



Examiners' Report

June 2023

International Advanced Level Psychology WPS02 01

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June 2023

Publications Code WPS02_01_2306_ER

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Introduction

This paper provided 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 that candidates are managing the time.

Some candidates still do not explain strengths and weaknesses across the paper. Centres should remind candidates that 'explain' questions need a justification/exemplification. Applying the context within an answer is also missing in some responses, especially in the research methods questions in the topics. 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.

The Assessment Objective (AO) 3 points were sometimes not developed. The remainder of this Examiner Report will focus on each individual question and specific examples. The aim is to highlight areas of good practice and some common errors that can be used to help prepare candidates for future 9PS0/02 examinations.

Question 1 (a)

This AO1 question required candidates to describe the role of hormones in aggression.

Testosterone was the most common hormone, with some answers writing about cortisol. Better answers were able accurately to describe the role of hormones and give two descriptive points, to access both available marks.

Weaker answers did not describe the role of hormones and only identified one hormone that affected aggression, without any description of the role it played.

1 (a) Describe the role of **one** hormone that influences aggression.

(2)

Low levels of serotonin may influence aggression, as the hormone is responsible for controlling moods and behaviours. Low levels result in increase as high levels of dopamine are not balanced stimulating more impulsive and potentially violent behaviour - aggression



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Examiner Comments

This answer receives:

- 1 mark for serotonin may influence aggression as it is responsible for moods and behaviours
- 1 mark for low levels increase dopamine which when not balanced stimulates more impulsive and potentially aggressive behaviour

There are two clear descriptive points that go beyond naming a hormone.

Total: 2 marks



ResultsPlus
Examiner Tip

When you are asked to 'describe' there needs to be some development of a statement.

Question 1 (b)

Candidates were required to demonstrate AO1 and AO3 for this question on the strength and weakness of the role of hormones in aggression. The weakness tended to be answered better than the strength.

Most answers used research evidence as the basis of a strength and a weakness. Some answers used the fact it is reductionist as their weakness.

The better answers were able to explain why it was reductionist and why this is a weakness of the explanation. Better answers were able to identify the research and then use the accurate results from that research to justify/exemplify the strength and weakness.

Some answers did not offer any justification or exemplification and so did not gain the AO3 mark. The weakest answers only wrote that there was supporting/opposing evidence, but did not go beyond that.

(b) Explain **one** strength and **one** weakness of hormones as an explanation of aggression.

(4)

Strength

A strength is that there is evidence for the role of hormones in aggression. ^{Christ} ~~Baner~~ carried out a study in children and found out that children who had ~~higher~~ less levels of cortisol ~~had~~ were 3 times more aggressive. Making the theory more credible.

Weakness

A weakness would be that it ~~hasn't~~ ~~have~~ maybe the high levels of aggression are the ones that lead to high levels of testosterone, and not the other way round. This shows it is not a complete explanation. ~~as~~



The strength receives 2 marks:

- 1 mark for identifying that there are studies that support it, such as the study on children and cortisol
- 1 mark for the exemplification with the results

The weakness receives 1 mark:

- 1 mark for identifying that it may be high levels of aggression lead to high levels of testosterone and not the other way round

There is no further explanation therefore the AO3 mark cannot be gained.

Total: 3 marks



Fully justify/exemplify the strength and weakness to gain access to all marks.

When writing about factors that an explanation may ignore, candidates should name the factor and then use a brief description of that factor as the AO3 exemplification/justification mark.

(b) Explain **one** strength and **one** weakness of hormones as an explanation of aggression.

(4)

Strength

~~It is reductionist as it says aggression can be caused by other factors. For~~

~~ex.~~ A study proves that castrated mice that were injected with testosterone were more aggressive.

Weakness

It is reductionist as it ignores other factors that may cause aggression. For example,

~~the~~ Social Learning Theory explains how we learn by observing others so by ~~the~~ observing a role model being aggressive, we are more likely to ~~be~~ ~~agg~~ have aggressive behaviours.



The strength:

- 1 mark for identifying that a study proved that mice injected with testosterone became more aggressive. There is no further explanation so the AO3 mark cannot be gained

The weakness receives two marks:

- 1 mark for identifying that it ignores other factors such as social learning theory
- 1 mark for further exemplifying by the explanation of how social learning theory may cause aggression

Total: 3 marks



When writing about factors that an explanation may ignore candidates should name the factor then use a brief description of that factor as the AO3 exemplification/justification mark.

Question 2 (a)

This two-mark question required candidates to identify the independent and dependent variable from the scenario.

The best answers were able accurately to identify both and so gain both marks. Some answers had the independent variable and the dependent variable the wrong way round.

- 2 Harold conducted an investigation to see if the number of hours spent playing online games affected aggression. He asked his participants to spend no more than one hour a day playing online games for the first week of his investigation. In the second week of his investigation the participants could spend up to seven hours a day playing online games.

Harold asked his participants to record how many aggressive thoughts they had each day. He then calculated the total number of aggressive thoughts for each participant in each week.

- (a) Identify the independent variable (IV) and the dependent variable (DV) in Harold's investigation.

(2)

Independent variable ^{→ changing}

number of hours spent playing online per participant

Dependent variable ^{→ measuring}

~~levels of aggression after Harold played online~~ number of aggressive thoughts each participant had



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Examiner Comments

This receives both marks:

- 1 for the correct independent variable
- 1 for the correct dependent variable

Total: 2 marks

Question 2 (b)

Candidates were required to identify a reason why the Wilcoxon signed ranks test was used, for the AO2 mark, and then justify/exemplify the reason for the AO3 mark.

The most frequent answers were that it was a test of difference or repeated measures, with a large minority also being able to identify that it was ordinal data.

The best answers were then able to justify/exemplify this, with reference to details from the scenario. Some answers did not relate their answer to the scenario and so could not gain both marks. Some answers did not attempt the justification/exemplification.

A minority of answers gave an incorrect reason for the Wilcoxon Signed Ranks test.

(b) Once he had collected the data Harold calculated a Wilcoxon Signed Ranks test on the data.

Explain **one** reason why Harold conducted a Wilcoxon Signed Ranks test on his data.

(2)

It was to test to see if there was a difference in ~~the~~ amount of times ppts had aggressive thoughts. Because ~~the~~ he used repeated measures design, to have his ppts ~~to~~ spend the 1 hour and also spend the 7 hours playing video games for results.



