Examiners' Report
June 2019

GCE Psychology 9PS0 03

Introduction

This is the third sitting of the 9PS0/03 examination with the first cohort in 2017 and the second in 2018. Overall average candidate performance remained very similar to that of 2018 which was an improvement on the first sitting in 2017.

As with the 2018 paper the best responses in section A gave fully contextualised answers related to the novel scenario given in the question. Some candidates are still producing generic responses (this year it was generally to Q1c) and this is something centres may wish to reinforce again following this summer series. Candidates struggled with levels of measurement and subjectivity to some extent but overall found this section very accessible.

With section B, performance was very similar to 2018. Some generic responses were again produced for Q3 and once again lack of research evidence limited performance on Q3b. Similarly, Q4 required an imbalance with more evaluative material needed but weaker responses tended to reproduce rote-learned information about classic studies with little focus on reductionism. Centres would again benefit from reinforcing these same messages as in 2018.

Candidates found section C roughly equivalent to 2018 in terms of accessibility with many more attempted responses, and longer responses, particularly to the 20-mark essay (Q6). Lack of breadth of knowledge and understanding of agency theory limited candidates on Q5 and unfocused responses with lots of AO1 rather than AO3 limited candidate performance on Q6. As such, these are two areas that could be used in feedback to candidates for future series.

The remainder of this Examiner Report will focus on each individual question and specific examples of candidate responses which can be used to help prepare students for future 9PS0/03 examinations.

Question 1 (a)

Question 1a asked candidates to give a fully operationalised directional (one-tailed) experimental hypothesis for two marks. The best responses gave a directional hypothesis with a fully operationalised IV and DV. Weaker responses either did not fully operationalise the hypothesis or gave a non-directional (two-tailed) hypothesis.

1 Working memory training

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

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

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

During the next three weeks:

- Condition 1 (working memory training group) completed a session of working memory training for 90 minutes, once a week.

- Condition 2 (control group) did no working memory training.

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

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

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

(2)

The more working memory training done the will be significantly better at recalling from a list of 60 words compared to no 20 target words working memory (control group).

ResultsPlus
Examiner Comments

This response was awarded two marks for a fully operationalised directional (one-tailed) experimental hypothesis for the working memory training study.

Question 1 (b)

For question 1b candidates needed to state which level of measurement the number of words correctly recognised (out of 20) for each participant would be in the working memory training study. The best responses stated the correct level of measurement (interval/ratio) with weaker responses either giving an incorrect level of measurement with no statement of how it could be converted to that level of measurement or gave something not related to levels of measurement (e.g. 'the mean'). Candidates were awarded credit for ordinal or nominal levels of measurement if they stated how the number of words out of 20 could be converted (e.g. if the number of words recognised was ranked from best to worst the level of measurement would be ordinal).

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

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

(1)

Level of measurement is interval/ratio data that would be in the working memory training study.

ResultsPlus
Examiner Comments

This response was awarded one mark for correctly stating which level of measurement the number of words correctly recognised (out of 20) for each participant would be in the working memory training study.

Question 1 (c)

Question 1c required candidates to explain two strengths of using a laboratory experiment for the working memory training study. There was one mark for identification of each strength related to the study (AO2) and one mark for justification of each strength (AO3). The best responses offered two fully contextualised strengths of using a laboratory experiment for the working memory training study. Weaker responses either did not fully justify the strength(s) offered or gave purely generic strengths. There was no AO1 knowledge and understanding offered here so generic strengths scored 0 marks, as has been the case in previous exam series. The most common strengths used were regarding reliability and internal validity (see mark scheme).

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

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

(4)

Lab experiments have very high controls, in this case they can choose how many words that the participant must read (20) and therefore it is standardised for all participants. This is a benefit as it can be repeated to test reliability.

Another strength of a lab experiment is that it reduces the effects of individual differences + participant variables as these can be controlled, leading to more accurate results.

ResultsPlus
Examiner Comments

This response scored 2 marks overall.

It was awarded 1 for identification of a strength and 1 for justification of the strength - this is very similar to the point on the mark scheme regarding reliability.

