculine men attractive during ovulation and feminine men further from it, as suggested by ~~the~~ Penkon-Volle et al.



This achieves 3 marks:

1 mark for the point about getting angrier a week before menstruation as her hormones are at their highest.

1 mark for the point about calming down during her menses as her oestrogen and progesterone levels drop.

1 mark for the point about masculine men being more attractive during ovulation and feminine men further from it.

There is nothing given for the first sentence as this is not linked to the scenario.



When asked a describe question with a scenario candidates should link each new point to details from the scenario.

Describe the role of infradian rhythms on Kaiko's menstrual cycle.

The menstrual cycle is an infradian rhythm which lasts for about 28 days and Kaiko's menstrual cycle lasts for about 29 days which ~~can~~ menstrual cycle can vary with the external factors such as diet, stress increasing the cycle to 29 days for Kaiko. She finds certain types of men more attractive at different times throughout the 29 days because she might be ovulating leading to her ~~desires~~ PMS.

Kaiko becomes angrier about a week before she ~~is~~ menstruates due to the increase of the hormone oestrogen and as soon as the ~~is~~ ~~the~~ womb lining starts to shed the hormones oestrogen and progesterone levels start to drop resulting ~~in~~ in

(Total for Question 3 = 4 marks)

the calmness of Kaiko when her menstruation ~~cycle~~ begins. Hormones are external ~~zeitgebers~~ zeitgebers affecting the infradian rhythm menstrual cycle.



This answer gets 4 marks.

There are four clear points about the role of infradian rhythms linked to details from the scenario.

Question 4 (a)

This question requires candidates to describe twin studies as a research method. The best answers were able to do this and link it to aggression, and gave sufficient detail to gain all 4 marks. Other answers did not give enough detail to gain all the marks, but were able to achieve some marks for their description of the twin study research method. The weakest answers described Brendgen et al. rather than the research method.

(a) Describe how a twin study research method could be used in biological psychology, such as when researching aggression.

(4)

Twin studies can be effective when researching aggression in biological psychology as we can investigate the role of genes and its effects in aggression. An example of this is Brendgen where he studied monozygotic twins and Dizygotic twins and measured the perceived levels of aggression. These type of studies can explain levels of aggression between twins who share genes and twins who partially share genes and see if their aggressiveness becomes from genetic factors or environmental factors.



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Examiner Comments

This gets 1 mark for either the first sentence about it being an effective way to measure genes and aggression OR for the last sentence about using twins who share genes or have partial genes to study the effect of genes and environment on aggression. Both these are saying the same thing so they cannot both get a mark.

There are no marks for the example of Brendgen as it does not tell us anything about how twin studies are used as a research method.



ResultsPlus
Examiner Tip

Candidates should read the question carefully to ensure they are answering exactly what is being asked.

(a) Describe how a twin study research method could be used in biological psychology, such as when researching aggression.

(4)

Psychologists can collect a sample of twins and other people that interact with them on a daily basis to several questions regarding social and physical aggression displayed by each twin individually. The sample should consist of equal proportions of monozygotic and dizygotic twins. Then concordance rates of aggression should be calculated for each pair of twins, if the monozygotic pair has higher concordance, psychologists could deduce there is genetic influence in aggression, if they ^{rates} are the same, ~~aggression~~ environmental factors are more crucial.



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Examiner Comments

This achieves all 4 marks:

1 mark for asking people who interact with the twins on a daily basis questions about their aggression.

1 mark for the concordance rates for each pair of twins should be calculated.

1 mark for if MZ twins have a higher concordance rate there is a genetic influence.

1 mark for if rates are the same then environmental factors are more crucial.

Question 4 (b)

Candidates are required to identify a strength and a weakness of the twin study research methods for the AO2 marks and then justify or exemplify these for the AO3 marks. The most popular strength was related to furthering knowledge of the nature nurture debate, and the most popular weakness was about the rarity of twins, followed by lack of DNA testing. The best answers were able to identify their strength and weakness and then go on to exemplify or justify them. Other answers often gained the identification mark but failed to offer any further justification/exemplification. The weakest answers gave strengths and weaknesses of the Brendgen et al. study rather than the research method.