This answer receives marks:

- 1 mark for identifying that he used repeated measures
- 1 mark for exemplifying this by his participants spent 1 hour playing the game and then 7 hours (AO3)

Total: 2 marks



Link your answer to details from the scenario.

Question 2 (c)

This was a mathematics question, where candidates had to calculate the Wilcoxon signed ranks test.

The best answers were able to follow the instructions in the formula and statistical table and gained all four marks.

The most frequent error came in the ranking of the differences, with some answers *not* ignoring the minus signs, which then affected their ability to get the rest of the calculation correct.

Harold's results are shown in **Table 1**.

1 2 3 4 5
 ✓ ✓ ✓ ✓ ✓

5

Participant	Number of aggressive thoughts recorded in week 1	Number of aggressive thoughts recorded in week 2	Difference	Ranked Difference
A	2	0	2	3
B	7	8	-1	1.5
C	5	9	-4	4
D	1	1	0	
E	12	7	5	5
F	3	3	0	
G	2	3	-1	1.5

Table 1

- (c) Calculate the T value for the data gathered by Harold by completing **Table 1**. The formulae and statistical tables can be found at the front of the paper. You **must** show your working out.

(4)

Space for calculations

<u>Positive</u>	<u>Negative</u>
3	1.5
5	4
<hr style="width: 50%; margin: 0 auto;"/>	1.5
8	<hr style="width: 50%; margin: 0 auto;"/>
	7

T = 7



This answer received all marks.

They showed their working out for the:

- difference (1)
- ranked difference (1)
- two totals (1)
- correct answer for T (1)

Total: 4 marks



Show your working out on maths questions.

Even if the final answer is incorrect you will still gain marks.

Question 2 (d)

This question required candidates to identify an improvement in relation to the scenario for the AO2 mark, and then justify/exemplify why this would improve the study, for the AO3 marks.

The most usual improvements were to:

- use an independent groups design
- increase the sample size
- allow the participants to only play one game

The best answers were able to explain how/why this would improve the study. Some answers could identify accurately an improvement but then focussed on a weakness of the study, rather than writing how/why the study would be improved.

Some answers changed the research method or suggested an improvement that would change the aims of the study, which were not creditworthy.

(d) Explain **one** improvement Harold could make to his investigation.

(2)

~~Harold could make the participants play~~
Harold could had a controlled group of people that didn't spend any time playing videogames so that he can compare the results of the controlled group and the people who played videogames this will allow him to see if there is any difference and will make the study more reliable.

(Total for Question 2 = 10 marks)



This answer received 2 marks:

- 1 mark for identifying the improvement of having a control group that is linked to the scenario by writing don't play any games
- 1 mark for exemplifying how this would improve the study (AO3)

Total: 2 marks



Focus on how the improvement would make the study better.

Question 3 (a)

Candidates were required to describe research into the sleep-wake cycle, for two AO1 marks.

Siffre was the most frequent answer. The best answers were able to offer two accurate descriptive points about a piece of research, and so gain both marks.

Some answers did have inaccuracies in them, such as the amount of time Siffre spent in the cave. Some answers described the sleep-wake cycle, rather than research into the sleep-wake cycle and so did not gain credit.

3 (a) Describe research into the circadian sleep-wake cycle.

(2)

The circadian sleep-wake cycle has a duration of 24 hours. Humans have a free running biological clock of 25 hours but is kept to 24 by the external zeitgeber of light. The research on it is reliable as it has been done in lab settings where all variables were controlled to make sure there is a cause and effect between IV and DV



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Examiner Comments

This response gained 0 marks because the answer is describing the sleep-wake cycle, rather than research into the sleep-wake cycle.

Total: 0 marks



ResultsPlus
Examiner Tip

Read the question carefully to ensure you are answering the question that is asked.

3 (a) Describe research into the circadian sleep-wake cycle.

(2)

Siffre was a researcher who lived in a cave ^{for a period of time} to see if external factors or internal rhythms could affect his sleep-wake cycle. He found that he was following a 25 hour cycle instead of a normal 24 hour cycle. So internal rhythms affect our sleep-wake cycle.



ResultsPlus
Examiner Comments

This answer receives 2 marks:

- 1 mark for a researcher lived in a cave to see if external or internal factors affected the circadian rhythms
- 1 mark for the results because he did go to a 25-hour cycle

The candidate answers the question that is asked and their answer is accurate.

Total: 2 marks

Question 3 (b)

This question required candidates to identify a strength and a weakness of research into the sleep-wake cycle for the AO1 marks, and then justify/exemplify the strength and weakness for the AO3 marks. The weakness tended to be answered better than the strength, with the most common weakness being about the use of case studies.

Those candidates who gained all four marks were able to identify both, accurately, and offer the justification/exemplification for both.

Some answers could identify a strength and weakness accurately, but then did not give the AO3 point, or only wrote a term, eg 'it is reliable'. They did not exemplify how or why.

Some candidates wrote about a strength or weakness of the sleep-wake cycle, rather than research into it.

(b) Explain **one** strength and **one** weakness of research into the circadian sleep-wake cycle.

(4)

Strength

~~At one~~ The research of the circadian ~~cycle~~ sleep-wave cycle had scientific results which are not subjective. Siffre wrote down ~~the~~ ^{in the} cave ~~the~~ ~~the~~ days he thought he was there by doing a tally mark ~~&~~ each time he thought a day passed. This results are reliable than doing an assumption once he went out.

Weakness

The research of circadian sleep-cycles are done by single people, case studies so it is not generalisable to the wider population. For example, Siffre might have calculated 25 hours but other people might ~~&~~ calculate more or less hours.



ResultsPlus
Examiner Comments

Strength:

- 1 mark for identifying that it is scientific because it is not subjective
- 1 mark for the exemplification with the use of Siffre, which links it to research into the circadian sleep-wake cycle

Weakness:

- 1 mark for identifying the weakness that it is usually case studies of one person
- 1 mark for the exemplification relating to how other people may have written down something different

Total: 4 marks

Question 4 (a)

Those candidates who knew what the term meant were able to gain this mark.

However, many responses did not gain the mark. The most usual reasons were because they did not understand the symbol meant equal or less than, or did not convert 0.05.

Some answers did not know what the term meant.