The second strength is generic so no credit could be awarded.

Question 1 (d)

For question 1d candidates were required to explain two conclusions that could be made using the data in Table 1. One mark was awarded for identification of each conclusion (AO2) and a further mark awarded for appropriate justification of each conclusion (AO3) using the data in Table 1. The best responses gave two relevant, accurate conclusions and supported these with appropriate evidence drawn from Table 1. Weaker responses either did not offer conclusions (they simply quoted the data with no conclusions) or they gave incorrect conclusions (e.g. that working memory was more effective) or irrelevant conclusions (looking at the baseline only and therefore not relevant to the purpose of the study).

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

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

Table 1

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

(4)

Conclusion 1

~~That those~~ That those who completed the working memory training ~~and in fact weakened~~ did not improve their cognitive function as the results at the end of the study (10.7) were significantly less than the beginning (13.3)

Conclusion 2

There ~~was~~ is no significant ~~decrease in~~ improvement in cognitive function by those who did not participant in the working memory training as there was only a small, insignificant increase between the start and end of the study (11.9 to 12.1).

This response was awarded 4 marks overall.

It was given 2 marks for conclusion 1 - one mark was awarded for identification of a conclusion ('working memory did not improve and in fact weakened their cognitive function'); and 1 mark for justification of the conclusion using the data from table 1.

It was given 2 marks for conclusion 2 - one mark for identification of a conclusion ('no significant improvement in cognitive function'); and 1 mark for justification of the conclusion using the data from table 1.

Question 1 (e)

For this question candidates were required to draw a histogram to display the data in Table 2 in part (i) and then interpret the histogram in part (ii). The best responses were able to plot a histogram with an appropriate title and axes for part (i) and then provide an appropriate interpretation for part (ii). Weaker responses for part (i) either plotted the graph incorrectly (e.g. using a bar chart where the bars do not touch) or giving an inadequate title or axes that were not creditable. Weaker responses for part (ii) either just described the data with no interpretation, gave an incorrect interpretation (e.g. most people recalled between 6 and 10 words) or did not attempt the question.

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

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

Table 2

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

(3)

Title

A histogram to show the frequency of correctly recognised number of words (out of 20) at the end of the study.

Number of words recognised correctly (out of 20) at the end of the study
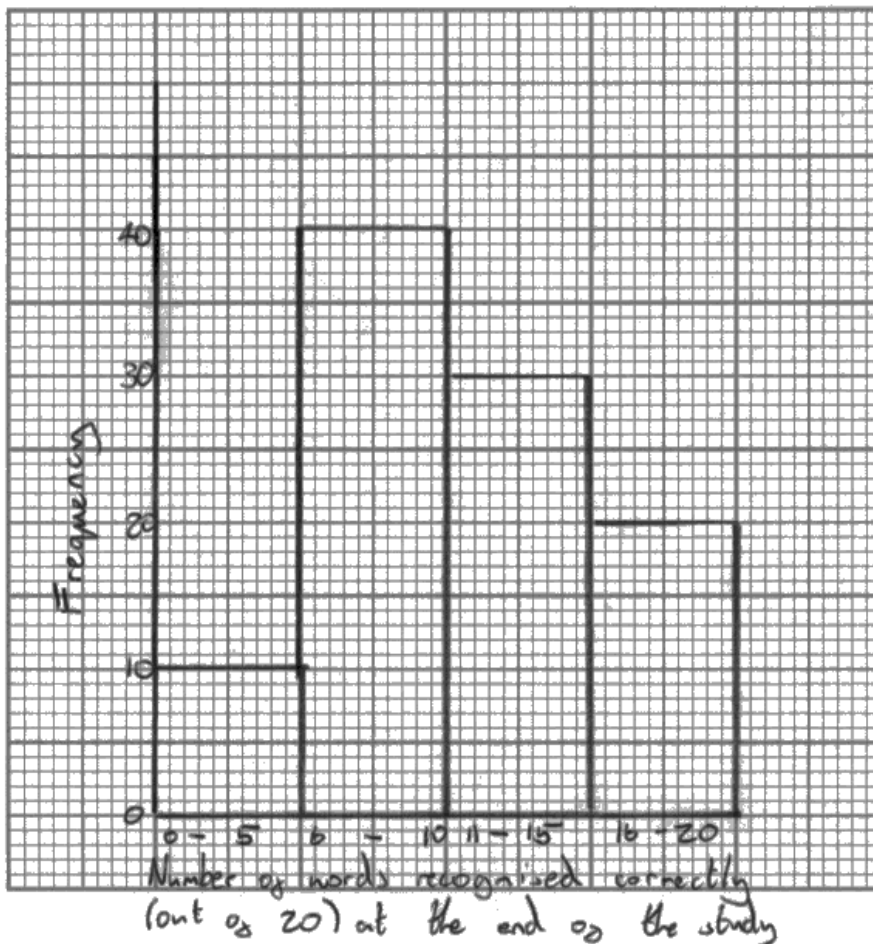
(ii) Interpret the histogram you have drawn for (e) (i).