(b) Explain **one** strength and **one** weakness of using a twin study research method in biological psychology.

(4)

Strength

One strength of the twin study research method is that it uses highly scientific ^{and empirical methods} ~~methods~~, such as through measuring hormonal methods.

These are objective ~~to~~ methods, which can be replicated ~~between~~ in other studies and compared (results are likely to be the same), increasing reliability.

Weakness

One weakness of the twin study research method is that it is deterministic. It ~~reduce~~ excludes holistic factors, such as the environment the twins may have grown up in, ~~and~~ and wholly contributes aggression to genetics. This would decrease the credibility of the method.



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Examiner Comments

This gets 2 marks for the strength.

1 mark for identifying that it uses scientific, empirical methods such as measuring hormones

1 mark for the justification that these are objective measure which can be replicated by others so increasing reliability.

There are no marks for the weakness as they do allow us to compare the effects of genes with nurture.

(b) Explain **one** strength and **one** weakness of using a twin study research method in biological psychology.

(4)

Strength

A strength of twin study's is that genetic factors are being investigated. As it assume that the environment is equal for both twins. Thus genetic factors would be investigated as MZ twins will show a higher concordance rate. Increasing the internal validity of those study's.

Weakness

A weakness of using a twin study research is that all the pairs of twins has to be checked with blood test in order to ~~be sure~~ make sure that they are MZ twins. However this takes a lot of time and thus the researcher will not examine all the twins. As a result some pairs of twins will be matched based on (Total for Question 4 = 8 marks) physical appearance. This explains that some twins were selected as MZ twins but were not, reducing the reliability of the results.



This gets 3 marks:

1 mark for the strength for identifying that it is assumed that the environment is the same for the twins so increasing internal validity. There is no further justification/exemplification of this point.

1 mark for the weakness for identifying that checking the twins are MZ takes a lot of time and not all twins will be checked.

A further mark for the justification/exemplification that some MZ twins may not be MZ twins so reducing the reliability.



When explaining a strength and/or weakness, candidates must fully justify or exemplify the strength and/or weakness they have identified to gain the AO3 marks.

Question 5

This essay requires candidates to show knowledge and understanding of the role of hormones in aggression for the AO1 and then assess this for the AO3. The best answers were able to show accurate and thorough knowledge and understanding of how different hormones affected a person and made them aggressive. The most popular hormones were testosterone and cortisol. They were then able to offer a balanced assessment that was well-developed and logical and gave a balanced judgement. The most common assessments made use of studies and alternative theories.

Weaker answers often did not go beyond saying that high or low levels of a hormone caused aggression, showing isolated knowledge and understanding about how or why. The weaker assessments were often imbalanced, or only showed some development, often giving a superficial assessment.

5 Assess the role of hormones as an explanation of aggression.

(8)

One hormone that has an influence on aggression is testosterone, which is predominantly present in males. High levels of testosterone can lead to aggression. Also if a male is exposed to high levels of testosterone in the womb, then it will lead them to be more aggressive. Testosterone can also increase competitiveness in males.

Low levels of cortisol also increase aggression due to an underaroused autonomic nervous system (ANS). The body tries to make more cortisol and ~~sets up~~ to improve the underaroused ANS, leading to increased aggression.

One strength of the role of testosterone on aggression is that there is ~~a~~ supporting evidence from Mazur and Booth. They found that males with higher levels of testosterone were more likely to engage in aggressive activities such as divorcing or remaining single, ~~a~~ incurring bad debts or ~~by~~ buying and selling illegal property. This shows that there is a relationship between high testosterone levels and aggression, therefore hormones are a valid explanation of ~~a~~ aggression.

one weakness of the role of hormones in aggression is that it is a reductionist explanation. Aggression can also be learnt from factors such as ~~the~~ Social Learning Theory. For example, Bandura found that children would copy adults when they hit a bobo doll aggressively. This means that aggression can also be learnt ~~from~~ ^{from} observation of a role model and not just hormones. Therefore, hormones are an incomplete explanation of aggression.



