



Examiners' Report

June 2023

GCE Psychology 9PS0 01

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Introduction

The examination structure provided a range of question types over five sections, with the final extended responses requiring candidates to address issues and debates. Candidates are now familiar with the structure and expectation of 9PS01. Compared with previous sittings, many candidates demonstrated good psychological knowledge and understanding in this examination, and this is evidenced in the low proportion of non-attempts seen in the paper. The performance of the candidates is summarised below, with advice on how to improve in future series'.

It would benefit centres to ensure all content is covered in sufficient depth to benefit candidates, such as for Question (Q) 10: whilst candidates demonstrated clear knowledge and understanding of behaviour shaping, they were less able to show good A03 skills for this topic area.

Most candidates completed the mathematical calculations well and were able to interpret the statistical data correctly: this was a positive across the paper.

There was an improvement in candidate understanding of the taxonomy of questions, especially for the short answer questions, with many able to meet the demands of questions more consistently. Further development would benefit candidates when responding to 'explain' questions, where often the justification of their point is not fully developed. This was evident particularly in Q07, where strengths were often given but were not justified or exemplified to any degree, to achieve the A03 mark.

There was a marked improvement with regard to the 8-mark essays where 'Discuss' was used. Many candidates were able to understand that A01/A02 skills were required for this command word. However, more were able to demonstrate stronger A02 skills and lacked the A01 skill needed for the higher banding criteria. Where theories were assessed in the 'Evaluate' essays for Q03 and Q08, candidates again lacked sufficient depth for A01 skills.

There was an improvement in demonstrating A03 linked to the A01 content within the essays, but this was then limited by the lack of detail present for A01. There were also essays where only A03 was given, without the A01 to provide context: this often made A03 superficial and, to some degree, generic. It would benefit centres to remind candidates that 8-mark essay questions require a balance of both skills.

Application remains a general area for improvement, especially regarding practical investigations. Many candidates, whilst able to provide strengths for Q04(b) and an improvement for Q04(c), did not make these specifically relevant to the cognitive practical, as stated in the question. Often, they relied on 'generalisability' to a sample, which could have been for any of the practicals they had studied within the specification. Centres would benefit from more practice on these types of questions, to ensure candidates can apply specific knowledge from the practical investigations to broader questioning.

One final concern was the number of candidates who answered outside the line space, often using white space; answering earlier questions on the last few pages of essay line space; and using the blank pages to answer questions. Centres are reminded that candidates should not write outside the lines or continue answers in spaces provided for other questions. Should candidates require additional space to answer any question they must use an additional answer booklet and not write their answers in various other spaces on the exam paper itself.

The remainder of this Examiner Report will focus on each individual question, with the aim of highlighting areas of good practice and some common errors, which can be used to help prepare candidates for future 9PS0/01 examinations.

Question 1 (a)

The question asked candidates to describe details of the sample from the classic study, Sherif et al (1954/1961) and therefore required A01 skills.

Many candidates were able to access full marks, with the majority being able to obtain at least one mark. Candidates demonstrated a range of knowledge about the sample within the study, focussing on who they were and how they were selected to be part of the sample.

For those candidates not awarded marks, often the information was incorrect and very superficial in detail or focussed on the description of how the sample was split into the two groups, rather than who they were.

- 1 In your studies of social psychology, you will have learned about the classic study by Sherif et al. (1954/1961).

(a) Describe the sample of participants used in the study by Sherif et al. (1954/1961).

(2)

Sherif's sample was 22 white, 11-12 year old, protestant middle class males from America. They were split into 2 groups of 11 and each group had similar sporting abilities / overall IQs as they were matched on these factors.



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There is enough descriptive detail to describe who the sample was, such as knowledge and understanding about specific characteristics.

Total: 2 marks



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Examiner Tip

You need in-depth knowledge and understanding of the classic studies.

Question 1 (b)

This was an A01 skill question, asking candidates to describe one way inter-group conflict was reduced.

Marks were given for accurate knowledge and understanding of strategies used in the study. Most candidates were able to demonstrate their knowledge of what the superordinate goal strategy was, within the study, to reduce intergroup conflict, such as understanding that the two groups had to work together. However, candidates often lost a mark because they were unable to exemplify the detail of how the strategy was used in the study, to reduce inter-group conflict.

The most frequent example seen in responses was that of 'fixing the water tank'. Whilst they were able to demonstrate this was a strategy used in the third stage of the study, they were unable fully to elaborate on how this then benefitted both groups.

(b) In stage three of the experiment, Sherif et al. (1954/1961) attempted to reduce inter-group conflict.

Describe **one** way that Sherif et al. (1954/1961) attempted to reduce inter-group conflict.

(2)

In stage 3, Sherif used superordinate goals in which both groups had to co-operate in order to get a task done which would benefit both groups which would then reduce the friction created in stage 2. The superordinate goals included fixing pipes to allow water to run so each group could use it or cleaning up the camp so that it was tidy for the 2 groups.



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Examiner Comments

- First sentence, clearly describing what a superordinate goal was in the study (1)
- Example that demonstrates benefits to both group 'cleaning camp for both groups' (1)

Total: 2 marks

Question 1 (c)

This question required candidates to explain one weakness of Sherif's study in terms of reliability.

This is an A01 and A03 question, where A01 was identification of the weakness in terms of reliability and the A03 skill was justification of this weakness. The best responses were those that had good knowledge of the study and were able to select specific detail to demonstrate points such as 'lack of standardisation'.

These responses then fully understood the justification of how this was then a weakness for the classic study. Some candidates still confused validity and reliability, or were descriptive about the term 'reliability' with no link to how this was relevant to the classic study.