- 4 Adeliza conducted a correlation to see if there was a relationship between the number of hours slept per night and mood. The higher the score for mood, out of ten, the more positive the mood. She hypothesised that the more hours slept the more positive the mood.

Adeliza calculated a Spearman Rho to see if her results were significant at $p \leq 0.05$.

- (a) State what is meant by the term $p \leq 0.05$.

(1)

$p \leq 0.05$ means that there is a probability of 5% that ~~the~~ Adeliza's results are due to chance.



This answer receives no marks because the probability the results are due to chance is 5% or less.

Total: 0 marks

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Adeliza calculated a Spearman Rho to see if her results were significant at $p \leq 0.05$.

(a) State what is meant by the term $p \leq 0.05$.

(1)

$p \leq 0.05$ means that the probability of the correlation between number of hours slept per night and mood is caused by chance is of 5% (0.05) or less.



ResultsPlus
Examiner Comments

This answer receives the mark because the candidate wrote about what all the parts of the term meant.

Total: 1 mark

Question 4 (b)

This question required candidates to identify accurately the correlation shown on the graph, with most answers being able to identify it as a positive correlation.

Adeliza's results are shown in **Figure 1**.

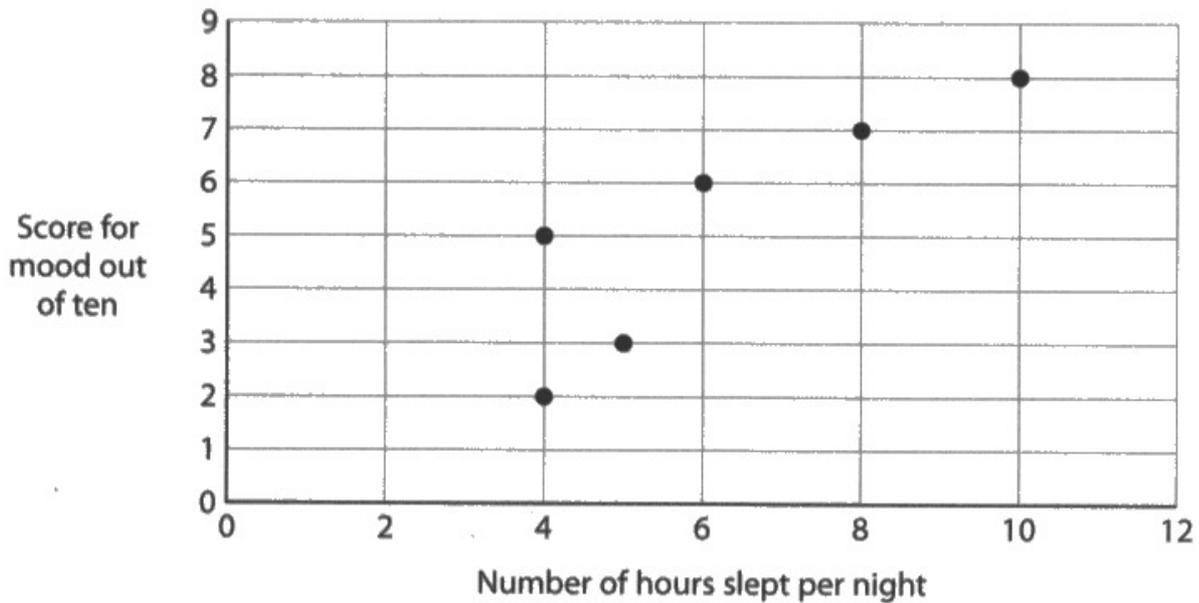


Figure 1

(b) Identify what type of correlation Adeliza found using the data in **Figure 1**.

(1)

Adeliza found that ~~she~~ the correlation is positive.



This answer receives the mark for clearly and correctly identifying that the correlation shown on the graph was positive.

Total: 1 mark

Question 4 (c)

Candidates needed to demonstrate AO2 and AO3 skills in their answer to this question concerning a weakness of using a correlation.

The most frequent answer was that it could not determine cause and effect. The best answers were able to link this to the scenario and then go on to justify or exemplify why this is a weakness of correlations.

Some answers were able to identify a weakness but did not gain the AO3 mark because they did not offer any further justification/exemplification.

Weaker answers did not link their answer to the scenario.

(c) Explain **one** weakness of Adeliza using a correlation for her study.

(2)

Adeliza using a correlation doesn't prove cause and effect. It doesn't prove that because we slept more, ~~as~~ our mood got better. It also doesn't show which came first, ~~we~~ did we sleep better because we were in a good mood or because we slept better we were in a good mood.

(Total for Question 4 = 4 marks)



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Examiner Comments

This answer receives both available marks:

- 1 mark for the first two sentences combined to identify a weakness. If it had been the first sentence on its own it would not have received the mark because it is not linked – the second sentence gives it the link
- 1 mark for exemplifying the weakness

Total: 2 marks

Question 5

This 8-mark essay question asked candidates to discuss their practical investigation in terms of ethics and reliability.

There was a range of different practicals, including the relationship between age or social media use and sleep, or the relationship between sleep or finger ratio on aggression.

Some of the practicals were experimental and not correlational, as specified in the specification. The best answers were able to show accurate knowledge and understanding of either the practical, or ethics and reliability. Then, they gave a well-balanced and logical discussion of how their practical was reliable and ethical.

Some answers showed mostly accurate knowledge and understanding, with details about the practical being generic. Others showed superficial discussion where there were statements noting how the practical was, or was not, ethical and reliable, but no discussion about why. Some practicals were unethical.

5 In your studies of biological psychology you will have conducted a practical investigation.

Discuss ethics and reliability in relation to your practical investigation.

(8)

We asked pps to ~~to~~ answer a brief anger and aggression questionnaire where they answered 6 questions on a scale of 0-4. The questions were followed by asking how many hours in total pps slept during Spanish party week. This was ethical as the questions asked were completely anonymous, so the pps don't, for example, feel embarrassed by ~~the~~ if their score on the brief anger and aggression questionnaire was high, as it'd mean the pps would appear as aggressive.