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Examiners Comments

This is level 3, 6 marks.

The AO1 is level 3. It is accurate but not thorough.

The AO3 is level 3, the two points are developed with judgements being made with an understanding of competing arguments.

Question 6 (a)

Candidates were generally able to give an accurate definition and/or use an example, with the best answers doing both and gaining both marks. Those answers that did not gain the definition mark often referred to positive reinforcement as a reward, but did not say what type of reward, so the answer could have been for negative reinforcement.

(a) Define, using an example, what is meant by the term 'positive reinforcement' as used in operant conditioning.

(2)

positive reinforcement is adding a stimulus to increase behaviour.

An example of this could be giving a child a star when completed a task given.



ResultsPlus
Examiner Comments

This gets 1 mark for the example.

It does not get the mark for the definition, as it does not say what type of stimulus is added.



ResultsPlus
Examiner Tip

When writing about positive reinforcement candidates need to mention whether the reward is adding something pleasant to demonstrate that they are writing about positive and not negative reinforcement.

Question 6 (b)

Candidates were generally able to give an accurate definition and/or use an example, with the best answers doing both and gaining both marks. Some answers did confuse negative reinforcement and punishment.

(b) Define, using an example, what is meant by the term 'negative reinforcement' as used in operant conditioning.

Negative reinforcement is when you take away something that the participant did not like for they keep doing the same action again.



ResultsPlus
Examiner Comments

This gets 1 mark for the definition.



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Examiner Tip

Candidates should read the question carefully and if it asks for an example make sure they include one.

(b) Define, using an example, what is meant by the term 'negative reinforcement' as used in operant conditioning.

Negative reinforcement - it is when something is taken away ^{something unpleasant} to increase behavior. When a child got good mark at school, mother is saying to him/her that she doesn't wash the dishes.



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Examiner Comments

This gets 2 marks:

1 for the definition as they have taking away something unpleasant.

1 for the example.

Question 6 (c)

Candidates have to identify a strength for the AO1 mark and then justify or exemplify this. The most common strengths were around application of the theory and how it was a better explanation than classical conditioning. The best answers gained both marks. Other answers gained the identification mark but failed to offer any justification/exemplification. The weakest answers often just offered a description of the theory which is not a strength.

(c) Explain **one** strength of operant conditioning as an explanation of behaviour.

(2)

It was supported by Skinner who demonstrated operant conditioning in pigeons and ~~showed~~ found that pigeons learned "superstitious behaviour" through the system of variable ratio ~~rewards~~ rewards. This supports operant conditioning and increases the reliability of the theory.



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Examiner Comments

This gets 1 mark for identifying that Skinner supports the theory as they learnt a superstition through variable ratio reinforcement.

There is no further justification/exemplification as theory is not reliable.



ResultsPlus
Examiner Tip

When using a study to support a theory candidates should make sure their AO3 point is linked to the theory not the study.

(c) Explain **one** strength of operant conditioning as an explanation of behaviour.

(2)

one strength of operant conditioning is that it is backed up by skinner. skinner carried out an experiment with a rat where every time the rat pressed a lever food would be given to him and skinner realised that the rat learned to press the lever in order to gain food. this gives the theory credibility as it was shown via skinner's experiment that living things learn through reinforcement

(Total for Question 6 = 6 marks)



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Examiner Comments

This gets 2 marks:

1 mark for identifying that it is supported by Skinner as the rat learnt to press a lever because it got food.

And another mark for the justification/exemplification that this gives the theory credibility as it shows living things learn through reinforcement.

Question 7 (a)

Candidates have to describe how to gather a stratified sample in relation to the scenario. The best answers were able to do this and gain both AO2 marks. Very few answers were able to accurately apply stratified sampling to the scenario, or describe how proportional representation is used within the stratified sampling technique. Some answers described the wrong sampling method.

(a) Describe how Sophia could have used a stratified sampling technique to gather the children for her investigation.

(2)

She could have split the children in to groups according to their ethnicity and their age in order to observe the ~~total~~ differences between cultures ^{has an} ~~and~~ playing games.