Candidate performance was split fairly evenly across the mark range, so performance was varied.

Candidates need to make sure they understand how reliability and validity differ and not confuse the two.

This would help candidates to understand the importance of evaluative terms and of the impact they have on research.

(c) Explain **one** weakness of the study by Sherif et al. (1954/1961) in terms of reliability.

(2)

Many aspects of the experiment can't be replicated due to the use of covert observation. ~~many~~ There was no set structure of what camp guides had to say to the boys at all times and many activities such as the first baseball match between the boys (start of conflict phase) was initiated by the boys. This is a weakness as the lack

(Total for Question 1 = 6 marks)

of standardised procedures means the experiment cannot exactly be replicated to check the consistency and reliability.



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Marks are given for:

- identification of the weakness (1)
- justification (1)

Total: 2 marks

Question 2 (a)

Q02(a) required candidates to calculate the standard deviation of the data to two decimal places.

The best responses showed all their working and gave the correct response to two decimal places. There has been a significant improvement from previous examination series' and candidates are showing a better level of mathematical understanding. However, there were still some candidates spending time on trying to work out the calculation without using the formula given at the front of the examination booklet.

- 2 Jack wanted to investigate whether males were prejudiced towards females who worked in stereotypical male professions, such as building work and lorry driving.

He asked five males to answer a questionnaire about gender roles. Participant responses were scored out of 10 for gender prejudice, with 10 indicating a very strong gender prejudice, and 0 indicating little or no gender prejudice.

Jack's results are shown in Table 1.

Participant	Gender prejudice score x (out of 10)
A	10
B	8
C	9
D	4
E	6

$$\bar{x} = \frac{10+8+9+4+6}{5} = \frac{37}{5} = 7.4$$

$$\begin{aligned} 10 - 7.4 &= 2.6 \\ 8 - 7.4 &= 0.6 \\ 9 - 7.4 &= 1.6 \\ 4 - 7.4 &= -3.4 \\ 6 - 7.4 &= -1.4 \end{aligned}$$

Table 1

- (a) Calculate the standard deviation for the gender prejudice score using the data in Table 1. Show your working and give your answer to two decimal places.

(4)

SPACE FOR CALCULATIONS

$$\sqrt{\frac{\sum(x - \bar{x})^2}{n-1}}$$

$$\begin{aligned} (x - \bar{x})^2 &= \\ 2.6^2 &= 6.76 \\ 0.6^2 &= 0.36 \\ 1.6^2 &= 2.56 \\ -3.4^2 &= 11.56 \\ -1.4^2 &= 1.96 \end{aligned}$$

$$\sqrt{5.8} = 2.41$$

$$\sum(x - \bar{x})^2 = 23.2$$

Standard deviation 2.41

$$\frac{23.2}{5-1} = \frac{23.2}{4} = 5.8$$



This response gives the standard deviation to two decimal places.

Total: 4 marks

Question 2 (b)

Q02(b) required candidates to calculate the range from the data provided. Most candidates were able to do this: those who received no marks often mis-read the data.

(b) Calculate the range for the gender prejudice score.

(1)

SPACE FOR CALCULATIONS

$$10 - 4 = 6$$

Range 6



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Examiner Comments

This response shows the correct calculation of the range.

Total: 1 mark

Question 3

This was an AO1 and AO3 question, where candidates were required to give an extended response to evaluate agency theory as an explanation of obedience.

Most candidates responded well to this question, attempting to evaluate the theory using supporting evidence and contrasting explanations of obedience. They gave a good evaluation and demonstrated strong understanding of the theory and points for and against this as an explanation of obedience.

Where candidates had difficulty, it was often with the AO1 skills. They gave underdeveloped points that were not always accurate nor showed detailed knowledge and understanding of the theory. Most candidates could give a basic summary of agency theory in terms of autonomous, agentic states and moral strain, but beyond this there was limited knowledge and understanding.

Some candidates also gave research studies in isolation. They did not make any link as to how or why these particular studies supported, or went against, the concepts of agency theory and did not make clear AO3 points. At times, research evidence was presented as an almost 'list-like' selection of research evidence, therefore only demonstrating the skill of AO1 knowledge and understanding, without the AO3 evaluation.

This was also seen in the comparisons to other theories, whereby candidates would outline the alternative theory, but then lacked AO3 justification to explain why the alternative theory was a strength or weakness.

3 Evaluate agency theory as an explanation of obedience.

⊕ Mil ⊕ moral strain
⊖ Mil ⊖ French & R

Agency theory explains prejudice in terms of functions of hierarchy. In a hierarchy, people give up some form of control to their superiors. Socialisation as a child teaches us that we must give up control to those in authority.

Milgram suggested that there are 2 states of being. In an ~~agent~~ autonomous state, we are in control of our own decisions, have free will and take responsibility for our actions. If an agentic shift occurs, where an authority figure gives us an order, we may change into an agentic state, where we obey in order to act as an agent of authority. In an agentic state we will diffuse responsibility of our actions onto others, as they are in control, so they are to blame. Milgram carried out his own supporting evidence for this theory. He found that 65% of ~~people~~ participants would go up to ~~450~~ 450V when instructed to ^{administer electric shocks} by an experimenter they perceived as legitimate authority. This is a strength of agency theory as it shows how we will give up our autonomy to carry out actions we are instructed to by those of status and authority. However, there are flaws with agency theory. Milgram's theory does not reflect interviews he conducted with the 35% of people who did not obey the authority figure all the way to 450V. This is a weakness as agency theory ~~cannot~~ ^{does} not take reasons for disobedience into account.