(1)

40 participants ~~cant~~ correctly recognised 6-10 words out of 20 at the study whereas only 20 participants could correctly recognise 16 -20 words out of 20

Question 2 (a)

Question 2a required candidates to calculate the ratio of those interviewers who reported making their decision in under 1 minute to those interviewers who reported making their decision in more than 15 minutes. The ratio needed to be expressed to the lowest whole numbers. The best responses gave the correct ratio and showed their working. Weaker responses gave the incorrect ratio.

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

You must express the ratio to the lowest whole numbers.

(1)

SPACE FOR CALCULATIONS

5 : 45

1 : 9

Ratio .... 1 : 9 ....

ResultsPlus
Examiner Comments

This response was awarded 1 mark for giving the correct ratio.

Question 2 (b)

For question 2b candidates needed to analyse the data in Table 4 and explain one conclusion that the researchers might draw from the results. There was one mark for identification of an appropriate conclusion (AO2) and a further mark for appropriate justification of the conclusion (AO3). The best responses gave an appropriate conclusion, most commonly regarding friendly pre-interview chat being the most significant contributor to being hired, followed by appropriate justification using evidence from Table 4. Weaker responses typically gave a conclusion only with no justification.

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

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

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

Table 4

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

(2)

If the interviewer had had a friendly pre-interview chat with the person wanting the job they were more likely to make a quick hiring decision.

ResultsPlus
Examiner Comments

This response was awarded 1 mark.

One mark was given for identification of a conclusion. There is no evidence provided for justification of the conclusion using the data from table 4 so it could not be awarded the second available mark.

Question 2 (c)

For question 2c candidates were required to explain two ways that subjectivity could have influenced the job interview study. There was one mark for identification of each way that subjectivity could have influenced the study (AO2) and a further mark for justification of each way that subjectivity could have influenced the study (AO3). There were varied responses with some candidates focusing on subjectivity influencing the hiring decision and others focusing on subjectivity influencing the researcher(s) interpretation of the interview transcript(s). The best responses gave two appropriate ways that subjectivity may have influenced the study and then fully justified these, typically using examples. Common appropriate ways included the estimation of time taken to make a hiring decision, the themes chosen by the researchers, or pre-conceptions about the interviewees. Weaker responses tended to not fully justify the way(s) that subjectivity could have influenced the study or gave inappropriate suggestions.

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

(4)

One way subjectivity could influence the study is in the factors that help make quick decisions. Two different interviewers may have different interpretations on what is perceived as friendly pre-interview chat. This can lead to them ticking that box even if it doesn't reflect their thoughts.

Another way subjectivity is influencing the study is through the estimate of how long they take to make a hiring decision. Some interviewers may feel like they take ages so say more than 15 minutes even if its more like 5 or 10 minutes. This is a subjective opinion on how long they take and can lead to invalid results.

This response was awarded 4 marks overall.

It was awarded 2 marks for the first way that subjectivity could have influenced the study: one mark for identification ('perception of what a pre-friendly chat') and a further mark for justification of how this could have influenced the study.