The pps sample was a group of 10 Year 12 students, 8 girls and 2 boys, from Caxtons College, which is a private high school in ~~the~~ Spain. This, again, ~~is ethical because~~ ~~is ethical~~ as all pps were at least 16 years old, so ~~we~~ BPS guidelines allow for use of the data collected ~~from these pps in our practical~~ about aggression score and hours of sleep in Spanish party week that was ~~the~~ ~~the questions in the brief anger and aggression questionnaire were all the same for~~ For instance, collected from the pps in our practical.

The questions in the brief anger and aggression questionnaire were all the same. For instance, ~~how often~~ do you often think of punching someone how likely you are to punch someone. Thus, this increases reliability. This is because, if the questions from ~~aggression~~ the brief anger and aggression questionnaire were all the same for all 10 pps, it means that the same questions could be used to repeat the study about the relationship between # hours of # sleep in Spanish party week and score on the brief anger and aggression questionnaire, thus, ~~the study would be checked about~~ and then the study could be checked for reliability.

However, pps had to recall the total number of hours they slept during the Spanish party week. So, it decreases reliability as maybe pps didn't remember how much they slept correctly, causing the data to not be accurate. Thus, if the pps were asked to recall how many # hours they slept during Spanish party week again, they'd not give the same number, proving study not to be reliable.



This is a Level 4 response.

The AO1 is Level 3: it has knowledge and understanding of the study, which is accurate but not thorough.

AO1 may be gained for knowledge and understanding of the practical, or of ethics and reliability.

The AO2 discusses the ethics and reliability of the study.

This is Level 4: the points are well-developed and there are logical chains of reasoning because they follow on naturally from the AO1.

It discusses ethics and reliability: there is a thorough awareness of competing arguments and the application is sustained.

On balance, this response reaches Level 4.

Total: 7 marks

Question 6 (a)

Candidates had to describe secondary reinforcement for two AO1 marks.

The best answers knew what secondary reinforcement was and often gave an example for the second mark.

Some answers gave descriptions of primary reinforcers.

6 In your studies about learning theories and development you will have learnt about operant conditioning.

(a) Describe what is meant by the term 'secondary reinforcement' in operant conditioning.

(2)

Secondary reinforcement is something that you don't need for life supply but something you can get that with. An example of secondary reinforcement is money.



This answer receives both marks:

- 1 mark for "something that you don't need for life supply"
- 1 mark for "but something you can get with that. An example of secondary reinforcement is money"

Total: 2 marks

Question 6 (b)

This question concerned a strength of operant conditioning, with an AO1 mark for identifying the strength and an AO3 mark for justifying/exemplifying why it is a strength.

The most frequent answers used either Skinner's research or how it was better than classical conditioning.

The best answers were able to identify a strength accurately and then go on to justify/exemplify this. Some answers could identify a strength but then did not gain the AO3 mark.

Some answers confused operant conditioning and social learning theory.

(b) Explain **one** strength of operant conditioning.

(2)

~~there is evidence such as Skinner. He~~
~~conducted a experiment on pigeons~~
~~and showed~~ It is a better explanation
than classical conditioning as it explains voluntary
behaviour and doesn't focus in reflexive behaviour. It
could be a complete explanation for behaviour.

Total for Question 6 = 4 marks



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Examiner Comments

This answer received both marks:

- 1 mark for identifying a strength – that it is a better, more complete explanation than classical conditioning
- 1 mark for the exemplification about how it is better than classical conditioning

Total: 2 marks



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Examiner Tip

When using another explanation as a strength, explain how the explanation is better – to access all of the marks.

Question 7 (a)

Candidates were required to give a fully operationalised directional hypothesis.

The best answers were able to write a directional hypothesis and operationalise both the independent and the dependent variable in their answers.

Answers lost marks if either the independent or dependent variable were not fully operationalised. Most answers were directional, although a few were either non-directional or correlational.

If candidates are asked to write a fully-operationalised hypothesis they should include the independent and dependent variables in their hypothesis.

- 7 Stephen conducted an experiment using rats. He investigated whether positive reinforcement, using alcohol, would teach rats to press a lever. He placed individual rats in a box for a week, as shown in **Figure 2**.

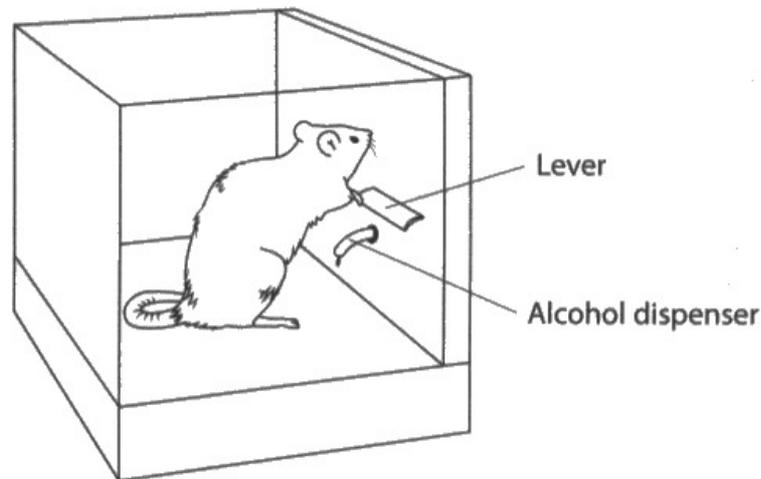


Figure 2

- Condition A: One group of 50 rats got a reward of a drink of alcohol after pressing a lever.
- Condition B: A different group of 50 rats did not get any reward after pressing a lever.

After the rats had been in the box for a week Stephen measured how many times the rats in each condition pressed the lever within five minutes.

- (a) State a fully operationalised directional (one-tailed) hypothesis for Stephen's experiment.

(2)

The number of times the rats will press the lever within five minutes is going to ~~be~~

~~be~~ increase in condition A, where the rats get a reward of a drink of alcohol after

~~the rats will press the lever~~ pressing the lever.

~~in condition B, the~~



ResultsPlus
Examiner Comments

This response is a partially-operationalised hypothesis because the candidate did not include both groups of rats.