Milgram suggested that when we are instructed to do something that we don't agree with, we will experience moral strain, which is where we have extreme internal discomfort but will still obey the command in order to do what is best for society. People may use the defence mechanisms of denial (not thinking about what they are doing + repressing the memory of it) and avoidance (e.g. not looking the person in the eye). There is supporting evidence of this within Milgram's research. The participants who went all the way to 450V showed shaking, nervous laughter and 3 had seizures. This clearly ~~shows~~^{supports} how people experience moral strain but will continue to obey authority. However, agency theory ~~does not look at individual differences~~^{ignores individual differences} ~~is not a complete explanation~~^{some go into an}. It does not explain why people ~~obey~~^{obey in} an agentic shift in some situations and not others. French + Raven's social power does explain this, and suggests 5 different types of power: expert, reward, legitimate, coercive, referral. This is a weakness of agency theory as it could be seen as a reductionist explanation of obedience, reducing all obedience down to the factor of the agentic shift.

To conclude, agency theory has credible supporting research but ~~may~~ lacks explanation of why people may disobey. It has positive practical application as it allows us to teach children to be autonomous and act on their own morals in order to stop atrocities like the holocaust occurring again.

(Total for Question 3 = 8 marks)



A01 – Level 4: This response demonstrates accurate and thorough knowledge and understanding.

A03 – Level 3: The candidate has coherent chains of reasoning, demonstrating a grasp of competing arguments.

Total: 7 marks

Question 4 (a)

This was an AO2 question requiring candidates to state the fully operationalised independent variable (IV) and dependent variable (DV) for the cognitive practical investigation.

This question was answered better than in previous exam series'. Whilst most candidates understood how to operationalise the IV, they needed to make sure they understood how to operationalise a DV as well. Most candidates achieved at least one mark here, often for the IV, with some achieving both marks. Where answers did not achieve both marks, they usually did not operationalise the DV.

A few candidates confused the IV and DV or were unable to identify one or both correctly.

Candidates must make sure that they are clear in their answers what their practical investigation is about.

4 In your studies of cognitive psychology, you will have completed a practical investigation.

(a) State the fully operationalised independent variable (IV) and the fully operationalised dependent variable (DV) for your cognitive psychology practical investigation.

(2)

Independent variable (IV)

Whether the words were ^{acoustically} ~~acoustically~~ similar or ~~acoustically~~ dissimilar

Dependent variable (DV)

The number of words out of a list of 10 words that participants would correctly recall in order



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Examiner Comments

- operationalised IV (1)
- operationalised DV (1)

Total: 2 marks

Question 4 (b)

This was an AO2 and AO3 question, where candidates were required to explain two strengths relating to one of their cognitive practical investigations.

Some candidates gave generic responses regarding ethics or generalisability. They did not access the 4 marks available here because they did not provide context to the cognitive practical.

The most frequent answers were about 'standardised procedures'. Here, good responses gave specific details of the procedure to identify the strength of the cognitive practical investigation. They were able fully to understand the positive impact of the standardised procedure, to gain A03 justification.

Again, A03 was mixed: where this was done well, candidates were able to explain the positive impact the strength had on their investigation. Those who received no marks for the A03 element often stated an increase in validity or reliability, without explanation of why this was a strength.

When giving strengths and weaknesses of practical investigations, candidates are encouraged to be specific in the detail of their practical investigations for A01 identification.

(b) Explain **two** strengths of your cognitive psychology practical investigation.

(4)

1 One strength of my practical is that we used independent groups - one group had a list of acoustically similar words, the other acoustically dissimilar. This meant my findings on the encoding of short term memory (STM) weren't influenced by order effects such as practicing the task or fatigue, making my findings more accurate and internally valid.

2 Another strength of my practical is that I used a standardised procedure. Each group was separately shown a list of 10 words, projected on a screen at a rate of 1 word every 3 seconds. They then had 30 seconds to recall as many words as possible onto a post-it note. This procedure means my study can be replicated and my findings on the encoding of the STM can be tested for consistency, so are reliable.



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Examiner Comments

Four marks

Two marks for the first strength:

- A01 identification of the use of independent measures (1)
- A03 justification of the positive impact on validity (1)

Two marks for the second strength:

- A01 identification of standardised procedure (1)
- A03 justification of the positive impact on reliability (1)

Total: 4 marks

Question 4 (c)

This question was an AO2/AO3 question, requiring candidates to explain one improvement they could make to their cognitive psychology practical investigation.

Some candidates achieved at least one mark here, but a number achieved zero marks because they did not give an improvement, often giving a weakness of their practical instead.

Many candidates gave generic responses to this question, with no link to the cognitive psychology practical. For example, many generic responses suggested improvements to the sample of the practical investigation, such as 'removing psychology students'. Whilst this is an improvement of a practical investigation, it is not clear it is about the cognitive investigation.

(c) Explain **one** improvement you could have made to your cognitive psychology practical investigation.

(2)

An improvement of my cognitive practical was that we could have recorded the digit sequence of digits and played it to each participant. This would ensure that the time of voice while the sequence of digits is being read out, will not affect the participant's recall and hence help to improve the validity of the practical as differences in the digits recalled between an 18 and 40 year old is not due to differences in the procedure of the practical.

(Total for Question 4 = 8 marks)



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Examiner Comments

This response receives marks for:

- AO2 mark for the improvement in changing the digit presentation in the practical about memory (1)
- AO3 mark for justification that this will improve validity of the findings due to standardisation of task (1)

Total: 2 marks

Question 5

This was an AO1 and AO2 'discuss' question that required candidates to demonstrate an equal emphasis between knowledge and understanding of reconstructive memory and schema theory. This was applied to the scenario of Milo and Betty in their answer.