It was awarded 2 marks for the second way that subjectivity could have influenced the study: one mark for identification of the way it could be subjective ('estimate of time...') and a further mark for justification on how this would impact the study.

Question 2 (d)

Question 2d required candidates to explain one way the researchers could have made sure the job interview study was reliable. The first mark was for identification of a way of making the study reliable (AO2) and the second mark was for justification (AO3). The best responses gave an appropriate suggestion and then fully justified this in terms of the job interview study. The most common response was concerning the use of a more structured interview with others frequently citing more precise measurement of time or focusing on inter-rater reliability. Weaker responses either did not fully justify their idea or gave an inappropriate suggestion.

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

(2)

The job interviews in the job interview study were unstructured so the researchers could introduce a set of standardised questions so that there are one indicators in the interview which lead the conversation eliminating participant variables of going off topic. This means the study could be repeated making the job interview study reliable.

ResultsPlus
Examiner Comments

This response was awarded 2 marks. One mark was given for identification of a way of making the study reliable ('set of standardised questions') and a further mark for suitable justification.

Question 3 (a)

For question 3a candidates needed to explain one ethical consideration that the researchers of the monkeying around study would have had to consider when conducting their investigation. There was one mark available for identification of an ethical consideration relevant to the study (AO2) and a further mark for justification/exemplification of the chosen ethical consideration (AO3). The best responses offered a relevant ethical issue for animals applied to the study and then fully justified this. Common responses were related to minimal harm, the cost-benefit judgement, or adequate caging. Weaker responses did not fully justify their identified ethical issue, were completely generic, gave inaccurate statements about animal ethics (e.g. harm is never allowed), or offered human guidelines which are not relevant to animals (e.g. informed consent).

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

(2)

The ethical consideration is the one of harm as the monkeys should be protected and harm should only be caused if necessary and to a minimum level, therefore the electric shocks given shouldn't be too high in order to protect the monkeys for unnecessary physical harm to be given as a punishment.

ResultsPlus
Examiner Comments

This response scored 2 marks.

One mark was awarded for identification of an ethical consideration relevant to the study (harm) and a further mark was given for suitable justification/exemplification of the ethical consideration applied to the novel scenario.

Question 3 (b)

Question 3b required candidates to explain how operant conditioning could support the findings of the monkeying around study using research evidence. There were up to three marks for application of operant conditioning to the findings of the study (AO2) and up to three marks for judgement/justification of how research evidence could support the findings of the study (AO3). The best responses gave a fully contextualised response which included both application and research evidence. These responses used schedules of reinforcement appropriately and a variety of research evidence to support their ideas. Weaker responses tended to either attempt to apply schedules of reinforcement incorrectly or group conditions 1-3 as positive reinforcement and condition 4 as positive punishment with no research evidence.

> **(b) Using research evidence, explain how operant conditioning could support the findings of the monkeying around study.**
>
> **(6)**
>
> Negative reinforcement is used to increase the likelihood of desired behaviour. This is an evident in condition 4, the monkeys recieve a mild electric shock for the wrong sequence, this makes the correct sequence more likely, it acts as a punishment making desired behaviour of correct sequences more likely. Positive reinforcement increases the likelihood of desired behaviour continue to (right sequence) be shown - this is in condition 1 as they get a food treat for correct button five times - these all act as primary reinforcers. Reinforcements are broken down again, increasing likelihood of the monkeys pressing the right buttons. Condition 1 acts as fixed variable, ratio. meaning after a set amount of times they recieve a reward. Condition 3 is a fixed interval as they recieve a ra food treat if the behaviour is seen in a set amount of time, 60s. These make it more likely for monkeys to learn and press the right sequence of buttons.

variable ratio was used in condition 2 as food treat was given between two and four times in a row for pressing right sequence. The times needed for behaviour change - this increases likelihood of monkeys pressing the right sequences

Question 4

Question 4 was an extended open response question with the 'Evaluate' taxonomy which targets both AO1 and AO3 content. AO1 was looking for knowledge and understanding of the studies or reductionism and AO3 was analysis, interpretation, and evaluation of both studies in terms of how reductionist they are and the implications of this, leading to judgements/conclusions.