Total: 1 mark

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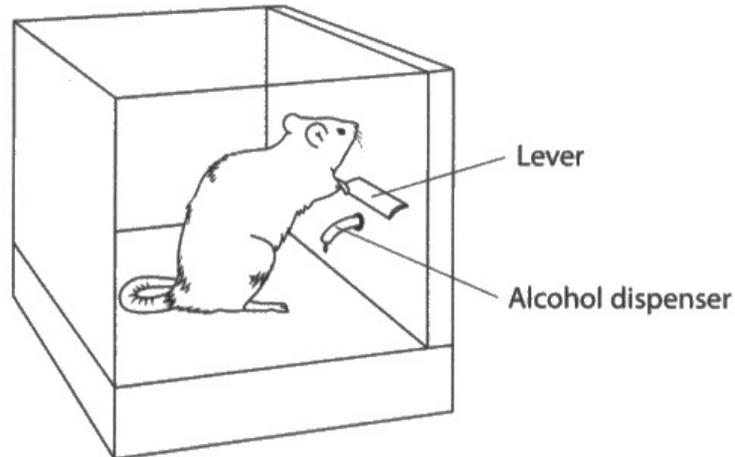


Figure 2

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After the rats had been in the box for a week Stephen measured how many times the rats in each condition pressed the lever within five minutes.

- (a) State a fully operationalised directional (one-tailed) hypothesis for Stephen's experiment.

(2)

Rat's that are given a reward of a drink of alcohol will press more times a lever than a different group of rat's that aren't given any reward when they press a lever in 5 minutes.



ResultsPlus
Examiner Comments

This response has a fully-operationalised hypothesis.

The candidates gives the two conditions, the 5 minutes and what the reward is.

Total: 2 marks

Question 7 (b)

Candidates had to draw a graph of the results from the table in this answer.

The best answers were able to gain all three marks for an accurate title, accurate labelling and accurate plotting.

Some answers did not give an accurate title nor label the axes accurately.

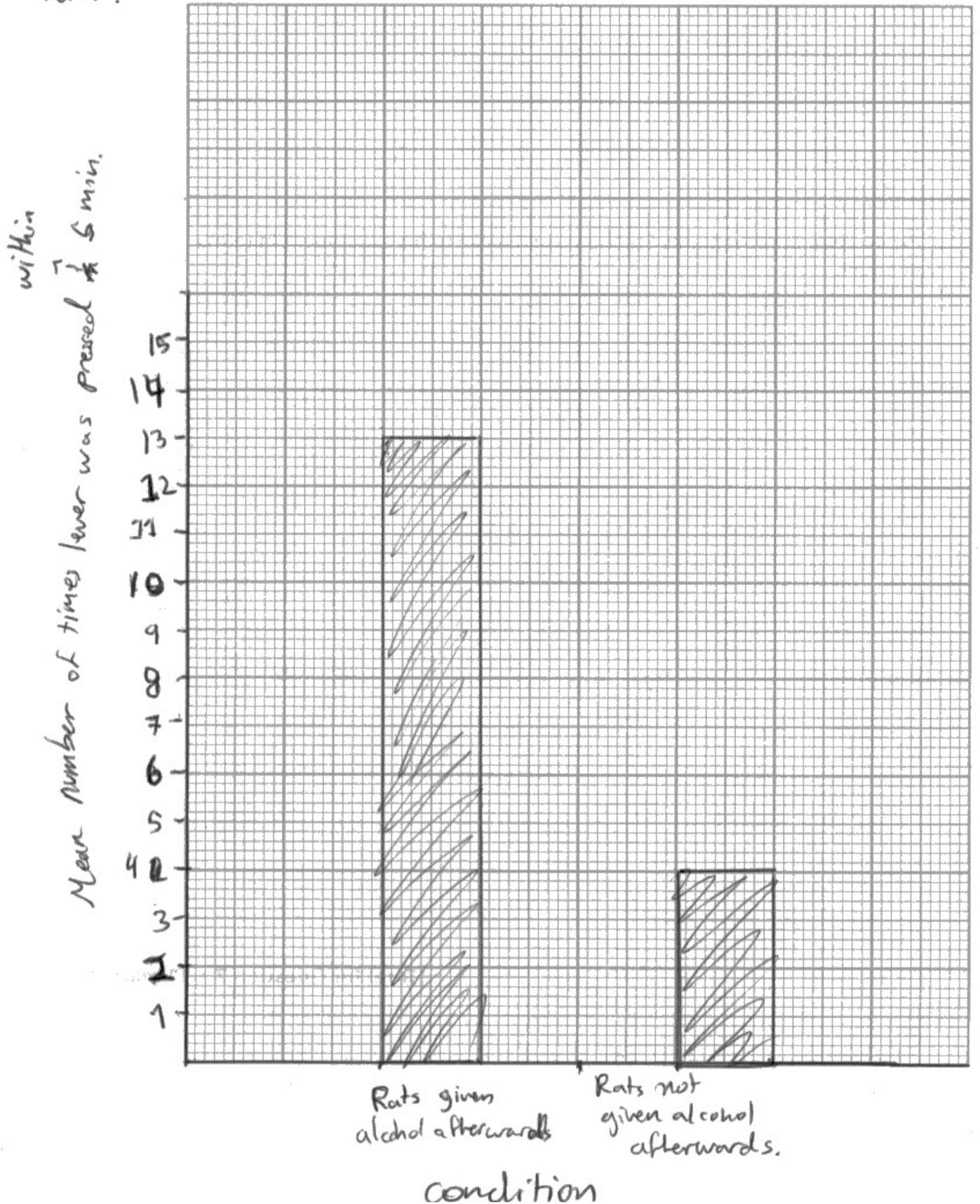
When labelling axes candidates should ensure their axes are to scale or indicate if they are not. They should write what the conditions are, not merely Condition A and Condition B.

(b) Draw a graph of Stephen's results using the data in Table 2.

(3)

Title

Bar-chart of the amount of times Rats pressed the lever.





This answer receives 3 marks:

- 1 mark for the title
- 1 mark for correctly labelling the axes
- 1 mark for the correct plotting of the data

Total: 3 marks

Question 7 (c)

To gain both marks candidates were required to give a conclusion from the data from the table, and use the results.

Better answers were able to do this using the figures from the table or the difference between the figures, and come to an accurate conclusion.

Some answers gave a conclusion but did not mention the results from the table. Some answers did not link their answer to the scenario.

(c) Explain **one** conclusion Stephen could make using the data from **Table 2**.

(2)

Rats that drink alcohol may learn that pressing the lever, they win a reward. In the other case, rats who don't drink alcohol don't see necessary to press the lever because they don't win any reward.