ResultsPlus
Examiner Comments

This gets 1 mark for splitting the children into groups based on ethnicity and age.

There is no further description.



ResultsPlus
Examiner Tip

Candidates should look at the number of marks available for describe questions and write that many points in their answer to access all the marks.

(a) Describe how Sophia could have used a stratified sampling technique to gather the children for her investigation.

(2)

Sophia could have set her strata to represent the proportions of ethnic backgrounds in the real world and gathered children proportionally to this, choosing children based on ethnicity.



This gets 2 marks:

1 mark for having set her strata to represent the ethnic backgrounds in the real world, ethnic backgrounds is the link.

1 mark for gathering the children proportionally to this, choosing children based on their ethnicity.

Question 7 (b)

Candidates have to identify a strength and a weakness of stratified sampling in relation to the scenario to gain the AO2 marks, and then justify or exemplify these for the AO3 marks. The most common strength was about how it was representative and the most common weakness was about how it is time consuming. The best answers were able to identify both in relation to the scenario and then go on to justify or exemplify these. Some answers gained the identification marks but failed to gain the AO3 marks as they did not develop their justification/exemplification. Some answers did not link back to the scenario so were generic.

(b) Explain **one** strength and **one** weakness of Sophia using a stratified sampling technique for her observation.

(4)

Strength

By using stratified sampling, Sophia ensured that her sample was representative of the whole school.

This is because her sample would contain all the ethnic groups in the school in the same proportion as they are in the whole school.

Weakness

Stratified sampling would be time consuming for Sophia as she would first have to calculate the size of the different groups of ethnic backgrounds in the school and then match her sample size to make sure it has the same proportion.



This gets 4 marks:.

2 marks for the strength. 1 mark for identifying that it is representative of the whole school and 1 mark for the exemplification about why it is representative of the whole school.

2 marks for the weakness. 1 mark for identifying that it is time consuming as she has to calculate the size of the different groups and 1 mark for the exemplification that she then has to match her sample so it is the same proportion.

(b) Explain **one** strength and **one** weakness of Sophia using a stratified sampling technique for her observation.

(4)

Strength

She controls extraneous variables, the probability that the different behaviours are affected by culture is removed therefore increasing the validity of the results.

Weakness

The way she decides to split the children plays a role since culture might have not been the most important variable ~~in the sample~~ ~~split into~~ for the groups. Another variable might have been more important therefore reducing validity.



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Examiner Comments

This gets 2 marks:

1 mark for the strength for identifying that the extraneous variable of culture is removed and does not affect the results. The increasing validity needs some explanation of how/why to get the AO3 mark

1 mark for the weakness for identifying that there may be other more important factors than ethnicity. There is no justification/exemplification about how or why it would reduce reliability

Question 7 (c)

The best answers read the question carefully and identified a strength in terms of a structured observation and were then able to justify/exemplify this strength. Weaker answers focused on strengths of observations which may or may not have been relevant to structured observations. Some answers were generic and not linked to the scenario.

(c) Explain **one** reason why Sophia may have chosen to use a structured observation.

(2)

One reason Sophia may have chosen to use is a structured observation is ~~to~~ to allow her to have firmer control over ~~the~~ the environment and other possible dependant variables. This would remove extraneous variables that could affect the behaviour of the children, such as external factors like their environment, increasing the validity of her study.



ResultsPlus
Examiner Comments

This gets 1 mark for identifying that it allows the removal of extraneous variables that could affect the children such as environmental.

Nothing for the justification/exemplification as there need to be some explanation of how it makes it valid and the rest of the sentence is repeating what has already been said.

(c) Explain **one** reason why Sophia may have chosen to use a structured observation.

(2)

Sophia may have wanted to use a structured observation in order to have a reliable observation as by being structured extraneous variables which he controlled therefore not affecting how someone plays at each stage therefore making the observation reliable and hence allowing her to check the consistency of results and other researchers about how children play at different stages of stages of development.