Assessment of this question was through a level based mark scheme where a 'best-fit' approach was used; deciding which level most closely describes the quality of the answer. Each AO was judged separately and where the components met the requirement for the level fully (and perhaps has elements of the level above), then marks were awarded at the top of the level. Where the components met the level but only just about, they are awarded marks at the bottom end of the level. When a response was imbalanced (i.e. one AO was stronger than the other) a compromise was found. Consideration was also given regarding this question requiring greater AO3 content than AO1 (6/16 to AO1, 10/16 to AO3).

Candidates were required to refer to the two classic studies in terms of reductionism. The stronger responses therefore included knowledge and understanding of Baddeley and Watson and Rayner, consideration of the how reductionist each study could be considered, and evaluation of reductionism through the studies. The best answers offered competing ideas about reductionism and holism for each study and a range of points such as the aim, sample, procedure, and results and debated to what extent these elements were reductionist. Weaker responses included rote-learned recall of the studies with inaccuracies with little consideration given to reductionism as an issue.

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

(16)

Reductionism is when behaviour is reduced to simple components such as memory is reduced to input and output. Holism is the sum of all component parts that influence behaviour, thought and personality. Baddeley (1966b) investigated encoding in short term memory (STM) and long term memory (LTM) and he concluded that STM encoded acoustically (by sound) and LTM encoded semantically (by meaning). Watson and Rayner (1920) investigated whether a 9-month old baby can be classically conditioned to have a phobia and whether this fear response can be generalised to other stimuli. Watson and Rayner concluded that phobias can be classically conditioned and can be generalised to similar stimuli, for example Little Albert's initial fear of white rats was generalised to other white furry things like a white rabbit.

Watson and Rayner's stu~~Baddel~~ There is reductionism in ~~Baddeley (1966b)~~ because the method used was a lab experiment meaning that phobias were reduced to learning from the environment by association, this allowed a testable hypothesis to be created that ~~little~~

there will be a difference in the response to a stimuli before and after classical conditioning. The use of a lab experiment means that cause and effect can be established, for example the researchers stood behind the curtain when striking the iron bar so little Albert learned to associate the loud noise with the rat. This means that there was high internal validity because all extraneous variables in the environment were controlled like little Albert seeing anything else apart from the rat when hearing the noise. However, reducing phobias to forming through association ignores other factors such as biology, this means that behaviour is too too simplified simplistic. Using a lab experiment to investigate phobias is not ecologically valid as the environment is not natural, also for example little Albert was in a new environment surrounded by new people so the phobia cannot be generalised to a natural environment.

There is reductionism in Baddeley's study also as a lab experiment was also used to investigate encoding, this means that memory is reduced to encoding alone. This ignores other factors contributing to memory such as emotion, motivation and simply individual differences in memory, therefore

reducing memory to encoding ~~that~~ codes the complexity of human memory. Baddeley's study is scientific because it is reductionist and collects objective data empirically, for example participants in condition 1 recalled the ~~order~~ order of 10 acoustically similar words, this means that the procedure is standardised so can be replicated with other participants besides cambridge volunteers and results can be compared to see if they are consistent. This is a strength of reductionism as general laws of behaviour can be created ~~using~~ as they are tested using empirical methods.

In conclusion, Baddeley (1966b) and Watson and Rayner (1920) are reductionist as complex behaviour is reduced to simple components, this allows quantitative data to be collected through lab experiments which are the most empirical and scientific valid. However, reductionism codes complexity of behaviour, for example reducing phobias to classical conditioning ignores other factors such as thought, so there are limited applications, for example Baddeley can only be used for improving revision techniques for students.

For this response the AO1 was awarded level 3 - The knowledge and understanding of the studies and definitions of reductionism and holism were accurate. More detail was required to be considered 'thorough' for level 4. The AO3 was awarded level 2 - There are statements with some development but needed more to be considered 'developed' (level 3) or 'well developed' (level 4). Using the best fit approach, the response was awarded level 2 overall. Starting at 7 marks this was moved up to the top of level 2 so 8 marks was awarded overall.