Compared with previous examination series', candidates better understood the demands of the 'discuss' command word. Most candidates could present a coherent overview of reconstructive memory and schema theory, understanding how they are used in recall of memories. However, responses lacked details beyond this, and there was a lack of range of knowledge and understanding of both theories.

Where references were made to accommodation, rationalisation, etc, they were not explained well and were often vague in understanding how they linked to memory recall. A02 application was better for this question. However, without knowledge and understanding present, some responses became a repetition of the stem material.

5 Milo and Betty had watched a film together and were talking to their friends about the film. Milo described a scene where the main character had travelled by train to a big city where there were yellow taxis and really tall buildings. Betty said that the taxis were black, not yellow. → UK/USA

Betty also described how the main character had arrived at a train station but said it was in a town. She said that the main character had a large suitcase, but Milo claimed there was no suitcase, just a bag. Betty disagreed with Milo, she said because the main character was staying in the town for several weeks, it must have been a suitcase. → city

Discuss, using reconstructive memory (Bartlett, 1932), including schema theory, Milo's and Betty's recall of the film. confab, levelling, schema, rationalisation (8)

Bartlett's theory of reconstructive memory suggests that memory is not a perfect tape recording. He suggests that our memory can be altered and distorted based on our schemas which are parcels of information based on previous experiences that help us predict how future events will occur. This can be different for everyone based on individual stereotypes. He said we confabulate information by changing words to make it more culturally specific and useful to us. We rationalise information to make it make sense to us and our culture. We also undergo levelling which can mean cutting out bits of a memory or event that may not seem important to us due to our schema. These are all changes due to our individual, different schemas. M

Milo and Betty watched a film together but Milo saw the character travel to a big city but Betty saw them in a town. Milo may live in a big city or have family that live there and Betty may be from a town, explaining why they saw different places due to distortions in their schemas and what they are used to / surrounded by. Betty thought the taxis ~~were~~^{were} black disagreeing with Milo's thought of yellow taxis. This may be because Betty has only ever seen films with ~~yellow~~^{black} taxis so can never imagine a yellow one. She bases her interpretation on her previous experiences. Milo may see ~~to~~ yellow because he is from New York where they have yellow taxis, and rationalises the film details to make it culturally specific to him. Betty thought the main character had a ^{large} suitcase but Milo claimed there was no suitcase. Milo may have undergone levelling and forget there was a suitcase because he has not used one in years and deemed it unimportant so having no need in remembering it. Betty said the person was staying in town, so maybe Betty was visiting the town as well or associates a suitcase with a trip or visit causing her to think this.



A01 – Level 3: The first page is all knowledge and understanding of the theories, demonstrating accurate knowledge and understanding. However, in some parts the description of concepts lacks enough depth to reach Level 4.

A03 – Level 4: The second page demonstrates well-developed discussion, with sustained application of relevant evidence from the context.

The candidate shows this by using the concepts from their description to show where the A02 is relevant to their A01 knowledge.

Total: 7 marks

Question 6 (a)

This was an AO2 question where candidates were required to describe how Amelia could use a random sampling technique.

Candidates needed to apply their understanding of the sampling technique to the stimulus material, to achieve marks on this question. Frequent strong answers utilised features of the scenario, such as where to find a criminal sample, to give a description of using random sampling in relation to the study. However, candidates found it difficult to provide further detail, which meant they received only one mark.

Where candidates did not achieve high marks, they often confused opportunity and random sample, or gave a generic response without consideration of the stimulus given.

6 Amelia is using a correlational research method to investigate whether there is a relationship between recreational drug use and aggression. She intends to study individuals who have been arrested for violent offences.

(a) Describe how Amelia could use a random sampling technique to gather a sample of 30 participants for her correlational research.

on a piece
of paper
and
(2)

Amelia could go to a police station and put all the ~~names~~ names of individuals ~~names~~ that have been arrested for violent offences into a hat. Amelia could then without looking pick out ~~30 names~~ 30 ~~names~~ pieces of paper with names on them and that would be the thirty participants for her correlational research.



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Marks are given for:

- describing the sample would be from a local police station, and putting names into a hat (1)
- describing how to select names from the hat (1)

Total: 2 marks

Question 6 (b)

This question was an AO2/AO3 question requiring candidates to explain one weakness of Amelia using a correlation for her investigation.

Compared with previous exam series', this question was answered more successfully. Overall, most candidates were able to identify one weakness. Most candidates could identify that the weakness of the correlational method was 'no cause and effect can be established', with the best responses being able to contextualise this to the scenario.

However, some candidates found it difficult to obtain the A03 justification mark, often being vague in their reasoning or repeating the identification point. It is important that candidates understand why the lack of 'cause and effect' or 'third variable' would have a detrimental impact on the research, in order to help secure the A03 marks.

(b) Explain **one** weakness of Amelia using a correlational research method for her investigation about recreational drug use and aggression.

(2)

Answer: It is that Amelia identifying a correlation between recreational drug use and aggression may not equal causation. ~~There~~ A third variable, like poverty, may be what links recreational drug use and aggression together. Therefore, Amelia won't be able to establish a direct cause-effect relationship between drug use and aggression.

(Total for Question 6 = 4 marks)



Marks are given for:

- identification of the weakness in relation to the scenario (1)
- accurate justification of the weakness (1)

Total: 2 marks

Question 7

This question was an AO1/AO3 question requiring candidates to explain two strengths of brain structure as an explanation of aggression.

There was a good range of responses to this question, with some candidates providing two good strengths with justifications, to achieve the AO3 marks here.