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Examiner Comments

This gets 2 marks:

1 mark for identifying that it controls extraneous variables so they do not affect how someone plays.

1 mark for the justification/exemplification that this makes the observation reliable as other researchers can check the consistency of her results.

Question 7 (d)

This question requires candidates to identify an improvement in relation to the scenario for AO2 and then justify/exemplify that improvement for AO3. The most common improvements were to use another observer and to go to a variety of schools. The best answers were able to do this with clear reference to details from the scenario and suggestions on how it could be improved. Other answers were able to achieve the AO2 mark but failed to offer a justification, or wrote about a weakness rather than how the improvement would make the study better. The weakest answers were generic and did not apply to the scenario.

(d) Explain **one** improvement Sophia could make to her observation.

(2)

One improvement could be the sample since all the participants were recruited from the same local school therefore the kids ~~from different backgrounds~~ are from the same background and similar environment therefore by choosing different kids from different schools or different areas such as a park could improve the observation.



This gets 1 mark for identifying that she could get children from different schools. There is no further justification/exemplification about how this would improve the study so no further marks.



When writing about an improvement candidates should explain why or how the identified improvement would make the study better.

(d) Explain **one** improvement Sophia could make to her observation.

(2)

Sofia could improve her observation by defining what 'playing together' and 'next to each other' exactly means. This would make her study more operationalised and less subjective to her own opinion, increasing the validity if anyone ever wished to replicate the study.

(Total for Question 7 = 10 marks)



ResultsPlus
Examiner Comments

This gets 2 marks:

1 mark for identifying that she should have defined what playing together and playing next to each other exactly means.

1 mark for the justification that this would make the study less subjective to her opinion so it would be more valid.

Question 8 (a)

Most candidates were able to accurately state an aim from the study.

Question 8 (b)

The best answers were able to give three accurate descriptive points about the sample used in the study. Weaker answers often did not give enough detail about the sample to access all 3 marks. A few answers were about a different study. Some answers gave incorrect information about the sample, such as what they all did.

(b) Describe the sample used in the study by Capafóns et al. (1998).

(3)

21 aerophobia patients and 20 control group participants matched on their level of fear of flying. They were undergraduates.



ResultsPlus
Examiner Comments

This gets 0 marks, as they were all aerophobic and the numbers are the wrong way round. They were not all students.



ResultsPlus
Examiner Tip

When writing about a named study the details must be accurate.

(b) Describe the sample used in the study by Capafóns et al. (1998).

(3)

Capafóns et al. gathered 41 participants with fear of flying through volunteer sampling. Out of the 41 participants, 20 were in the treatment group and 21 in the control group. Participants in the control group were matched to participants in treatment group on anxiety levels and fear of flying. They gathered participants by placing adverts on the Television and radio as a way of volunteer sampling.



This gets 3 marks:

- 1 mark for 41 participants with a fear of flying.
- 1 mark for how they were split into the two groups with the fact that the experimental group were the treatment group.
- 1 mark for the control group and treatment group were matched on their fear of flying.

Question 8 (c)

Candidates have to identify two weaknesses of the study to gain the AO1 marks, and then justify or exemplify these weaknesses to get the AO3 marks. The most common weaknesses were about limitations of the sample and the fact it was only focused on treating a fear of flying. The best answers were able to clearly identify weaknesses of the study and then justify/exemplify them. Weaker answers often identified the weaknesses but failed to offer a justification. Some answers could have been about a variety of studies with no reference to this study so were generic.

(c) Explain **two** weaknesses of the study by Capafóns et al. (1998).

(4)

1. The sample size was too small, which decreases generalisability, and reliability of the results.

2. They used a simulation of a flight, rather than a real flight, so it cannot be ~~guaranteed~~ ^{guaranteed} that the participants will not feel fear/feel less fear during a real flight. This reduces ecological validity.



This gets 2 marks:

Nothing for the first weakness as there are no details of this study and the answer could apply to several studies.

2 marks for the second weakness. 1 mark for identifying that it was a simulation of a flight not a real one so lacks ecological validity and 1 mark for the justification/exemplification that this means it cannot be guaranteed that the participants would not feel fear on a real flight.