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Examiner Comments

This answer receives a mark for the section about the rats who had the alcohol, learning to press the lever (1)

The comment regarding the rats who did not have the alcohol does not justify or exemplify this point and therefore receives no further marks.

Total: 1 mark



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Examiner Tip

Use the results to explain the conclusion.

(c) Explain **one** conclusion Stephen could make using the data from **Table 2**.

(2)

Rats can be conditioned to press a lever through operant conditioning using alcohol as a reward as ~~seen by the~~ ^{the results} indicate that ~~not~~ rats ^{that} ~~one~~ were rewarded with alcohol pressed the lever more times than those that were not rewarded after pressing the ~~lever~~ lever.



This answer receives marks for the:

- conclusion that the rats could be conditioned to press a lever (1)
- use of the results that the rats who received alcohol pressed the lever more times than the rats who were not rewarded (1)

Total: 2 marks

Question 7 (d)

This question asked for two improvements to the study in terms of ethics.

The most frequent improvements were to:

- use something other than alcohol
- reduce the number of rats
- improve the living conditions

The best answers were able to identify two improvements and then justify/exemplify why these would improve the ethics of the study.

Some answers were able to gain the AO2 marks for identifying two improvements but they did not go on to justify/exemplify why this would improve the ethics of the study. Often, candidates wrote about why the study was unethical, instead.

Some answers were not specific enough, eg they wrote about reducing the sample size but not by how much.

Some answers did not answer the question and wrote about improvements that were not associated with ethics.

(d) Explain **two** improvements Stephen could make to his experiment in terms of ethics.

(4)

1. Stephen should have used a smaller sample of rats as he used a sample of 50 rats per condition (total 100 rats) and the number of animals used in animal research must be minimized to the ^{smallest} ~~best~~ number of animals necessary. (In this case rats) to make results valid.

2. Stephen could have used unprotected animals such as invertebrates (except octopus) as opposed to rodents such as rats which are believed to feel pain. This is to minimize harm caused.



There are no marks given for the first improvement because there is no indication of what the candidate meant by a smaller number of rats. Reducing the number of rats to 95 would not make the study more ethical.

Marks are given for the second improvement of identifying that an unprotected animal should be used, such as an octopus.

This is further exemplified by noting that rats are believed to feel pain, therefore this would minimise harm. If the candidate had not mentioned rats in the second part of the answer, this would have been a generic answer and would not have been given any marks.

Total: 2 marks



When using sample size as an improvement, give a number that you think would improve the study.

(d) Explain **two** improvements Stephen could make to his experiment in terms of ethics.

(4)

1. Reduce the number of rats. Stephen used 100 rats to test if positive reinforcement was effective ~~rats~~ by teaching rats to press a lever. This means, that Stephen should reduce the number of rats such as using 5 ^{rats} in each side so it meets with ethical guideline BPS.
2. Also, he could have replaced the rats. Rats have 95% similarity with our brain ~~activity~~ structure. This means, that rat will have suffered while being trapped in a box. Therefore, Stephen could have selected an animal ~~with~~ that feels less pain and anxiety to complete his study about operant conditioning.

(Total for Question 7 = 11 marks)



The candidate identifies the first improvement of using 15 rats not 100 (1)

Meeting ethical guidelines is not enough for the second mark: which guideline does it meet?

The second improvement is to suggest using an animal that feels less pain (1)

No marks are given for the first part because this is a weakness if using rats, not stating why using another animal would improve the study.

Total: 2 marks



When writing about an improvement, focus on how the improvement makes the study better.

Question 8 (a)

Candidates had to describe a fixed ratio schedule of reinforcement in relation to the scenario, to gain both AO2 marks.

The best answers knew what a fixed ratio schedule of reinforcement was and could link it to the scenario. The most frequent error was that some answers wrote about continuous reinforcement.

8 Phillipa was training her dog to give her its paw every time she said the word 'paw'. She decided to use a fixed ratio schedule of reinforcement using dog treats.

(a) Describe how Phillipa could use a fixed ratio schedule of reinforcement with her dog.

(2)

Fixed ratio is when every certain number of behaviours the dog get's a treat. So Phillipa would give the dog a treat every five times the dog gives her ~~the~~^{it's} paw.



This answer receives both marks.

The candidate:

- describes what a fixed ratio is and links it to the scenario, in the first sentence (1)
- gives an example of how often the dog should be given a treat (1)

Total: 2 marks

Question 8 (b)

For this compare question, candidates are required to identify a similarity and a difference between the two theories and then exemplify/justify this similarity or difference.

The best answers were able explicitly to compare both theories in terms of a similarity and a difference, and then go on to justify/exemplify this.

Some answers only gave similarities or differences, but were able to justify/exemplify them. Some answers did not offer any comparison but only described the two theories.

(b) Compare classical conditioning and operant conditioning as explanations of learning.

(4)

classical conditioning is when ^a ~~the~~ neutral stimulus is paired with a unconditioned stimulus in order to make the neutral stimulus produce the same reflex response as the unconditioned stimulus. ~~and~~ the neutral stimulus ~~is~~ passes to be the conditioned stimulus. It explains that we learn by association. operant conditioning ~~is~~ gives the idea that when ~~we do a certain thing~~ our act is our behaviour and the event is our consequences. The consequences can lead to an increased or decreased probability of that behaviour. It explains that we learn by consequences.



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Examiner Comments

This answer received no marks because the candidate describes classical conditioning and then describes operant conditioning, with no comparison made.

Total: 0 marks



ResultsPlus
Examiner Tip

When asked to compare, make explicit comparison points.

(b) Compare classical conditioning and operant conditioning as explanations of learning.

↳ reward / come

(4)

Classical conditioning is learning by association, whereas operant conditioning is learning by consequence.

In operant conditioning the individual is always rewarded or punished everytime he increases or decreases the frequency of his behaviour. However in classical condition, ~~a typical unlearned unconditioned~~ there is no use of rewards or punishments, the individual simply associates an unconditioned stimulus to an neutral response.

Similarly in both types of conditioning both ^{conditioned} behaviours are likely to disappear in the absence of the stimulus. In ~~operant~~ ^{classical} conditioning, the behaviour is likely to become extinct after many times it has been present without the stimulus. and in operant conditioning, the individual is less likely to express the behaviour if the praise is not been given.