Candidates need to consider that 16 mark 'evaluate' questions require an imbalance with more AO3 than AO1 (AO1 6, AO3 10). As such they need to try and include greater amounts of AO3 than AO1 in their response to be awarded the higher marks.

Question 5

Question 5 was an extended open response question with the 'Evaluate' taxonomy with a scenario which targets AO1, AO2 and AO3 content. AO1 was looking for knowledge and understanding of agency theory, AO2 was application to the scenario given in the question about Aaondi, and AO3 was analysis, interpretation, and evaluation of the ideas presented from agency theory or how other alternative ideas can account for human behaviour and the implications of this, leading to judgements/conclusions.

Assessment of this question was through a level based mark scheme where a 'best-fit' approach was used; deciding which level most closely describes the quality of the answer. Each AO was judged separately and where the components met the requirement for the level fully (and perhaps has elements of the level above), then marks were awarded at the top of the level. Where the components met the level but only just about, they are awarded marks at the bottom end of the level. When a response was imbalanced (i.e. one AO was stronger than the other) a compromise was found. Consideration was also given regarding this question requiring equal amounts of AO1, AO2, AO3 (4/12 to AO1, 4/12 to AO2, 4/12 to AO3).

The best responses included a broader knowledge of agency theory incorporating ideas such as socialisation, evolution, moral strain, and responsibility shift whereas weaker responses were often limited to autonomous and agentic states with an occasional mention of moral strain. The breadth of AO1 affected the range of AO2 candidates could offer with limited application for those with more narrowly focused knowledge and understanding of agency theory. Supporting evidence was typically focused on Milgram's research with competing arguments commonly from social impact theory or operant conditioning 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 with breadth and depth for each.

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

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

(12)

The agency theory proposed by Milgram would state that when the Aaondians obey the president of their country by growing specific vegetables in their gardens for an example, they are in their agentic state whereby they are following orders ~~g the~~ given by an authority figure, they president. The agency theory would suggest that when the Aaondians are in their agentic state they do not see themselves as responsible for their actions but rather their ~~authoritive figure~~ — the president is responsible for their actions. The ~~agency~~ agency theory would also state that when the Aaondians disobey the orders given to them by their president then they are in their autonomous state whereby they see themselves ~~are~~ as responsible for their actions and its consequence - such as paying a fine.

Another way the agency theory would explain the human behaviour exhibited by the Aaondians is that the Aaondians view that president of 20 years as a legitimate source of ~~t~~ authority and hence they ~~sull~~ obey his demands even though it might not be what they want to do. Supporting evidence for obeying legitimate authority is in Milgrams original ~~experiment~~ study compared to ordinary man variation ~~experiment~~ study. In the original whereby the experimenter in the lab ~~coat~~ gave orders to the participant about administering ~~administering~~ shocks to the learner, 65% when they got the

question wrong; 65% of the participants went to the full 450 voltage due to the use of the 4 prods ie 'Please continue, the experiment requires that you continue'. They The participant was administered the highest voltage even though they perhaps didn't want to because about 33% of them experienced moral strain such as laughing uncontrollably to insinuate their discomfort. However, in the ordinary man variation, whereby all the variables except the person authority figure changed - only 20% of the participants fully obeyed the ordinary man and administered the shocks. This suggested that legitimate authority has great an immense effect on obedience.

A further explanation that the agency theory can provide for the explaination of the Aaondians, is that the person given the orders is the president of their country and hence resides in Aaondi. The authority figure is in close proximity of the Aaondians and hence they obey their his orders. Indeed support the Supporting evidence for this is in Milgrams telephone variation study in obedience whereby obedience level dropped from from 65% to 47.5% because the authority figure was not in close proximity to where the orders were being given. So perhaps if the president of Aaondi was not in Aaondi than the level of obedience by the Aaondians would greatly reduced reduce.