Frequent answers included various research studies, the most popular being of Phineas Gage and applications to society, such as development of biological interventions for violent offenders. When using research evidence, some candidates did not give AO3 justification to explain why the research was a strength. Often they gave vague justifications, such as 'therefore supports brain structure'

Where candidates did not address the question, these were often strengths of the methodology to study the brain, such as brain scanning, without links to aggression. Whilst demonstrating how this was a scientific way to investigate the brain there was a lack of contextualisation to the question, with some candidates describing how brain scans work in general.

7 Explain **two** strengths of brain structure as an explanation of aggression.

1 Supporting evidence from Pardini - Pardini conducted a longitudinal study on several males and, using fMRI scans, found aggression was negatively correlated with amygdala volume. This is a strength as it shows, the predictions of the explanation, that some aspects of brain structure such as amygdala volume are linked with aggression, are upheld by research evidence.

2 The brain structure explanation has potential applications to reducing aggression. As this explanation provides us with the psychological knowledge that brain structure does affect aggression, we can go on to identify the specific brain areas implicated, and these brain areas can be altered surgically or using medication in violent offenders to

reduce their aggression. This is a strength as it shows this explanation can be used to help make society a safer place. (Total for Question 7 = 4 marks)



Marks are given for:

First strength

- A01 mark for the findings of research (1)
- A03 for clear justification of why this is a strength for the explanation (1)

Second strength

- A01 mark for identification of an application
- A03 justification of why this is useful, 'safer society' (1)

Total: 4 marks

Question 8

This question was an AO1/AO3 extended essay question requiring candidates to assess whether hormones can fully explain human behaviour, such as aggression.

There was a range of responses to this question, with some candidates achieving well by presenting a range of hormones and showing good knowledge and understanding of their impact on human behaviour. However, most of the responses tended to focus on aggression.

Where answers were less well-developed, there was often a lack of understanding of the effects hormones have on human behaviour. They were superficial in knowledge and understanding. This was often seen where candidates would refer to the influence of testosterone: they understood that increased testosterone had links to aggression but could not expand beyond this to give further details.

The most frequent answers were on both testosterone's and cortisol's link to aggression, although some candidates also discussed adrenaline, oxytocin or progesterone.

Most candidates supplied evidence for A03, such as Dabbs et al. However, some candidates did not maintain the focus of the question and used animal research to support A01 statements. Whilst this was acceptable, there was a lack of linking back to the question about "human" behaviour.

The best competing arguments were in relation to aggression and bringing in alternative explanations, such as brain structure, as a more successful explanation of behaviour.

It is important that candidates read the question carefully to ensure only relevant information is included. This will help them to gain the upper levels in extended questions.

8 Assess whether hormones can fully explain human behaviour such as aggression.

(8)

Hormones are chemical messengers from the brain which travel around the body via the bloodstream. They determine mood and behaviour ~~like hormones~~ and are tested using physical measures such as blood tests and saliva samples. One hormone which is linked to aggression is testosterone which is secreted from the testes, predominantly in males, however, also in females in smaller doses. It is linked to muscle development and aggression and is produced in spurts. One strength of hormones as a explanation is supporting evidence from Dabbs who measured testosterone levels in male prisoners and found that ¹⁰ 11 prisoners who had high testosterone levels were also labelled as aggressive by their peers. This shows that there's a link between hormones and aggressive acts / perception. However, one weakness is that refuting evidence from Higley shows that despite having high testosterone levels, it's very rare that these individuals actually perform aggressive acts. This is a weakness because it suggests there must be other factors determining acts of aggression such as situational factors therefore the role of hormones alone doesn't fully explain aggression.

Another hormone linked to aggression is cortisol. Cortisol manages stress levels and ~~usually~~ inhibits aggression showing a negative correlation. Additionally, progesterone is linked to aggression. Progesterone is predominantly found in women especially

during pregnancy due to its link to nurturing behaviours. High levels of progesterone are linked to low levels of aggression. The strength of hormones as an explanation is supported by evidence from ~~studies~~ who found measured testosterone and cortisol levels in ~~seventeen~~ 7-9 year olds in a psychiatric hospital ~~study~~ as well as observation of aggressive acts from nurses and found a link between a high level of cortisol in the morning being linked to low acts of aggression. This is a strength because it uses ~~highly~~ objective measures to show the link between hormones and aggression therefore supporting the theory through ^{and gaining} scientific credibility. However, one weakness is that the research only shows a relationship between ^{an association} between aggression and hormones. This is a weakness because the findings are correlational and can't determine cause and effect statements ~~to~~ because of other potential confounding variables influencing aggression therefore it's limited in explaining aggressive behaviours.

Overall, hormones ^{as an} explanation has useful applications in society such as the development of Depo Provera. This is useful because it increases progesterone and therefore nurturing behaviours are seen leading to it becoming a treatment for sex offenders to reduce sexual urges. However, this explanation only acknowledges hormones and not factors like evolution which explains aggression from a genetic perspective making

(Total for Question 8 = 8 marks)

The theory biologically reductionist.

TOTAL FOR SECTION C = 16 MARKS

41 U11



A01 – Level 3: Accurate knowledge and understanding demonstrated in regards to explaining how hormones influence human behaviour.

A03 – Level 4: Good competing arguments using evidence for and against. Also, logical chains of reasoning that are balanced, showing well-developed and logical assessments, ensuring each point reaches a judgement in relation to the question.

Total: 7 marks



Read the question carefully.

Question 9 (a)

This was an A02 question to describe how Archie may have gained informed consent for his observation using children.

Candidates found it difficult to gain any marks for this question, often defining what informed consent was, without any reference to the scenario and therefore giving generic answers.

Where candidates did gain a mark, this was usually for demonstrating the need to ask for parents' permission for the children to be observed. However, the candidates could not then elaborate further to explain how this level of consent was informed.

Whilst knowledge and understanding was good for this question, candidates would benefit from further practice of application of knowledge to develop A02 skills.

- 9 Archie conducted an observation to see whether boys are more likely to play with gender stereotypical toys than girls. He visited a pre-school where he observed children aged between three and four years old playing with toys.

- (a) Describe how Archie may have gained informed consent to conduct his observation.

(2)

Archie could have asked the parents of the kids for consent to observe them in pre-school playing with the toys. Archie could send out a letter asking for signed authorisation for the children to take part in the study, explaining the aim of whether ^{kids} they played with gender stereotypical toys, in his letter.



ResultsPlus
Examiner Comments

Marks are given for describing how:

- consent was gained (1)
- the parents were informed of the details of the observation (1)

Total: 2 marks

Question 9 (b)(c)

Question 9(b)

This question was an AO2 maths question requiring candidates to calculate the chi-squared test for the results of Archie's observation.

Most candidates achieved the full four marks here for their calculation of the statistical test, and they should be commended for the strong mathematical skills shown in this question.

Errors were often seen where candidates did not acknowledge the instruction to give their answer to two decimal places.

Question 9(c)

This question was an AO2 maths question requiring candidates to determine whether Archie's data were significant.

Most candidates achieved the mark here for their determination of significance from the statistical test, and again, candidates should be praised for these skills.

Where errors were seen they were often in misunderstanding the critical values tables and thus giving an incorrect statement of significance.

(b) Complete **Table 3** to calculate the chi-squared test for Archie's observation. You must give your answer to **two** decimal places.

(4)

		Observed	Expected	O-E	(O-E) ²	(O-E) ² /E
Boys	Stereotypical boys' toy	8	8.78	-0.78	0.6084	0.069
	Stereotypical girls' toy	12	11.22	0.78	0.6084	0.054
Girls	Stereotypical boys' toy	10	9.22	0.78	0.6084	0.066
	Stereotypical girls' toy	11	11.78	-0.78	0.6084	0.051
Chi-squared =						0.24

Table 3

$$\chi^2 = \sum \frac{(O-E)^2}{E} = 0.24$$

SPACE FOR CALCULATIONS

Chi-squared (χ^2) 0.24

(c) Archie had a one-tailed (directional) hypothesis with $df=1$ and used $p=0.05$ as his level of significance.

2.71

Determine whether there is a significant difference between boys and girls in the choice of gender stereotypical toys.

(1)

Chi-squared (0.24) does not exceed the critical value ~~(2.71)~~ with a directional hypothesis. Therefore, there is no significant difference between boys and girls in the choice of gender stereotypical toys. We can accept the null hypothesis. (Total for Question 9 = 7 marks)



Q9(b) - 4 marks

Q9(c) - 1 mark

Total: 5 marks

Question 10

This was a A02/A03 question, where candidates were required to give one strength and one weakness of Marigold using behaviour shaping to teach the boy to sit at his desk.

Candidates found this question difficult. Many were unfamiliar with the concept 'behaviour shaping' and would use token economies or principles of classical conditioning to try to answer the question.

Where candidates did have knowledge of behaviour shaping, they would often describe how this would be used in the scenario or give generic assertions about its success. Where credit was given, it was for A02 application of strengths and weakness, such as explaining that behaviour shaping is 'more ethical', and using weaknesses such as time-consuming, or a form of social control.

Candidates overall found it difficult to provide A03 justifications in understanding the impact the strength or weakness would have of teaching the boy to sit on the chair.

It is important that candidates are knowledgeable about all aspects of the specification.

The should be able not only to demonstrate knowledge and understanding, but also to understand the strengths and weaknesses of these.

10 Marigold is a teacher at a primary school. She is concerned about the behaviour of a nine-year-old boy in her class. The boy often refuses to sit on a chair at his desk, instead he sits on the floor next to Marigold. When he is asked to sit at his desk, he leaves the classroom and sits in the corridor.

Marigold decides to use behaviour shaping. She hopes to encourage him to first sit on a chair next to her, and then eventually shape his behaviour until he sits on a chair at his desk.

Explain **one** strength and **one** weakness of Marigold using behaviour shaping to encourage the boy to sit on a chair at his desk.

Strength

One strength of Marigold using behaviour shaping ^{is that it is more ethical} ~~as~~ it works as a type of gradual exposure. The thing the boy fears, sitting on a chair at his own desk, is introduced in stages, by first sitting next to Marigold's desk, allowing the boy to overcome his fear gradually in the most ethical and least anxiety provoking way, putting the student at ease.

Weakness

One weakness of Marigold using behaviour shaping is that the technique is time consuming. The boy may enjoy sitting on a chair next to Marigold and after she introduces this he may refuse to move back into his own chair. The process could take months and therefore draw ~~away~~ Marigold's attention away from the rest of the class putting the rest of the students at a disadvantage.



Marks are given for:

Strength

- A02: for identifying it as more ethical with gradual exposure in context (1)
- A03: for justification of why this would benefit, "least anxiety provoking way, putting student at ease" (1)

Weakness

- A01: for identification of behaviour shaping being time-consuming with an example linked to the scenario (1)
- A03 mark: for justification for why this is not useful/impractical in the scenario (1)

Total: 4 marks

Question 11

This was an AO1/AO2 extended essay question requiring candidates to discuss the acquisition and maintenance of Dora's phobia.

Candidates were accustomed to the demands of the 'discuss' command word and therefore performed quite well on this question.

Application to the scenario was strong and candidates were able to use a range of learning theories concepts in their application. Basic facts about classical conditioning were good and neutral stimulus (NS) seemed to be identified clearly by most candidates.

However, some candidates confused the classical conditioning explanation with the unconditioned stimulus (UCS) and conditioned stimulus (CS) when explaining the acquisition of the phobia. Maintenance was explained equally by Social Learning Theory and Operant Conditioning, with the most frequent response being linked to the positive reinforcement given to Dora.

In 'Discuss' type essays, there must be an equal balance of AO1/AO2, therefore candidates must ensure AO1 is in sufficient depth to complement AO2 application.

11 Dora has a phobia of boxes. When she was young, her parents bought her a toy in a box. Every time she lifted the lid of the box, a clown jumped out and scared her. Since then, she has been unable to open boxes and is frightened about what could be inside them.

Dora's family members open all boxes for her and reassure her that there is nothing dangerous inside each time. Dora regularly becomes upset when a box is delivered to the house. Her family members calm her down by making her a cup of tea and sitting with her until she feels safe.

→ IDEA 5!

Discuss how learning theories can explain the acquisition and maintenance of Dora's phobia of boxes.

(8)

The two process theory of phobia acquisition and maintenance suggests that phobias are acquired via classical conditioning and maintained via operant conditioning.

Dora could have acquired her phobia by associating boxes with fear and clowns (classical conditioning). The box used to be a neutral stimulus for her, however it was repeatedly paired with / associated with the unconditioned stimulus of the clown popping out of it, which elicited the unconditioned fear response. Over time, and with this repeated joint stimulation, she came to associate boxes with that clown and with fear.

Stimulus generalisation is the idea that we can generalise our associations with a specific object to all other similar objects, making them all produce similar responses. It is a key idea of classical conditioning. Dora could be said to have generalised her fear of the specific toy in a box to all other boxes, until they all produced the same phobic response from her. For example, her phobia has now reached a point where she is even scared of random boxes being delivered to her house, that have had no fear response in themselves associated with them at all.

Dora's family could be said to contribute to the maintenance of her phobia. Positive reinforcement is an idea in operant conditioning that states that if behaviours are met with positive or desirable consequences/responses, it increases the likelihood of the repetition of the behaviour. Dora's family

regularly respond in positive/reassuring
manner to her phobic reactions
(calming her down, making her tea
etc). It can be argued that this
maintains her phobia as it almost
encourages her to continue to
behave the same way, or in the
very least doesn't discourage
or condemn the behaviour.



Marks were given for:

A01: Level 3 – Accurate knowledge and understanding of learning theories

A02: Level 4 – Consistently applied knowledge of the theories to the context of the scenario and also clearly addresses the question, with reference to the maintenance and acquisition of Dora's phobia throughout

Total: 7 marks

Question 12

This was an AO1 and AO3 'assess' question. It drew on the issues and debates, and the ethical issues, of using animals for research, focussed on the learning topic.

Candidate responses tended to rely on Pavlov and Skinner in the answers and did not develop the points about ethical considerations especially well. They focussed on knowledge of the procedures of these studies and how they were carried out. This often limited the engagement with the wider debate of ethical issues. Ultimately, it limited the assessments that could be made and judgements reached, about ethical considerations with regards to animal research.

There were also candidates who attempted to use Harlow to demonstrate the ethical issues of using animals. Whilst these responses were able to make links to the use of animal ethics, this type of research was not relevant to the learning topic. The most frequent ethical issues used were caging and harm: candidates referred to Russel and Birch's 3 R's. Typically, responses lacked accurate and thorough knowledge and understanding, in order to reach the higher levels for AO1.

Candidates were still confusing human and animal ethics, such as "they cannot consent/withdraw". The best answers were able to consider justifications for using animals, and the pitfalls this had on research. They considered a wide range of points and competing arguments, and then reached balanced judgements.

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

(8)

The BPS' Scientific Procedures Act (1986) outlines the moral ~~ethics~~ ~~theoretical~~ rules of conduct that should be applied in ~~the~~ research using animals, and ~~states~~ ^{suggests} researchers should weigh ^{and justify} out the costs of using ^{research} animals over the outcomes and benefits of their research, adhering to the 3R principles. 'Reduce' suggests researchers should use the minimum number of animals necessary ^{for} their research, e.g. by sharing resources with other laboratories. 'Replace' involves the full (e.g. humans or computer simulations) or partial (^{e.g. using ~~animals~~} non-sentient beings) replacement. 'Refine' involves altering procedures to ensure the animal is comfortable and sustains minimal suffering, e.g. reducing amount of shocks. Research in learning theories often uses animals (Pavlov and Skinner) which brings up ethical implications. Pavlov (1927) utilised dogs to investigate the role of classical conditioning in ^{the eating} ~~the~~ behaviour of dogs. To measure salivation droplets, a cannula was ^{implanted in} ~~attached to~~ the

dog's cheek; the dog was also restrained in a harness in a sandproof chamber, excluded from other animals. This is arguably unethical due to the ~~surgical~~ ^{implant} surgical implantation of the cannula not ensuring the dogs were protected - Pavlov could have refined procedures to ensure the dogs ~~had~~ ^{suffered} less, e.g. collecting the salivation in a non-surgical tube. However, the benefits arguably outweigh the costs to Pavlov's dogs; the discovery that behaviour can be ~~to~~ acquired (like salivating in response to a metronome, a previously neutral stimulus) ~~came~~ ^{came} from Pavlov's research; ~~and~~

Skinner (1948) utilised rats and pigeons to investigate operant conditioning (the effect of rewards like food on behaviours like pressing a lever); the animals were ~~kept~~ ^{kept} in a 'Skinner box', and harmful electric shocks were administered every time the desirable behaviour of pressing the lever was not carried out. This is unethical as the electric shocks would have been harmful to the rats and pigeons, ~~yet~~ ^{contrary} ~~against~~ to the Scientific Procedures Act (1986).

Yet again, the ends (~~suffering~~ the animal experienced) justify the means - it was a useful way to ~~investigate~~ ^{investigate} operant conditioning that would be otherwise unethical (arguably) to do to humans.

(Total for Question 12 = 8 marks)



Marks are given for:

- A01 – Level 4 Shows accurate and thorough knowledge of animal ethics in demonstrating knowledge of the 3 R's and in their understanding of the Pavlov and Skinner research
- A02 – Level 2 Demonstrates superficial assessment with limited development

Total: 6 marks

Question 13

This was an extended open response question with the 'Evaluate' taxonomy and a scenario that targeted AO1, AO2 and AO3 content.

- AO1 was looking for knowledge and understanding of the cognitive topic
- AO2 was application to the scenario given in the question, about Marco's situation
- AO3 was analysis, interpretation, and evaluation of the ideas presented from cognitive psychology

Assessment of this question was through a levels-based mark scheme.

The best responses included a broader knowledge of memory theories and research. These included the case study of HM (Milner and Scoville 1957) incorporating ideas such as Episodic memory, Visuo-spatial sketchpad, schema, and rehearsal. Weaker responses were often limited to the use of schema or provided a list of concepts, with little elaboration of what they meant or how they worked in relation to behaviour.

The breadth of AO1 affected the range of AO2 that candidates could offer, with limited application for those with more narrowly-focussed knowledge and understanding of cognitive psychology. Supporting evidence was typically focussed on case studies such as HM and Clive Wearing. Competing arguments frequently were from the biological topic, which sometimes became a focus of the response if presented by the candidate. The best responses had a balanced response with AO1, AO2, and AO3 demonstrating breadth and depth for each.

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

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

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

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

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

(12)

Reconstructive memory model by Bartlett suggests that we have schemas which ~~create~~ ^{are} our order programmes and past experiences and how we view the world. ~~We~~ To fill gaps in behaviour we may confabulate (fill in gaps based on pre-existing schemas) or rationalise (fill in gaps based on what we feel makes logical sense). Marco may have recalled that the man was laughing at him which caused him to get into a fight as he may have ~~to~~ rationalised the event by believing the man was laughing at him as he believes that makes logical sense to him. To support this Loftus and Palmer found that when asked leading questions, ~~people~~ about ~~the~~ ~~presence~~ being present caused by car accident, ~~they~~ ^{some} rationalised and said yes, when they weren't suggesting ~~the~~ ~~presence~~ our memory is affected by our rationalisation. This ~~shows~~ ^{supports} that Marco recalled and believed that the man was laughing as that makes sense to him, increasing the validity of reconstructive memory.

Episodic memories are memories that are autobiographical (e.g. dates, events) and are time and context dependent. Marco may have forgotten what had happened at the start of the fight or, his episodic memory (of the event of the fight) is context dependent, and he may not be able to recall when asked in an interview as ~~the~~ it is not in the same context as the actual event. This is supported by Godden and Baddeley who found that when seafarers learnt and recalled words in the same environment (underwater or on land) they recalled twice as better, supporting episodic memories being context dependent and that people may not recall as they are not in the same context, increasing the reliance of episodic and semantic memory storage.

Working memory model suggests that our short term memory is made of 3 different stores, the central executive (controlling other 2 components), visuospatial sketchpad (images and navigation processing) and phonological loop (deals with auditory processing). Marco may not be able to find his way home as his visuospatial sketchpad may be impaired or since ~~the~~ it can only process 3-4 items at once, he may have felt overwhelmed and not able to find his way home (impaired navigation). However a ~~good~~ critical evidence for the working memory model is that Lockman found that blind people have spatial awareness even

though, don't have visual, suggesting maybe 2 separate stores, lowering the reliability of the ~~memory~~ working memory model as it's not generalizable to wider population (blind people) and therefore limits its reliability to explain Monic's behaviour.

Multi-store model suggests that we have 3 components to memory. Our sensory register processes senses from environment. Our short term memory which only holds 5-9 items and lasts up to 30 sec and if rehearsed, information transferred to long term memory to where info stored lasts permanently however with unlimited capacity. Marco may have struggled to recall the event of the fight as he may not have rehearsed the event as much as he needed to transfer to long term memory, limiting his recall. However a negative of multi-store model is that it doesn't take into account individual differences such as those with photographic memory or those who can recall more than 5-9 items in their short term memory, reducing its generalisability and application to the wider population.



A01: Level 4 – Demonstrates a range of breadth and depth across the cognitive topic, showing accurate and thorough knowledge and understanding

A02: Level 4 – Demonstrates sustained application of relevant evidence throughout the essay, showing links to A01 knowledge and then again in part of the A03 evaluation

A03: Level 3 – Whilst the evaluation demonstrates developed points, where the candidate uses evidence and logical chains of reasoning, this lacks awareness of competing arguments, in order to reach Level 4

Total: 10 marks

Paper Summary

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

- Some candidates may still benefit from practising their timing and balance of content in responses. Many candidates did not appear to draw on the question size to aid in their examination timing, giving more detail than required in short-answer questions
- Candidates should apply their understanding of psychology to the context in a given scenario: they should not just give a name or single word because this is insufficient as an application skill
- Generic points should be avoided. Candidates should be able to give specific responses that are clearly linked to the question content and taxonomy. For example, when giving a strength of a practical, it should be explicit how the point made relates to the practical
- Where candidates are expanding their points, the use of evidence and supporting/contesting concepts could aid them in exemplifying their knowledge and understanding as appropriate, but this must be connected clearly to the concept they are evaluating or expanding
- If additional space is required, candidates must use additional booklets for their responses

Grade boundaries

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