(Total for Question 8 = 6 marks)



This answer receives marks for:

- identifying what the difference is (1)
- explaining how one uses rewards and punishments and the other does not (1)

It also receives marks for:

- the similarity that behaviours can become extinct in both of them (1)
- exemplifying how those behaviours can become extinct in them both (1)

Total: 4 marks

Question 9 (a)

Most answers identified the sampling technique correctly, as volunteer.

9 In your studies of learning theories and development you will have learnt about the contemporary study in detail by Capafóns et al. (1998).

(a) State the sampling technique used by Capafóns et al. (1998).

(1)

volunteer sampling.



ResultsPlus
Examiner Comments

This answer received the mark for stating correctly that the sampling technique was a volunteer sampling technique.

Total: 1 mark

Question 9 (b)

This question focussed on identifying two ways the study was controlled and then justify/exemplifying this.

The controls identified most frequently were the:

- use of scales
- use of physiological measures
- fact that a matched groups design was used

The best answers identified two controls accurately and were then able to justify/exemplify those controls, often in terms of how it was a good thing for the study.

Other answers could identify two controls accurately, but did not offer the justification/exemplification to gain the AO3 marks.

Some answers were generic and could have applied to a variety of studies, showing little knowledge of this study.

(b) Explain **two** ways that Capafóns et al. (1998) controlled extraneous variables in their study.

(4)

- 1 He conducted a lab based experiment which makes it easier to control any variables that could affect the ~~in~~ therapy. For instance by not being in a real plain he was able to remove the anxiety and pressure that the participants could feel in a normal airport environment. This isolates the IV and DV is easier to measure how the fear of flights is progressing. This reduced
- 2 As he randomly allocated his sample into the different groups it removed any possible bias ~~the~~ bias where he would allocate participants based on who he thought would be able to overcome the phobia through breathing exercises and who didn't. This kept the results reliable.



ResultsPlus
Examiner Comments

This answer received full marks.

The first control received marks for:

- removing the anxiety felt in a real airport because it was done in a lab (1)
- exemplifying that this isolates the IV and the DV so they could measure how fear of flights was progressing (1)

The second control received marks for:

- identifying that he randomly allocated his participants to his two groups (1)
- exemplifying that this removes bias of putting who he thought would overcome the phobia through the breathing exercises, which links this point to the study (1)

Total: 4 marks

Question 10

This 8-mark essay required candidates to evaluate Freud's psychosexual stages of development.

The best answers were able to offer accurate and thorough knowledge and understanding of the psychosexual stages of development, and had a well-developed, logical evaluation.

Some answers were imbalanced. They had accurate knowledge and understanding but offered evaluation points that had some development of form, or the evaluation was limited – often only to Little Hans.

Some answers did not focus on the question and showed knowledge and understanding of other aspects of Freud's theory and some answers evaluated Little Hans, rather than the theory.

In 8-mark evaluate essays there is equal emphasis on the AO1 and the AO3, therefore candidates should make sure both are equal and both are developed.

10 Evaluate Freud's psychosexual stages of development.

(8)

Freud suggested that we develop in 5 psychosexual stages. In each stage, the ~~se~~ libido, our sexual desire, is expressed in different ways and in different parts of the body. When a stage is unresolved, we fixate it and can affect our adult personality. The first stage is the oral stage, which our libido is centered on our mouth. It ~~is~~ is developed from your birth until 1 year old. Baby finds satisfaction by putting all sorts of things in ~~eat~~ their mouth. ~~if~~ If there is an oral fixation, this can lead to oral personalities in the future, like smokers, nailbiters or thumbsuckers. ~~The next stage is the~~

The next stage is the anal stage which is developed from 1 to 3 years old. ~~The~~ The libido is focused on the anus and babies find ~~se~~ great satisfaction by defecating. In this stage, babies are aware that their demands can bring conflict with the external world. The conflict comes with potty training, when adults impose restrictions about when and where to defecate. The babies first conflict with an authority can determine their future relationships with all sorts of authorities.

The phallic stage is developed from ~~3~~ 3 to 6 years old. In these stage children begin to find differences in sex characteristics. They begin to have sexual elections, jealousy, rivalry and fear. This stage is called the oedipus complex for boys and the Electra complex for girls. It is resolved through identification with the same sex parent.

The latency stage is from 6 to puberty. In this stage, there is no more sexual development. Children ~~start~~ place their energy in acquiring new knowledge and skills and confine it to their same sex friends.

The genital stage is from puberty to adult era. This is when ~~to~~ you find satisfaction with relationships with others, instead of self satisfaction. It is resolved correctly ~~when~~ if you are in a stable relationship on your 20's. ~~The~~ Freud suggested that ~~the~~ this satisfaction could only occur with heterosexual intercourse, ~~to~~ however, fixations could cause modifications, and people may find more satisfying oral sex or kissing.

A strength of this theory is Freud's investigation to Little Hans, he found out that his fear of horses was due to his unconscious fear towards his dad. This was because Little Hans was going through the oedipus complex and he unconsciously desired his mother and feared his dad, which reminded him of a horse. This supports the theory.

Another study proved that over-eating was a way to gain oral gratification, which is explained by the fixation ~~to~~ in the oral stage leading to having this oral personality.

However, Freud only based this theory in one child's case study and from patients that visited him. Therefore, the study lacks generalisability as ~~the~~ it was an isolation study and it is not representative of the wider population. And, there is no evidence of empirical or observable measurements. The lack of quantitative data makes this theory be unscientific and therefore, not reliable.



This is a Level 3 response.

The AO1 is Level 4: it shows accurate and thorough knowledge and understanding of Freud's theory of psychosexual stages, given the time-constraints of the examination.

The AO3 is Level 2: there is a grasp of competing, partially-developed arguments.

On balance, this puts the response at Level 3.

Total: 6 marks

Level 3

Question 11

This was a 12-mark essay that required candidates to assess systematic desensitisation.

The best answers were able to show accurate and thorough knowledge of systematic desensitisation. They gave a well-developed logical argument that had a balanced judgement/decision, with the judgements/decisions often being spread throughout the essay.

Good answers showed knowledge and understanding of the process of systematic desensitisation.

Other answers were weaker on the AO3 points, producing statements with some development or providing an imbalanced response. Sometimes, such responses only compared it to flooding and offered very little else for the AO3.