When writing about a weakness of a study the answer must show that the candidate know the study being asked about, and they are not giving a generic statement that could apply to several studies.

(c) Explain **two** weaknesses of the study by Capafóns et al. (1998).

(4)

- 1 One weakness of Capafóns et al's study is that volunteer sampling was used. This means that only people who were interested in having their fear of flying treated were joining the study. Therefore the sample is not representative of those who do not want to have their fear of flying improved and the study lacks generalisability.
- 2 A video of the process of flying starting from arriving and checking in at the airport to landing the plane was used. This can be considered an artificial material because the video is not ~~an~~ accurate representation of a real plane experience. Therefore, the study lacks ecological validity.



This gets 4 marks:

2 marks for the first weakness. 1 mark for identifying that it was volunteer sampling so only those interested in having their fear of flying may have applied. 1 mark for the justification/exemplification that it may not represent those who do not want their fear of flying improved so it cannot be generalised.

2 marks for the second weakness. 1 mark for identifying that they used a video of the flying process so can be seen as ecologically invalid. 1 mark for the exemplification that it is artificial as it is not representative of a real plane experience.

Question 8 (d)

Candidates have to identify an application of the study and then justify/exemplify this. The best answers were able to gain both marks using the results as the justification/exemplification. Other answers gave the application but offered nothing further.

(d) Explain **one** application of the findings from the study by Capafóns et al. (1998).

(2)

One application of the findings from Capafóns et al.'s study ~~too~~ would be systematic desensitisation ~~to~~ as a form of treatment to treat phobias. The method of systematic desensitisation could be extrapolated to other forms of phobias ~~for~~ clients may suffer from, such as arachnophobia.



ResultsPlus
Examiner Comments

This gets 1 mark for identifying that systematic desensitisation can be used for treating other phobias. There is no further justification/exemplification.



ResultsPlus
Examiner Tip

When asked for an application from a study, candidates can use the results of the study as the justification of their suggested application.

(d) Explain **one** application of the findings from the study by Capafóns et al. (1998).

(2)

The findings of Capafóns et al's study show that 90% of participants in the treatment group had a reduced fear of flying after systematic desensitisation. This means that SD can be used to treat other phobias such as the phobia of snakes which can improve people's lives by reducing their anxiety around snakes. (Total for Question 8 = 10 marks)



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Examiner Comments

This gets 2 marks:

1 mark for identifying that it can be used to treat other phobias, at the end of the answer.

1 mark for using the results to justify this, at the start of the answer.

Question 9

This essay requires candidates to show their knowledge and understanding of systematic desensitisation for the AO1 and apply their answer for the AO2. The best answers showed accurate and thorough knowledge and understanding and merged this with the application. Other answers often showed accurate knowledge and understanding but did not go beyond the hierarchy of fear and relaxation techniques. Some answers included AO3 material which is not required for a discuss essay.

101

Systematic Desensitisation (SD) is a treatment that can be used for Earl's phobia of needles.

The first step is functional analysis. Earl would discuss with a licensed therapist where his fear of needles and injections stems from and he can speak about his experience at the dentist and the needle causing him pain.

Next, Earl and his therapist can make an anxiety hierarchy, using situations involving needles and ranking them from least to most scary. For example, at the bottom of the hierarchy could be seeing a picture of a needle, then ~~holding a needle~~ seeing a real life needle, then holding a real life needle himself and ~~being injected~~ seeing someone else be injected and finally being injected himself to travel for work.

~~the situations and only at~~ The therapist would then teach Earl some relaxation techniques for when he encounters a needle, such as breathing and ~~with~~ muscle relaxation techniques.

Then, using graduated exposure, Earl would work through the anxiety hierarchy, completing all the situations ~~with~~ with his relaxation techniques and only moving onto the next task when he feels no anxiety or fear.

Finally, Earl would ~~experience~~ achieve associative formation, where he would associate needles and injections with being calm and relaxed, and he will be able to look at and be injected with needles hopefully with no fear.



ResultsPlus
Examiner Comments

This is level 4, 8 marks.

The AO1 is accurate and thorough so is level 4.

The AO2 is well developed and logical and sustained so is also level 4.

Start at 8 in the level and there is no reason to move it down.



Candidates should be aware of which assessment objectives are needed for discuss questions, and which are not.

Question 10

Candidates have to demonstrate their knowledge and understanding of research into circadian rhythms and then offer AO3 points. The best answers focused on the research giving accurate knowledge and understanding and well-developed logical arguments that were balanced and offered a judgement/decision. They often focused on Siffre's research, as well as other studies and then offered an assessment of these studies. Weaker answers gave some knowledge and understanding, but often wrote about the circadian rhythm rather than about research into the circadian rhythm. The AO3 was often not developed and there was imbalance.

10 To what extent has research been effective in explaining the circadian sleep-wake cycle?

(12)

Research conducted onto the sleep-wake cycle has been extremely effective with explaining what different factors (internal pacemakers and external zeitgebers) influence these cycles. Siffre conducted a case study on himself where he spent 6 months inside a cave without any knowledge of the time, light... He found that after the 6 months, his cycle had changed from being a 24 hour cycle to varying from 18-52 hours therefore proving that your internal body clock and your sleep wake cycle ~~highly~~ are very affected by external zeitgebers.

However, there has also been research conducted that shows that circadian sleep wake cycles are also affected by individual

characteristics and that everyone has a different cycle as morning people prefer to wake up earlier whereas there are people who prefer waking up and going to sleep later therefore, these cycles ~~have~~ are influenced by individual characteristics.

Furthermore, research has also been effective when conducting research on internal pacemakers as ~~Russel~~ Ralph conducted a study with hamsters with a regular 24 hour sleep wake cycle and changing their suprachiasmatic nucleus to one from a rat who had an irregular 20 hour cycle. They saw that when they changed this, the hamsters ended up having a 20 hour cycle therefore proving that the suprachiasmatic nucleus is an internal pacemaker that affects the circadian sleep-wake cycle.

However, these researches may not be as effective as they are not generalisable to the wider population. Due to Siffre having conducted a case study being a male, it is not generalisable to females as their circadian sleep wake cycle may act in a different way and, due to Ralph's study being conducted on animals, it is not generalisable to humans as their suprachiasmatic nucleus may also act differently therefore, research may not be as effective.

Overall, even though most research isn't generalisable, it is effective as it gives a great explanation as to how the circadian sleep cycle works.



This is level 3, 8 marks:

The AO1 is level 3, it is accurate.

The AO3 is level 3, it is mostly developed and is addressing the question. There is an awareness of competing arguments, with mini judgements throughout the essay.

Question 11

Candidates have to cover AO1, AO2 and AO3 in their answers to this essay. The best answers successfully achieved all three, showing accurate and thorough knowledge and understanding of both genes and social learning theory, applying this to the scenario in a sustained manner and giving well-developed logical evaluative points about both theories.

Weaker answers often showed limited knowledge and understanding to social learning theory, often giving the terms used within the theory but showing little knowledge and understanding of what those terms actually meant. There would be occasional application from the scenario with some points doing little more than mentioning the names. The AO3 would be partially developed and would offer a superficial conclusion.

Genes ~~are~~ implicated in aggression. Genes have been found to be implicated in aggression, an example of this being the MAOA gene. It is responsible for the production of monoamine oxidase, an enzyme which breaks down the neurotransmitters serotonin, ~~adrenaline~~, and dopamine, and the hormone adrenaline.

A dysfunction in this gene has been shown to lead to increased aggression as there is lower \uparrow monoamine oxidase activity, meaning that these neurotransmitters cannot be broken down and ^{they build up} lead to aggression and in the case of adrenaline a hypersensitivity to the fight or flight response.

Eliza and Fred may have inherited the dysfunctional MAOA gene from their father, who has been a history of aggression such as him arguing with and threatening to hit a neighbour, whereas Eliza and Fred's aggression is in the form of shouting in Eliza's case and throwing plates and food in both cases.

Support for the MAOA gene's role in aggression comes from McDermott (2008), who found that low monoamine oxidase activity led to increased aggression when environmentally provoked. # Fred provoked Eliza by throwing a plate at her, and if she has the ^{dysfunctional} gene, it could explain why she responded by shouting at him. However, McDermott's ~~et~~ study only consisted of male participants so the results may not be generalisable to her as she's a girl.

Additionally, Brunner ~~to~~ (2008) was a study on a Dutch family ~~with~~ who had a history of aggression, and the MAOA dysfunction was found to have been inherited by the males in the family, possibly explaining Fred's aggression if he inherited the gene from his father. However, the MAOA gene is attached to the X chromosome. In males, it's ^{the dysfunctional gene} necessary only 1 copy of ~~#~~ it's needed for it to manifest in the phenotype as males like Fred and his father have the XY genotype. However, Eliza has the XX genotype, which means it's more unlikely for ~~her to~~ the dysfunction to manifest in her phenotype. She would need 2 copies for each X chromosome, which's ^{only males in the} why ~~the~~ family in Brunner's study ~~at~~ ~~was~~ ~~only~~ ~~f~~ were found to have the dysfunctional gene.

Social learning theory is a mediational process where new behaviours are learnt through observation of role models who model this behaviour. There are 4 processes involved: Attention (noticing the behaviour), retention (remembering the behaviour), motor reproduction (~~replicating~~ + physical ability to replicate the behaviour), and motivation (whether the behaviour is rewarded or punished). Motivation can come in the form of vicarious reinforcement, where even if we are not directly rewarded for the behaviour, if we see someone being rewarded for it we will still be reinforced.

Eliza and Fred may perceive their father as a role model and that models aggressive behaviour, and may therefore be inclined to be aggressive themselves. Additionally, their mother ~~was~~ giving Fred sweets to calm him down after he and Eliza argued may have been perceived as vicarious reinforcement for walking through a plate of Eliza by Eliza, which may explain why she threw food at another girl during an argument at school, which was her replicating Fred's behaviour through ~~mother's~~ motor reproduction.

Social learning theory is supported by Bandura (1980), where children who observed an adult role model be aggressive towards a Bobo doll ~~behaved~~ were observed to behave aggressively towards toys, showing how they learnt that aggressive behaviour. However, this experiment lacks ecological validity due to having ~~had~~ taken place in a lab - an unfamiliar environment for the children who may have behaved differently in another more familiar environment.

Additional support for social learning theory comes from Perez (2018) who found that a mother's body dissatisfaction positively predicted her daughter's body dissatisfaction, showing learning of behaviours through observation.

However, social learning theory could be considered a reductionist approach to explaining aggression as it only focuses on ~~that~~ nurture rather than ~~that~~ nature eg. biological explanations such as hormones, genes, and brain functioning. Therefore, it would be better to use both social learning theory and genes to try and explain Fred and Eliza's aggression.



This is level 4, 14 marks:

The AO1 is at the bottom of level 4, there is accurate knowledge and understanding of both explanations, though the MAOA gene is better and this is thorough so it tips it into level 4.

The AO2 is level 3, relevant evidence from the context is applied, but it is not sustained throughout the essay.

The AO3 is level 4, there are well-developed evaluation points that have logical chains of reasoning, with an awareness of competing arguments, mini conclusions within the main body of the essay.

Start at 16 for level 4, the AO1 and AO2 both take it down so it gets 14 marks.

Paper Summary

Based on their performance in this paper, candidates are offered the following advice.

- In scenario questions, ensure there are links to details from the scenario in your answers to access the AO2 marks, especially when the scenario is about a research method.
- When answering about a strength and/or weakness of a named study, ensure that your answer relates explicitly to that study and is not generic.
- When answering a question about an improvement, explain how your improvement will make the study better, not which aspect was a weakness of the study without the improvement.
- In extended response questions, ensure you know what assessment objectives are required for the different types of questions.

Grade boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

<https://qualifications.pearson.com/en/support/support-topics/results-certification/grade-boundaries.html>