Besides the agency theory the operant conditioning theory can be used to explain the human behaviour of the Anondians and why they obey their President. When the Anondis disobey their President they are punished by paying a fine – the aim of this is to reduce this behaviour being elicited.

Another theory that can be used to explain the citizen of Anondis behaviour is social learning theory proposed by Bandura which states that behaviour is acquired through imitation. When the orders of the President are constantly displayed on billboards and or television and radio everyday – gradually the citizens would imitate what they are being shown and obey the presidents orders. to

To conclude, the agency theory can explain the human behaviour of the citizens of Anondi to t an extent but it would be reductionist approach to suggests that the citizen only obey the Presidents orders from the state their in – whether it being agentic or autonomous because there are other factors are involved such as the benefits they get from the orders recieved.

ResultsPlus
Examiner Comments

For this response the AO1 was awarded level 2 - knowledge and understanding was mostly accurate and more was needed for this to be level 3 or level 4. The best responses gave more than just agentic and autonomous states.

AO2 was awarded at the top of level 3 - much of this is demonstrated through alternative explanations. A little more AO2 given to Agency Theory rather than applications of the alternatives would have pushed this into level 4.

AO3 was awarded at the top of level 3 - there are developed arguments with evidence and alternatives. More balance was needed to be considered level 4.

Using the best fit approach, the response was awarded level 3 - 8 marks overall.

Question 6

Question 6 was an extended open response question with the 'Assess' taxonomy which targets both AO1 and AO3 content. AO1 was looking for knowledge and understanding of nature or nurture or psychological theories, studies, methods and AO3 was analysis, interpretation, and evaluation of nature and nurture using content from psychology and the implications of this, leading to judgements/conclusions of how far they could be considered nature and/or nurture.

Assessment of this question was through a level based mark scheme where a 'best-fit' approach was used; deciding which level most closely describes the quality of the answer. Each AO was judged separately and where the components met the requirement for the level fully (and perhaps has elements of the level above), then marks were awarded at the top of the level. Where the components met the level but only just about, they are awarded marks at the bottom end of the level. When a response was imbalanced (i.e. one AO was stronger than the other) a compromise was found. Consideration was also given regarding this question requiring greater AO3 content than AO1 (8/20 to AO1, 12/20 to AO3).

Candidates wrote a lot for this question and it was rare for a candidate to have left this blank. The stronger responses offered a more focused answer whereas weaker responses tended to write everything they could remember from their studies (typically with varied amounts of unfocused AO1 content) with little reference to nature or nurture. The best responses had an imbalanced response with more AO3 material and included varied psychological content with engaged reference of nature and nurture and consideration of the importance of the debate with frequent judgements and conclusions throughout. Common content used included twin and adoption studies, mental health issues and brain damage but a very wide variety of theories, studies, or methods were used by candidates.

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

(20)

(1) Nature refers to the biological bases of human behaviour such as genes, hormones, brain structure etc however nurture refers to the environment that has an effect in producing human behaviour such as observation and association.

(2) Biological psychology outlines the influence of biological factors in causing aggressive behaviour. Raine et al study found that a damage in the prefrontal cortex leads to the inability of controlling impulsive behaviour. From his study he found that violent offenders had lower activity in the prefrontal cortex and higher activity in the occipital lobe. This suggest that the violent offenders could not control their anger in the event that caused them to become prisoned or couldn't learn and modify their behaviour from previous consequences. This therefore outlines the role of nature in biological psychology to cause aggression although there are other factors such as observation in producing aggressive behaviour.

(3) Social learning theory indicates that human behaviour like aggression is learnt through observation. Bandura's Bobo doll study suggest that illustrate how aggressive behaviour can be immitated from observing models. Bandura found that when the model was male, female (7·2) and males (25·8)

committed aggressive acts which emphasise even negative behaviour can be influenced via vicarious reinforcement where an individual e escapes from punishment or is rewarded for their negative behaviour. However when the model was a female, male (12.4) and females (5.5) committed aggressive acts which was ~~later~~ lower than ~~e~~ when the model was a male. This therefore indicates observation and immitation of human behaviours more likely if the ~~model~~ behaviour is gender typical. This ~~emphas~~ suggests that social learning theory focuses on the nurture influences on human behaviour.