11 To what extent is systematic desensitisation an effective therapy/treatment?

- Psychoanalysis

(12)

Systematic desensitisation is a therapy which aims to treat emotional problems by ~~being their anxieties~~ using counter-balancing and make clients learn new association to change for their current learned ones. The idea is that client find a relaxation association as fear and relaxation cannot co-exist.

Firstly, the client is taught some breathing ~~techn~~, muscle relaxation techniques to aid relaxation. This is to reduce the levels of stress and anxiety. After this, the client constructs a fear hierarchy, listing the number of stimulus they are afraid of, from least to most. Lastly, the client experience the exposure to it. They work through the hierarchy trying to resolve the fear. Until one ~~stage~~ step of the hierarchy is not successfully resolved, the client doesn't pass to the next one. The exposure can be in two ways, in vitro, when the client imagines the experience and in vivo, when the client actually experiences it.

Systematic desensitisation is effective as Capatons investigated the effectiveness of it in fear of flying participants. He used a control group which was not treated and compared it to the treatment group. ~~As~~ There was a significant difference between the participants that were treated and those who weren't. This gives the therapy support evidence as Capatons had a 90% of success rate.

This treatment is also effective because clients are allowed to construct their own fear hierarchy, which gives them more ownership of the therapy. This ~~process~~ makes them actually set what they are afraid of and make it more personal.

However, psychoanalysts argue that it is not an effective therapy as the ~~cause~~ root cause of their emotional problem is not addressed, so the therapy just make you change your reactions but doesn't really treat the cause of it. This means that the client might have problems after the therapy. ~~It is not effective~~ It may not be effective as the phobia can appear unexpectedly. ~~and~~ In systematic desensitisation you are aware that your phobia is going to appear but if you are not aware, your reaction may be different.

capatons used only ~~video~~ ~~flight~~ flight simulators and videos to treat the participants fear. However, this means that in real life situations ~~there~~ their fear is not treated, ~~and this may~~ this reduces the validity of the study as it can affect its 90% success rate.



ResultsPlus
Examiner Comments

This is a Level 3 response.

The AO1 is accurate therefore it is Level 3 but it is not thorough.

The AO3 is Level 3: it has mostly developed logical arguments that show an awareness of competing arguments, with judgements throughout.

Total: 8 marks

Level 3

Question 12

This 16-mark essay question assessed all three AOs in terms of genes and social learning theory, in relation to a scenario about aggression.

The best answers were able to show accurate and thorough knowledge and understanding of both explanations. There was sustained application to details from the scenario and a well-developed and logical evaluation.

Some answers only occasionally supported their lines of argument with detail from the scenario. Some answers only produced AO3 statements, with some development of form.

The weakest answers offered isolated elements of knowledge and understanding, with little reference to the scenario and limited supporting evidence.

12 Berengaria is 20 years old. She comes from a family that is known to be aggressive. Her father has been to prison for hurting someone in a fight. Her mother frequently gets into arguments with the neighbours and recently threw a stone at a neighbour's house.

Berengaria enjoys watching violent films. Her favourite actress has recently starred in a film where the actress was involved in using her skills in kickboxing to fight a group of people.

The police recently came to Berengaria's house to question her about a fight that she had with another girl. The other girl alleges that Berengaria used kickboxing moves and stole her phone.

Evaluate the role of genes and social learning theory as explanations of Berengaria and her family's aggression.

You **must** make reference to the context in your answer.

(16)

~~The~~ Berengaria's father may have XYY genes which only affects males and make them more aggressive.

Berengaria's father may have an extra Y chromosome because he lacked of empathy when hurting someone in a fight and didn't understand the consequence of going to prison for his aggressive behaviour.

Berengaria's mother may lack of MAOA genes are they are responsible for the production of monoamine oxide which breaks down neurotransmitters such as dopamine.

Berengaria may have low levels of MAOA gene that making her adrenaline not being broken down

correctly and having a high quick fight response, this may be the reason to why she used kickboxing moves to steal a girl's phone.

Raine conducted a study on male prisoners and identified high levels of testosterone in their saliva. This supports the idea that her father's genes ignore the fact that other characteristics like behavioural issues could also be responsible for her father's aggressive behaviour.

Money showed there is a positive correlation between the extra Y chromosome and aggression levels. This supports the idea of Bregaglia's father being aggressive due to the extra Y chromosome.

Banet conducted a study on 28 males from a Dutch family with criminal records and found they all lacked the MAOA gene. This could be the reason for Bregaglia's mother's aggressivity.

Social learning theory suggests Berengaria imitates aggressive behavior of role models. In this case her role model could be her favorite actress using kitchboxing in a movie.

To become a role model, the role model needs to have relevance to the observer. They could share age, sex, hobbies. This suggests Berengaria's actress is her role model because they share the same age.

For a behavior to be imitated, it has to be remembered. Berengaria has remembered the kitchboxing moves from the movie and then used them in her to still a girl's phone.

However, there is a study that shows how people's anti-social ~~the~~ behavior is not altered by watching TV. This shows ~~the~~ watching the kitchboxing moves on TV ~~at~~ night didn't make Berengaria more aggressive.

In order ~~for~~ a behavior to be repeated,

The observer must be motivated by the reward of the behavior. In this case the reward was to keep the girl's phone.

For a behavior to be imitated by an observer, there are four stages. Attention, retention, motor reproduction and motivation.



This is a Level 3 response.

The AO1 is at the bottom of Level 3: it is accurate but not thorough. It is merged in with the AO2 so needs to be picked out.

The AO2 is Level 4: there is sustained application throughout and it shows the ability to integrate and synthesise relevant knowledge.

Competing arguments come in the form of using different aspects of the context.

The AO3 is Level 2: some arguments are developed but some are not, which places it in Level 2.

The AO2 part of the response takes it into Level 3.

Total: 10 marks

Level 3

Paper Summary

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

- In scenario questions, candidates should ensure there are links to details from the scenario in their answers to access the AO2 marks
- When answering a question about an improvement, candidates should explain how their improvement will make the study better, not which aspect was a weakness of the study without the improvement
- In questions relating to a strength or a weakness, candidates should fully-exemplify the strength or weakness to access the AO3 mark
- In extended response questions, candidates should ensure both the knowledge and understanding, and the AO3 are accurate and developed, to access the higher levels.

Grade boundaries

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