④
Moreover, criminal psychology ~~indicates~~ highlights the role of XYY syndrome in causing aggressive behaviour. XYY syndrome is a genetic disorder ~~found in males~~ where 1/1000 males has a extra Y chromosome and is associated with lack of empathy and unusual growth. The role of XYY syndrome is partially supported by Thilegaard study where he found that a small population of men in the violent offenders had this syndrome. However the majority of the population was unaffected by this genetic disorder. This therefore indicates that not only nature by environmental factors such as prejudice can also be considered as an explanation for aggressive behaviour.

⑥ Social psychology indicates how competition between groups can result in prejudice and discrimination. This can be seen in ~~rabbe~~ Sheriq's robbers cave experiment where introduction of competitive in Stage 2 resulted in active prejudice where members of each group used derogatory terms and caused physical harm against each other. Moreover, the introduction of superordinate goals such as fixing a water tank which supplied water to both groups reduced ~~the~~ hostility and increased co-operation. ~~Therefore~~ This shows how social psychology ~~indicate~~ demonstrates the role of nurture in causing aggression.

⑦ Finally clinical psychology focuses on the biological aspects in causing schizophrenia such as neurotransmitters. ~~Harachzepe~~ Dopamine hypothesis indicates how higher levels of dopamine causes schizophrenia. This hypothesis is supported by Haracz post mortem study where he found that brain of schizophrenia patients were very sensitive to dopamine. This suggests that schizophrenia can be caused by increased ~~receptors~~ dopamine. However Brown and Birtz found that 50% of schizophrenia patients reported major life events 3 weeks prior to schizophrenia relapse. Therefore this study shows how social factors such as life events can cause relapse of mental disorder like schizophrenia.

④ To conclude, different areas in psychology focuses
on different factors. in producing human behaviour
~~biological and social~~
and mental disorder but isolates one from another.
From the knowledge of the different areas in psychology,
it is certain that social and biological factors
interact in producing human behaviour as it is
impossible to isolate ~~one~~ from another.

⑥ Furthermore cognitive psychology explains how brain
damages can cause abnormal behaviour. This is evident
in Henry Malaison case where following epilepsy he
suffered STM damage and could not recall his
operationist or how to do certain tasks. This suggest
that human behaviour is controlled by brain structure
to a extent; However social factors such as cue
dependent recall indicates how context aid recall
along the memory. This is evident in Godden and
Baddeley experiment where ~~so~~ scuba divers recalled
twice as much as words when they were in a
different context compared to water. This
emphasise how human processes are controlled
by bath nature and nurture.

ResultsPlus
Examiner Comments

For this response the A01 was awarded level 4/5 - the knowledge and understanding of the studies and theories was accurate and thorough and there was lots of it.

The A03 was awarded level 2 - there is some development - it needed more development throughout for levels 3, 4, or 5.

Using the best fit approach, the response was awarded level 3 overall. Starting at 11 marks this was moved down to 10 marks due to the strength of the AO3.

ResultsPlus
Examiner Tip

Candidates need to be mindful that 20 mark 'assess' questions require an imbalance in the AOs with greater AO3 needed to access the higher mark range. Here the response has excellent knowledge and understanding but is lacking in the element more important for this question type - AO3.

Paper Summary

Based on their performance on this paper, candidates should:

- Ensure they fully contextualise their responses when they are given a novel scenario and avoid generic statements throughout the paper.

- Reinforce the difference between the levels of measurement and how to consider subjectivity in a direct manner related to a scenario.

- Read the question carefully and offer research evidence where required to be able to access the full range of marks on all questions.

- Balance 12 mark questions with a scenario and ensure they can give breadth and depth of theories to enable them to offer more breadth in their response to reach the higher levels.

- Ensure they give an imbalance on 16 and 20 mark questions with greater AO3 material than AO1.

- Focus their response on the question being asked and avoid pre-learned material that does not directly answer the question.

Grade Boundaries

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

http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx