

Examiners' Report/
Principal Examiner Feedback

Summer 2016

Pearson Edexcel International GCE
PSYCHOLOGY (WPS02)
PAPER 2: Biological Psychology,
Learning Theories and Development

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General Comments

This is the first time this exam has been sat, and it was good to see candidates engaging with the questions, and providing a lot of psychological knowledge in their answers. There were very few blank pages, and candidates seemed to be able to manage their time well and attempt all the questions including the three essays at the end.

To improve their answers candidates need to be able to justify their answers when it comes to explain questions, as many could gain the identification mark but then failed to offer any explanation. There was also an issue with generic points, especially when it came to strengths or weaknesses of studies, these need to be linked to specifics from the study being written about.

However, most candidates were able to link answers to scenarios when they were given, including in the essays. It would help candidates to know what the different command verbs expect in the form of an answer, especially those used in essays, as a lot of candidates were limited in what marks they could gain due to lack of conclusion or judgements where they were needed.

Paper Summary

- When asked to identify something candidates do not need to explain their answer.
- When questions ask candidates to explain candidates need to offer some justification for their answer.
- Focus on what the question is asking and make sure the answer is relevant to that question.
- Know the skills involved for the command words that may be used for essays rather than just describing and evaluation.
- Include conclusions or judgement within essays in order to gain the higher levels.

A more detailed analysis of individual questions and answers follows.

Comments on Individual Questions:

Q01a

Question Introduction

The vast majority of candidates could correctly identify the answer from the table. In some cases candidates wrote more than they had to and explained why this was the correct answer.

Q01b

Question Introduction

Most candidates were able to identify a strengths and weakness of twin studies, and stronger candidates were able to offer a justification of why the strength was a strength and so gained the second mark for that part of their answer. However, marks were often lost because candidates failed to offer a justification of their strength and weakness, with a large number of candidates offering an identification for both only.

Examiner Comment

(b) Jacob used a twin study for this investigation.
Explain **one** strength and **one** weakness of the twin study method. (4)

Strength

As MZ twins share 100% of their genes, and DZ twins share about 50% of their genes, twin studies provide a useful way to investigate the effect of genes on a characteristic, by comparing the concordance rate for MZ and DZ twins.

Weakness

Due to epigenetic modification, which is where there is a change in genes over time, the results of twin studies may not be valid or accurate as different genes mean data is less comparable.

This gains 4 marks.

2 marks for the strength, 1 mark for identifying the strength about the percentage of genes shared, which is correct, and 1 mark for justifying that strength by writing about what it allows us to research.

2 marks for the weakness, 1 mark for the identification of epigenetic modification and 1 mark for the justification of this weakness through explaining why it may not be valid.

Examiner Tip

For explain questions always elaborate and offer an explanation of the point you are trying to make to access all the marks.

Examiner Comment

(b) Jacob used a twin study for this investigation.
Explain **one** strength and **one** weakness of the twin study method. (4)

Strength
Since ~~twins share almost~~ monozygotic twins share 100% same genetics and dizygotic twins share 50% genetics, this factor can be taken into consideration as so would ~~me~~ increase validity.

Weakness
Enviromental factors may influence the behaviour of the twins.

This gains 2 marks.

1 mark for the strength for identification about the percentage of genes shared. There is an attempt at justify this through increasing validity but this point needs to be explained to gain the mark.

1 mark for the weakness for identification. There is no attempt to explain why this is a weakness so no further marks are available.

Examiner Tip

When justifying a point, do not just use terms make sure those terms are explained.

Q01c

Question Introduction

Most candidates concentrated on the idea that genetics were responsible for aggression and anti-social behaviour showing an understanding of the results. The best candidates were able to go on and use the figures from the table to explain the conclusion. Weaker candidates tended to just state a conclusion without using the figures from the table to support what they had written.

A minority of the candidates did not offer a conclusion and just stated the results so could not gain credit as they had not answered the question. There was some confusion with a small minority of the candidates writing that the figures showed that monozygotic twins were more aggressive than the dizygotic twins. This is not what the figure showed, just that if one monozygotic twin was aggressive there was a greater chance the other twin would be.

Examiner Comment

(c) Explain **one** conclusion that Jacob might draw from his results. (2)

Higher the concordance rate, higher the relationship between aggression and antisocial behaviour.

(Total for Question 1 = 7 marks)

This gains 0 marks.

There is no conclusion, just a description of what the results are, so cannot gain credit.

Examiner Tip

When asked for a conclusion make sure that a conclusion is written, and then use the results to support that conclusion.

Examiner Comment

(c) Explain **one** conclusion that Jacob might draw from his results. (2)

Jacob could say that aggression and antisocial behaviour is better explained by genetic factors ~~than~~ ^{and then} environmental factors. This is because monozygotic twins resulted with 87% ~~and were as~~ ^{as} ~~monozygotic~~ ^{Dizygotic} 67%.

(Total for Question 1 = 7 marks)

This gains 2 marks.

1 mark for the conclusion that aggression and anti-social behaviour is genetic and a second mark for accurately using the results from the table to justify this conclusion.

Q02

Question Introduction

Most candidates could score two marks for this question, with the most popular responses being that fact that they lasted more than 24 hours and being able to describe the symptoms of an infradian rhythm. Some candidates just named an infradian rhythm without any further elaboration so could not gain credit for this as the question asked them to describe.

A large number of candidates went on to describe factors that affected infradian rhythms rather than explaining how infradian rhythms affected human behaviour which is what the question asked for. A very small minority of candidates went on to write about circadian rhythms. Those candidates who score all four marks often did so by writing about two specific infradian rhythms and describing how they could affect human behaviour in their answer.

Examiner Comment

2 Describe the role of infradian rhythms in explaining human behaviour.

Infradian rhythms are those rhythms that go on for more than 24 hours. A very good example for an infradian rhythm is the menstrual cycle that happens in women. The infradian rhythms can be used to explain why women display symptoms of the pre-menstrual syndrome which causes a lot of problems for women in their daily lives. This explanation can then be used to create solutions for the problems that have been arising due to the pre-menstrual syndrome.

This gains 2 marks.

1 mark for writing that infradian rhythms last more than 24 hours.

Nothing for the sentence about the menstrual cycle as it is just named there is no description of how it may affect behaviour.

1 mark for the next sentence as it does describe the mention pre-menstrual syndrome and how this may cause problems for women. Nothing for the last sentence as it is not answering the question about the effects on behaviour.

Examiner Tip

Make sure all points are relevant to the question that has been asked, in this case the effects on human behaviour.

Examiner Comment

2 Describe the role of infradian rhythms in explaining human behaviour.

Infradian rhythms are cycles that lasts more than 24 hours. Menstrual cycles are infradian rhythms that takes place in females for 28 days. Menstrual cycles causes PMS which happens a few days before menstruation occurs where females may have high stress and anxiety and cravings for certain foods.

This gains 3 marks.

1 mark for saying that infradian rhythms last more than 24 hours. 1 mark for naming the menstrual cycle and how often it takes place. 1 mark for the symptoms of pre-menstrual syndrome. There is nothing else that the candidate has written.

Examiner Tip

Make sure enough points are written to access all the available marks.

Q03a

Question Introduction

The vast majority of candidates were able to correctly identify circadian rhythms as the bodily rhythm.

A small minority of candidates got this question incorrect and the most common mistakes were stating the sleep-wake cycle as a bodily rhythm or writing the incorrect rhythm.

Q03b

Question Introduction

Most answers for this question scored around two marks, with very few candidates gaining more than this. Candidates were often able to write about one way regulation of the internal body clock could change and link this to a piece of research. The most common piece of research used was Siffre.

Very few candidates were able to offer other reasons why the regulation of the internal body clock could change, and of these few only a minority was able to link it to a piece of research. Weaker candidates often did not link their answers to research at all. Some candidate just repeated what was in

the stem at the start of the question about zeitgebers such as natural light affecting the internal body clock, so they could not gain credit for this.

Examiner Comment

(b) Explain, using research, why the regulation of an internal body clock could change.

(4)

There are exogenous and endogenous factors that can affect the ~~sleep~~ internal body clock of an individual. However, it is mostly exogenous factors that tend to affect the internal body clock. For example, Michael Siffre (1972)'s experiment showed that natural light is a factor that affects ~~over~~^{our} internal body clock as his ~~sleep~~ sleep wake cycle had been altered to more ~~that~~ than 24 hours which is the ~~mean~~ internal body clock for a normal person.

This gains 2 marks.

1 mark for identifying the fact that exogenous and endogenous factors affect the internal body clock and 1 mark for justifying this statement with research, in this case the results of lack of natural light on Siffre's sleep wake cycle.

Examiner Tip

If a question asks for explain and is four points, the best way to achieve those points is to have two points identified and then explained.

Examiner Comment

(b) Explain, using research, why the regulation of an internal body clock (SCN) could change.

(4)

The internal body clock could change due to influence from endogenous and exogenous factors. In the ^{Reineberg} study of a young woman who lived in a cave for 3 months with the light been only provided by a miner's lamp, her sleep/wake cycle shortened to 24.6 hours and her menstrual cycle lasted for 25.7 days. This shows that it was due to change in her hormone levels (endogenous). Moreover, it can also regulate ~~it~~ depending on the amount of melatonin secreted from the pineal gland.

This gains 3 marks.

1 mark for identifying that the internal body clock could be changed by endogenous and exogenous factors and a further 1 mark for justifying this with research, in this case the effects of living in a cave on a woman's sleep/wake and menstrual cycle.

1 mark for identifying that melatonin can affect the internal body clock. there is no justification through research for this point so the answer cannot gain a fourth mark.

Q03c

Question Introduction

This question was generally answered well, with most candidates being able to identify a weakness of research into the sleep/wake cycle and then go on to explain why this was a weakness. Those who did not gain both marks often failed to explain why the weakness was a weakness.

The most common answer was about lack of generalisability, with the use of case studies. Some candidates incorrectly stated that the telephone calls were at regular times of day, or that the light came on at set times so did not gain credit for this.

Examiner Comment

(c) Explain **one** weakness of research conducted into the sleep-wake cycle.

(2)

The studies tend to be laboratory experiments. They are carried out in an unnatural ~~experiment~~ ^{environment} such as a lab, and use artificial light. This means the participants may behave differently to real-life, meaning the results may lack ecological validity.

This gains 2 marks.

1 mark for identifying a weakness of laboratory experiments which is linked to research on the sleep-wake cycle though the mention of artificial light. Another mark is given for justification of this weakness with the term ecological validity explained.

Examiner Tip

When justifying make sure any terms used are explained.

Q04a

Question Introduction

Most candidates scored one to two marks for this question with very few gaining all three marks. Most candidates failed to get the third mark as they did not operationalise the length of time for the light therapy, though they could correctly state the before and after light therapy.

Very few candidates wrote a non-directional hypothesis. Some candidates thought that the study was to see if light therapy would cure seasonal affective disorder rather than just improve the mood levels.

Examiner Comment

(a) State a one-tailed (directional) hypothesis for this study.

(3)

The mood of the participants may have improved after the light therapy treatment.

This gains 1 mark as neither the dependant variable of the mood has been operationalised, nor has the independent variable of the light therapy been operationalised. it gains 1 mark for being a directional hypothesis, through the term improved.

Examiner Comment

(a) State a one-tailed (directional) hypothesis for this study.

(3)

Participants treated with light therapy will have better mood levels than those who weren't treated with light therapy.

This gains 2 marks.

It is a directional hypothesis, with the dependent variable being operationalised as 'mood levels'. The dependent variable is not operationalised as it does not say anything about the length of the light therapy

Q04b

Question Introduction

b(i) The vast majority of candidates were able to correctly work out the two means. Some candidates did not attempt this question, but these were very few.

b(ii) A large number of candidates could correctly draw a bar graph, with accurate labelling and a title. Those who gained two marks tended to draw a histogram rather than a bar graph. Some candidates just gained one mark for giving the graph a title and then not drawing the graph. A very small minority of the candidates drew a line graph showing the scores for the individual participants.

Examiner Comment

Table 2

(i) Calculate the mean scores for before and after light therapy using the data in Table 2.

$$\begin{aligned} \text{before} &= 38 + 66 + 34 + 40 + 36 + 30 + 42 + 41 + 27 + 46^{(2)} \\ &= 400 \div 10 = 40 // \end{aligned}$$

$$\begin{aligned} \text{after} &= 58 + 71 + 59 + 51 + 63 + 55 + 66 + 68 + 58 + 56 \\ &= 600 \div 10 = 60 // \end{aligned}$$

Mean mood self-assessment score before light therapy..... 40

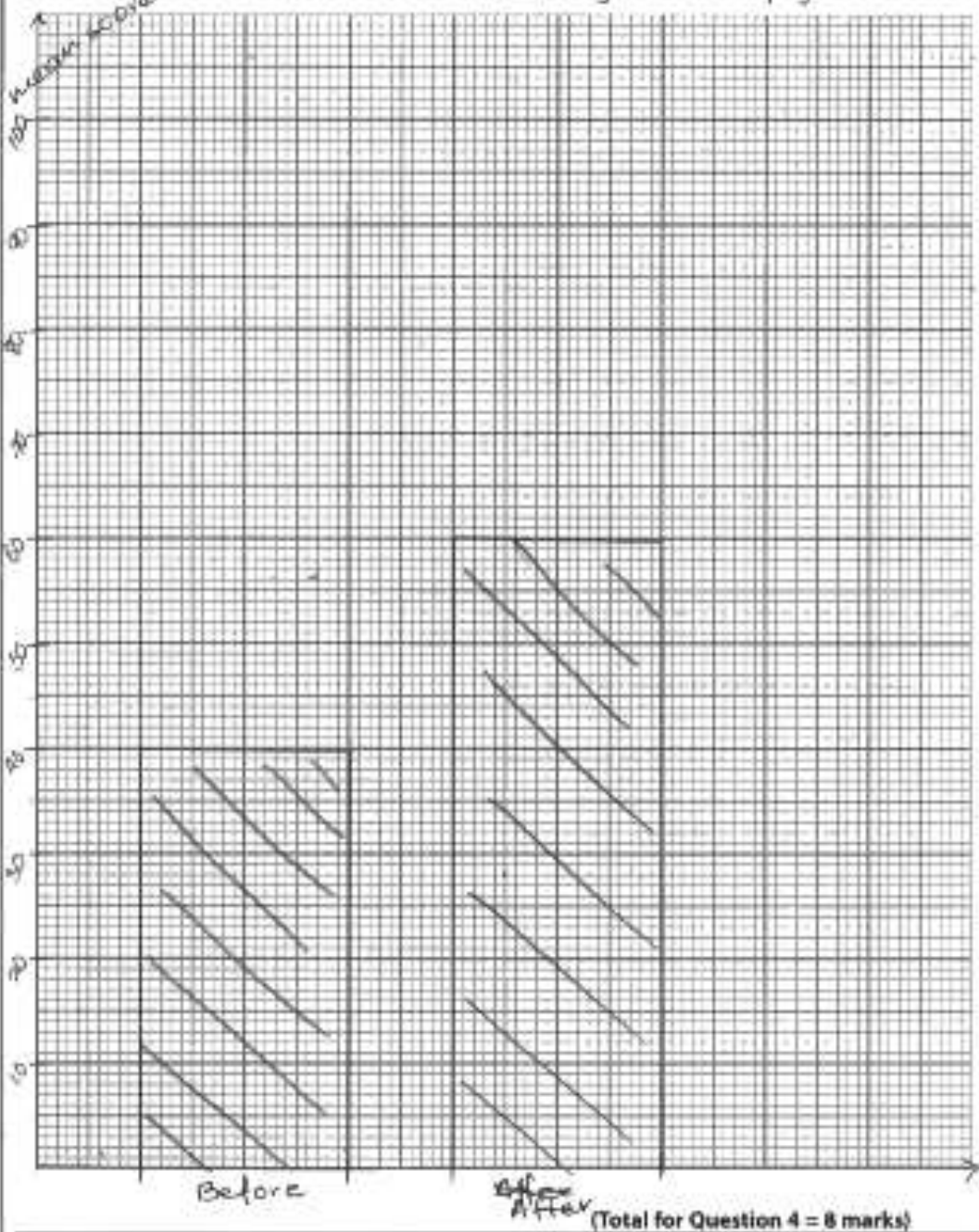
Mean mood self-assessment score after light therapy..... 60

b(i) gains 2 marks for the correct means for both conditions.

iii) Draw and title a suitable graph to represent the mean scores for this study.

[3]

Title: Comparison of the mean scores of self-assessment before and after light therapy



b(ii) gains 3 marks. 1 mark for an accurate title, 1 mark for the axes clearly labelled and 1 mark for the bars correctly plotted against the answer for part bi) with a gap between the two bars.

Q05

Question Introduction

Very few candidates scored above a level two for this essay as there was a lack of conclusion presented. Where a conclusion was presented this tended to be imbalanced or superficial so could not get into level 4. The stronger candidates focussed on the question and evaluated the study, linking their points to specifics from the study as they went along.

Weaker candidate tended to spend time offering a description of the study, going through the aim, procedure, results and conclusion and then offering evaluation points and finding they were running out of time or space so the actual evaluation was often very brief in these cases.

Another common error was offering generic evaluation points that could apply to several studies so showing no knowledge of this study, e.g. saying it had a large sample size so it was generalisable.

Examiner Comment

5 Evaluate Raine et al's (1997) study into brain abnormality in murderers.

Raine et al used the PET scanning and MRI scanning techniques to gain the results. These methods are known for its reliability therefore it can be said that the results ~~of~~ gained are quite reliable. They also conducted the experiment in a lab environment, thus good controls for extraneous variables can be ~~controlled~~ established. Thus, results are more reliable ~~and valid~~. Raine et al also had a control group of 'normal' ~~pers~~ people that were subjected to the same ~~probe~~ procedure. This would allow valid comparisons to be made ~~on the~~ ^{using} the results gained from both experiments.

However, since the experiment was carried out in a lab ~~or~~ environment the ecological validity of the ~~ex~~ results decreases. Raine et al. had a very small sample size, therefore the results ~~so~~ gained may not be very valid. Also the criminals, were restricted to murderers ~~under~~ ^{and} other types of criminals were not investigated. Therefore the results of the experiment cannot be generalised to all types of criminals.

This gains level 2, 4 marks.

AO1, there are some errors, such as the use of MRI scans in the study. There is also a lack of detail, what were the controls for the extraneous variables, what was the procedure of the study, what type of murderers were the results generalisable to.

AO3, a lot of the points were not fully explained. e.g. why does using scans make the study reliable, why does controlling extraneous variables allow cause and effect to be established, why does the use of a control groups allow valid comparisons to be made.

This lack of detail in both AO1 and AO3 limits the answer the level 2. however, if could not get up to level 3 even if the answer was better as there is no conclusion presented.

Examiner Tip

When essays ask for evaluation make sure points are fully explained, rather than just using terms.

Examiner Comment

5 Evaluate Raine et al's (1997) study into brain abnormality in murderers.

Raine et al wanted to find out whether there were brain abnormalities in the brain structures of murderers who pleaded not guilty by reason of insanity (NGRI). He had 41 NGRI murderers and a control group of non-murders who were matched according to age, sex, and the six schizophrenic NGRI murders were matched with 6 schizophrenic non-murders. They were kept free of medication for two weeks, then they were injected with a radioactive tracer and asked to perform a visual task and a PET scan was done and the result showed that the activity of NGRI's ^{brain} was much different to that of non-murders (as they had less activity in the PFC). One advantage of this study is the fact that it had a control group of non-murders, this allows for a baseline measure to be drawn and for a valid comparison between the NGRI's brain activity and the controls to be viewed. This allowed Raine et al to come to more valid conclusions. Moreover Raine et al had a rather large sample with regards to the field he was researching on (NGRI murderers) so that the results are generalisable. Moreover he had strict controls such as not allowing making the 82 ppts be free of medication for two weeks prior to the PET scan and PET scans are reliable as many testings can be done to give similar results. However a disadvantage is that this was a natural experiment, so that there might have been other factors which affected the dependent variable (brain activity) other than them being NGRI murderers, so it's hard to come to cause and effect conclusions. Moreover Raine et al study can be said to be a reductionist as it only considers the effect of architecture on the brain activity and doesn't consider the effect of nurture. Moreover case studies such as the Phineas Gage one, where damage to the PFC led to him being more aggressive supports Raine et al's study.

(Total for Question 5 = 8 marks)

This gets level 3, 5 marks.

The AO1 is accurate, there is plenty of specific detail, such as the number of participants, how the two groups were matched, the procedure of the study.

The AO3 uses mainly coherent chains of reasoning. e.g. why the use of a control groups allows for a valid comparison to be made, why the results are generalisable. the candidate had already mentioned the sample size in

the description of the study so did not need to repeat themselves here. There are some inaccuracies in the answer, such as saying it was a natural experiment, and that Raine didn't consider nurture as part of his conclusion was that nurture may be a factor and that needs to be investigated.

There is also a sentence that was taken as a conclusion being presented, after the point about having a control group making the study more valid, 'this allowed Raine to come to valid conclusions.'

Given the inaccuracies towards the end of the essay and the fact that the conclusion was limited and not balanced 5 marks were awarded.

Examiner Tip

Make sure details are accurate when writing about a study in detail.

Q06a

Question Introduction

Most candidates gave the correct medians. Those who did not often either worked out the mean, or did not find the half way point between the two numbers in the middle, and just choose one of those number.

Q06b

Question Introduction

Most candidates gave the correct ranges. Those who gave an incorrect answer often did so because they picked the incorrect numbers for the highest or the lowest number.

Q06c

Question Introduction

Many candidates got full marks for this question showing a good understanding of why the standard deviation is more appropriate. Candidates either seemed to know the answer or did not know the answer and would give an incorrect answer, often in relation to using the standard deviation as a statistical test, or they would just describe how to carry it out rather than why it was more appropriate than the mean.

Examiner Comment

- (c) Shamilla may have wanted to consider using standard deviation instead of the range as her measure of dispersion.

Explain why standard deviation may have been more appropriate.

(2)

Standard deviation may have been more appropriate because it takes all the data into consideration where as range only takes the largest value and the smallest value into consideration.

This gains 2 marks.

1 mark for stating that it uses all the data and 1 mark for stating the range only uses the highest and lowest number.

Examiner Comment

- (c) Shamilla may have wanted to consider using standard deviation instead of the range as her measure of dispersion.

Explain why standard deviation may have been more appropriate.

(2)

Standard deviation gives an accurate measure of the dispersion or distributional measures than the range.
Standard deviation would show a proper and a clear dispersion of speeds for the cars.

This gains 1 mark.

1 mark for stating the standard deviation gives a more accurate measure than the range.

The second sentence is a repetition of the first sentence, using different words so the candidate cannot gain the same mark twice.

Examiner Tip

Do not repeat what has already been written as it cannot gain credit.

Q06d

Question Introduction

This question did not tend to be answered well by the majority of the candidates. Candidates often answered in terms of overt or covert observations rather than non-participant observations. Some candidates wrote as though a non-participant observation was an observation that did not have any participants. Those candidates that could correctly identify

why Shamilla used a non-participant observation often gave confused justifications about why it was a good method to use. Some candidates did not link their answer to Shamilla and so could not gain credit.

Examiner Comment

(d) Explain **two** reasons why Shamilla chose to use a non-participant observation method for her research.

(4)

- 1 If ~~a~~ Shamilla was a participant, she would either have to be driving or be a passenger. Both of these could affect the results. As she was not a participant, the data she gathered is more likely to be valid as drivers would have behaved normally.
- 2 As Shamilla is not a participant, she can focus her concentration on gathering data, and it will have been easier to gather her data on the vehicle speeds, so her results are more likely to be accurate as well.

This gains 3 marks.

1 mark for identifying how being a passenger or driver could affect the results, but nothing for the elaboration as it does not explain why the data would be more valid.

1 mark for identifying that it would be easier for her to gather her data as she is focussing more on it and a further mark for justification that this will make her results more accurate.

Examiner Tip

Do not just use terms such as it will be more valid as the justification explain why it would be more valid.

Examiner Comment

(d) Explain **two** reasons why Shamilla chose to use a non-participant observation method for her research.

(4)

1 ~~Therep~~ Therep is a less likely chance of response bias affecting shamilla's results and thus they would be more reliable.

2 The ecological validity of her experiment would also increase, as the people Shamilla is investigating is unaware that she is doing so.

This gains 0 marks.

The use of non-participant observations does not mean there is less chance of response bias, this is relating to covert observations where participants do not know they are being observed, and could be true of participant or non-participant observations.

The point about the validity being better as participants do not know Shamilla is carrying out the observation is also not true of just non-participant observations it could also be true of participant observations if they are not aware they are taking part.

Examiner Tip

Make sure the answer is relevant to the research method asked about, and that it may not be relevant to other methods as well.

Q06e

Question Introduction

This question was answered very well, with most candidates being able to identify two extraneous variables that might affect Shamilla's results. Most candidates linked their answers to the scenario. Those who did not gain full marks often did not add the detail to the justification, so they would write that it would affect the speed of the car but not how it may affect the speed of the cars.

Examiner Comment

- (e) There are many variables that could have affected the results Shamilla recorded on the day of her observations.

Explain **two** extraneous variables that could have affected the results.

(4)

1 The mindset of the people ~~is~~ she was investigating, for example if they were in a hurry then the speed of the car would be higher.

2 The condition of the road could affect the results as well. For example, if the road ~~had been~~^{was} wet with rain then people would drive slower.

This gains 4 marks.

1 mark for identifying the mind-set of the people Shamilla was studying and one mark for justifying this as if they were in a hurry they may drive faster, which also links the answer to the scenario.

1 mark for identifying the condition of the road which also links the answer to the scenario and 1 mark for justifying this with if it was wet people would drive slower.

Examiner Tip

When given a scenario ensure that answers relate to the scenario.

Examiner Comment

- (e) There are many variables that could have affected the results Shamilla recorded on the day of her observations.

Explain **two** extraneous variables that could have affected the results.

(4)

- 1 If there were other people present in the place, she would have got influenced because they need to know what she trying to experiment.
- 2 If the weather was not good (raining) then she cannot be sure that she was able to gather accurate data because drivers' driving speed would get affected due to environment changes.
- (Total for Question 6 = 14 marks)

This gains 2 marks. 0 for the first point as it is not linked to the study.

2 marks for the second point, 1 mark for identifying drivers speed would have been affected by environmental conditions and 1 mark for justifying this by saying rain may lead to inaccurate data.

Q07a

Question Introduction

Those candidates who knew the procedure well were able to gain good marks on this question, with most candidates being able to gain marks for points about the white rat and the loud noise being paired. Many candidates went on to write about the results and/or conclusion when the question asked for the procedure, so could not gain credit for these points.

There was a significant proportion of the candidates who got details incorrect, such as writing about a white mouse or white rabbit. Some candidates did not seem to know that the loud noise was made by hitting a hammer on a metal bar, with candidates either just mentioning a loud noise with no detail or some writing that a bell was rung behind Little Albert.

Examiner Comment

7 During your course you will have learned about Watson and Rayner's (1920) classic study 'Little Albert: Conditioned emotional reactions'.

(a) Describe the procedure of the Watson and Rayner (1920) classic study.

(4)

Watson and Royer studied a little boy called Little Albert. When he was 9 months old, he was exposed to a white rat, rabbit, and more stimuli, to which he did not show fear. They found that he showed fear and cried when a metal bar was banged near him, when he was ~~9~~¹¹ months old, he was exposed to these same stimuli again and showed the same responses. Then, the conditioning began. ~~The~~^{The} metal bar was struck loudly whenever Albert tried to touch a white ~~rabbit~~^{rat} he was exposed to. After many trials, he showed fear just by seeing the rat. This was repeated using a dog instead, and Albert feared the dog as well. Little Albert was then taken away before he could be deconditioned.

This gains 3 marks.

1 mark for the pre-conditioning phase with some of the stimuli mentioned and the fact he did not show fear. 1 mark for saying he showed fear when a metal bar was banged. 1 mark for the pairing of the metal bar and the white rat.

The next sentence is results so is not relevant to the questions and the point about the same happening with a dog is incorrect as he was not conditioned to fear a dog, the response generalised to dogs.

Examiner Tip

When a question asks for the procedure of a study do not include the aim, results or conclusions.

Q07b

Question Introduction

Weaknesses were often better than strengths of the study, candidates often gained the two marks for identifying a weakness in relation to the study and then being able to explain that weakness. The most common weakness was often relating to the ethics of the study. Strengths were not written as well as the weakness, they were often generic and not related to specifics about the study e.g. saying it was controlled but then failing to say how it was controlled. Therefore, candidates were not able to show their knowledge of

the study. Those who did gain an identification mark for the strength often failed to explain this strength.

Examiner Comment

(b) Explain **one** strength and **one** weakness of the Watson and Rayner (1920) classic study.

(4)

Strength

Watson and Rayner carried out a laboratory experiment using strict controls, meaning the results are likely to be reliable as they can be replicated, and a cause-and-effect relationship could be established due to the use of controls.

Weakness

Albert was in an artificial environment and the conditioning process was an artificial task, meaning ~~the~~ Albert may have behaved differently, so the study has low ecological validity.

This gains 2 marks. 1 mark for the strength and 1 mark for the weakness

0 marks for identification of the strength, as it is too generic, what was controlled in this study. 1 mark for justification that a controlled study allows cause and effect to be established.

0 marks for identification of a weakness as again it is generic, what about the task made it artificial. 1 mark for justification of the weakness meaning that Little Albert behaved differently.

Examiner Tip

When identifying a strength or weakness of a study make sure something specific about the actual study is written.

Examiner Comment

(b) Explain **one** strength and **one** weakness of the Watson and Rayner (1920) classic study.

(4)

Strength

There was high degree of control as all variables in the study were measured before the experiment.

Weakness

Little Albert was found to be affected by psychological stress since he was frightened by many objects and made him cry.

This gain 1 mark.

0 for the strength as it is too generic, what variables were controlled, and there is no justification about why this may be a strength.

1 mark for the weakness. Nothing for the identification as it is not accurate enough and 1 mark for Albert being frightened of many objects. This was taken as identification and there is no justification of this point so no further marks are available.

Q07c

Question Introduction

This question was not answered well by a majority of candidates, with many candidates putting down ethical improvements without considering the aims of the study. e.g. not using a loud noise so he wouldn't be scared. Candidates also wrote about what was ethically bad about the study rather than writing about how it could be improved. Candidates who did correctly identify an ethical improvement often failed to justify why or how this would be an improvement.

Examiner Comment

(c) Suggest **two** ethical improvements you could make to the Watson and Rayner (1920) classic study.

(4)

- 1 Little Albert could have been protected from distress after the experiment had concluded using systematic desensitisation, which would have cured him from his phobia.
- 2 Watson and Rayner could have used another form of ~~not~~ classically conditioning Albert instead of making him develop phobias for certain objects.

This gains 2 marks, both for the first improvement. 1 mark for identifying that Little Albert should have been protected from distress after the experiment by using systematic desensitisation, and 1 mark for justifying this as it would have cured his phobia. Nothing for the second improvement as it is not specific enough, and the point of the study was to see if fear could be classically conditioned.

Examiner Tip

When writing improvements of a study make sure the improvement suggested will fit in with the aim of the study.

Examiner Comment

(c) Suggest **two** ethical improvements you could make to the Watson and Rayner (1920) classic study.

(4)

- 1 Watson and Rayner could have ~~be~~ carried out the experiment on other children of different religions and cultures rather ^{than} just on Little Albert.
- 2 They could carry out the same procedure on children of different age groups rather than just on small children like Albert.

This scores 0 marks. Both points are relating to how the study could be made more generalisable rather than how it could be made more ethical.

Examiner Tip

Make sure your answer answers the question that is asked.

Q08

Question Introduction

There was a range of marks for this essay, with most candidates at level 2 or level 3. Some candidates wrote a very good description of one learning theory and related it well to the scenario, but then failed to include a second theory, or just gave a line about the second theory so limiting the level they could gain for their answer as they had limited discussion. The better candidates were able to include A01 and A02 together, by explain the theory and terms within the theory through application to the scenario.

Examiner Comment

8 Harry and Lucy are twins who need to learn to put their toys away after playing with them.

Discuss how Learning Theories could help teach the twins to put their toys away after playing with them.

Learning theory suggests that a person's behaviour is changed due to observation, imitation and modelling.

Harry and Lucy could be taught to put their toys away after playing if they observed a child ~~of~~ who is much older to them. This could be when Harry and Lucy start to play, another child can also be with them in the same room and start playing. When Harry and Lucy's parents ask them to stop playing, they would observe the older child stopping all his work and arranging the toys in the positions where they were. In this way, when it continues for few days, Harry and Lucy will try to imitate the elder child's behaviour as they will feel that he is doing ~~something~~ ^{the right thing} ~~to~~ ^{right}. Next Harry and Lucy will start to respect the elder child and thus will consider him as their role model.

This gains a level 2, 3 marks.

The A01 and A02 are interlinked throughout this essay, with key terms from social learning theory in the answer. However, these terms are not explained e.g. Harry and Lucy could observe..., they will imitate... with no explanation about why they would observe a child to imitate them.

The answer only focuses on social learning theory and does not include another theory of learning whilst the question does ask for learning theories therefore it is limited to level 2. Due to the lack of explanation of some points it was given 3 marks.

Examiner Tip

Make sure points are explained within essays. the examiner can only mark what has been written, they cannot assume anything.

Examiner Comment

8 Harry and Lucy are twins who need to learn to put their toys away after playing with them.

Discuss how Learning Theories could help teach the twins to put their toys away after playing with them.

Learning theories explain learning ^{behaviours} through observation, association and consequence.

Social learning ^{or} ~~operant~~ learning through observation ^{occurs} ~~shows~~ that in stages which are attention, retention, reproduction and motivation.

Harry and Lucy may observe how their mother cleans up their toys and may retain that information after that they may reproduce it by cleaning their toys and they maybe motivated to keep the desirable behaviour by praise from their mother.

Operant condition or learning through consequence can also be used here ~~when~~ when it comes to encouraging and motivating ^{desired} ~~behaviour~~ desired behaviour. Harry and Lucy may be rewarded

for their efforts of cleaning their toys with for example chocolate which acts as a reinforced that encourages the behaviour. Harry and

Lucy may learn ^{through} ~~from~~ consequence of ~~the~~ one another. Lucy may see Harry get rewarded for cleaning his toys and as a result she too will be encouraged to do so (vicarious learning)

(Total for Question 8 = 8 marks)

This gets level 3, 5 marks.

Both social learning theory and operant conditioning are described in relation to the scenario, with some terms being explained, such as within operant conditioning and vicarious reinforcement at the end of the essay. However, there are also a lot of terms just stated with no explanation, especially in the description of social learning theory where attention, retention, reproduction is mentioned but not explained.

Therefore, the answer demonstrates accurate knowledge and understanding, there is a grasp of competing arguments as two theories have been written about and these are applied to the scenario so it can gain a level 3, but the lack of detail in places takes it down to 5 marks.

Q09

Question Introduction

Most candidates were able to offer a description of systematic desensitisation and link it to the scenario, with better candidates being able to weave the two together. Weaker candidate tended to offer a description of the therapy and then relate it to Maria which led to a lot of repetition.

Evaluation also ranged from good, with a range of points including supporting studies, issues with the therapy and comparisons to other therapies, to weak which often only focussed on Capafons' study. Candidates were limited in the marks they could gain through a lack of conclusion, those that did present a conclusion often presented an imbalanced or superficial conclusion.

Examiner Comment

SECTION C

Answer ALL questions. Write your answers in the spaces provided.

- 9 Maria has a phobia of cats, which means that she can no longer visit her friend, Alice, who has just bought a cat.

Evaluate systematic desensitisation as a treatment/therapy for Maria's phobia.

You must make reference to the context in your answer.

(12)

Systematic desensitisation would involve a series of steps that are to be taken in order to get rid of phobia step by step. In this case help Maria ~~be~~ ~~strength~~ rid of her phobia ~~for~~ cats.

One strength of this study would be that it would ~~help~~ prevent Maria from having very high anxiety attacks as it is a slow process.

Moreover a professional in this field would be there to assure Maria that everything is alright and help ease her stress levels.

Maria would be able to visit her friend as Systematic Desensitisation would enable her to approach cats.

However there are drawbacks as well in ~~the~~ ~~cases~~ systematic desensitisation as it could be a very lengthy process and may ~~be~~ even span upto weeks or months.



Another weakness would be the cost of hiring a professional, it could be very expensive as the number of days could stretch as well.

Sometimes Maria may not react well to this form of treatment and it may not affect ~~an~~ her.

If a bad professional was hired for this treatment Maria could even increase a her phobia towards cats.

This gets level 1, 2 marks.

There are isolated elements of knowledge, with the first paragraph being the only A01 present in the essay, and all it tells us that it is a step by step process. This is linked briefly to Maria so there is little or no reference to the context.

The A03 is not developed so cannot be a level 2 A03. E.g. why may it be a slow process, why may Maria not react well to this form of treatment. There is also no attempt at a conclusion, not that it would be relevant in this case as the rest of the essay is level 1 only.

Examiner Tip

Detail in all aspects of the essay (A01, A02 and A03) needs to be included for the essay to gain more than a level 1.

Examiner Comment

SECTION C

Answer ALL questions. Write your answers in the spaces provided.

- 9 Maria has a phobia of cats, which means that she can no longer visit her friend, Alice, who has just bought a cat.

Evaluate systematic desensitisation as a treatment/therapy for Maria's phobia.

You must make reference to the context in your answer.

(12)

A phobia is an extreme, irrational fear that disrupts daily life. ~~As this does~~ Maria's phobia of cats could have a huge negative impact on her daily life, as cats can be frequently seen outside, so she has to be treated so that she can function normally. Systematic desensitisation is a therapy based on classical conditioning principles. In systematic desensitisation, Maria will ~~to~~ associate her feared object - cats - with ~~relaxation~~ relaxation, curing her phobia. With her therapist, Maria will develop a hierarchy of fears, from less feared situations such as seeing a picture of a cat, to highly feared situations such as being in a closed room with cats. Maria's therapist will then teach her relaxation techniques such as muscle relaxation, and deep breathing. Then, Maria will be exposed to her least feared situation - such as seeing a photo of cats - after she gives her informed consent. She will then have to carry out her relaxation techniques in the situation, so that she relaxes, and associates relaxation with the situation (seeing a photo of cats). Once she is relaxed, with her consent, she will be ~~exposed~~ gradually exposed to more feared situations, relaxing at each



step. At the end of therapy, she will have lost her phobia as cats will be associated with relaxation, not fear. This therapy (systematic desensitisation) is more ethical than alternatives such as flooding, as she ~~has~~ ^{has} control over the situation and is gradually exposed to cats. Furthermore, she also requires the therapy, as a fear of cats can be a serious issue, shown by the fact that she cannot visit her friend Alice due to fear of Alice's cat, so she may as well give the therapy a try. The therapy has also been shown to work, such as in the Jones' study where a boy's phobia was cured, so it is likely the therapy will also work for Maria. It is done over a period of time, so she would not have to spend too much time per day on therapy. However, there is still a chance that systematic desensitisation may not work, and Maria fears cats more. Due to taking a lot of time, the therapy will also be expensive - Maria may still meet Alice if Alice leaves her cat away - so it may not be worth the time and cost. She could try alternative ~~treatments~~ treatments like flooding which is quicker, ~~so~~ so she may save time.

This gets level 2, 6 marks.

The A01 and A02 are at a level 3, the first page demonstrates accurate knowledge and understanding of systematic desensitisation and there is relevant evidence from the scenario applied throughout the A01.

The A03 is at a level 2 as it mainly undeveloped so cannot get into level 3. E.g. why may systematic desensitisation not work for Maria, why may flooding be quicker, lack of detail about the results from Jones' study.

There is a conclusion within the last sentence saying that Maria may still be able to meet Alice if the cat is away so systematic desensitisation may not be worth the time and effort. This is a level 3 conclusion as it is presented but is imbalanced.

As the A03 is at level 2 the answer cannot gain more marks that are available in level 2, but because the A01, A02 and conclusion are level 3 it can get the top marks for level 2, so 6 marks were given.

Examiner Tip

In essays to get into level 3 make sure all A03 points are developed, and explained.

Q10

Question Introduction

This essay also provided a range of answers, but again the majority of candidates gained the lower levels. Candidates tended to offer a good description of biological explanations of aggression, and linked these to Liam, with the better candidates doing this as they went along.

Weaker candidates tended to describe the biological explanations of aggression and then link them to the scenario after the decisions, often leading to repetition. The learning and developmental theories did not tend to be done as well as the biological explanation, with candidates tending to throw in terms without explanation, especially for social learning theory.

Good candidates were able to offer a range of evaluative points for both explanations, and gave a balanced argument pointing out the strengths and weaknesses of the explanations used. Weaker candidates tended to offer just one of two points in evaluation of each explanation, with a minority not offering any A03.

The marks for good candidates were often limited as there was a lack of judgement. Where there was a judgment this tended to be superficial or imbalanced so limiting the level the candidates could achieve.

Examiner Comment

10 Liam is a 14-year-old boy who has been getting into trouble at school for fighting with other boys.

To what extent does biological psychology and learning theories and development explain Liam's aggressive behaviour?

You must make reference to the context in your answer.

(16)

Biological factors like hormones could come into play here. Because Liam is ~~only~~ a 'boy' who is developing hormones, his testosterone levels could be high. ~~But~~ Testosterone is a hormone that is known to increase levels of aggression in humans.

Another reason for fighting with other boys may have been for recognition. For instance Liam may have witnessed other boys getting into fights and be rewarded ~~by~~ amongst his peers by earning a title or increasing his popularity.

Genetic factors can also come into play. Perhaps Liam family had a history for aggressive behaviour which was passed down to Liam which made him more aggressive and made him get into fights.



Another reason may have been because of some kind of damage to parts of his brain (which is not known) like the amygdala that causes him to have increased amounts of aggression. ~~the~~ Whittman ~~star~~ was a person from Texas who gunned down many people and the only known behaviour for this was due to something being pressed against his amygdala.

~~The~~ Video Violent video gaming could also lead to increased aggressive behaviour. ~~the~~ ~~which he may try to~~ Liam may try to imitate moves and get into fights.

This gains level 1, 4 marks.

The A01 and A02 are at a level 2, the knowledge is mostly accurate and there is occasional application of relevant evidence from the scenario. Both biological and learning explanation are given but neither are fully explained, detail is missing.

A03 is at level 1, there is only one point in relation to a case study in support of the biological explanation.

The candidate has offered no judgement and has not answered the question 'to what extent' they have just described and evaluated two theories in relation to Liam's aggression.

As the A03 is level 1 the answer has to be given level 1, but as the A01 and A02 are level 2 it can gain 4 marks.

Examiner Tip

Ensure there is some judgement in questions that ask to what extent.

Examiner Comment

10 Liam is a 14-year-old boy who has been getting into trouble at school for fighting with other boys.

To what extent does biological psychology and learning theories and development explain Liam's aggressive behaviour?

You must make reference to the context in your answer.

(16)

Biological psychology suggests that the answer to why aggressive behavior is displayed lies in the brain and the body. ~~the brain~~ Whereas, the learning theory suggests that aggressive behavior is learnt. These two theories can be used to explain why Liam maybe exhibiting aggressive behavior in school.

Firstly, in biological psychology the reason for aggression lies in the brain, namely the amygdala, ~~and~~ ^{the} site at which emotion is controlled. Raine et al, a study carried out to find if criminals ~~how~~ that have pleaded guilty due to reasons of insanity have a different levels of brain activity than normal people. He found out that criminals that have been rather aggressive when committing their crimes have had increased levels of activity in their amygdala. ~~leading~~ ^{This} lead him to believe that a reason for displays of aggression maybe increased levels of activity in the amygdala. Liam may have ~~incre~~ ^{aged} levels of activity in his amygdala which is why ~~he~~ he behaves aggressively in school.

Also, men with increased levels of testosterone in their ~~body~~ bodies display ^{higher} aggression levels. A study conducted on male rats with high testosterone levels



showed ~~an~~ increase in aggression than ^{male} ~~normal~~ rats with normal levels of testosterone. Liam may also have high levels of testosterone, leading him to have higher levels of aggression, that gets him into trouble at school.

The ^{social} learning theory suggests that Liam's aggressive behavior may have been learnt from his environment. Liam may have ~~been mixing~~ ^{friends that} ~~are~~ with a aggressive and he is learning the behavior from them. Or someone in his family may display aggressive behavior and Liam may learn to be aggressive from them as well.

The Operant conditioning happens when an individual ~~is given~~ ^{displays} a behavior as a result of a particular consequence. In Liam's case, he may have been subjected to positive reinforcement for his aggressive behavior. His friends may have cheered him on when he is in a fight with another boy and Liam may have felt compelled to continue this behavior. Or Liam could have been subjected to negative reinforcement; he may have insecurities and these insecurities may disappear when he is fighting with another boy and feeling some sense of superiority. This could be another explanation for Liam's behavior.

~~The~~ Both ~~these~~ theories give explanation as to



P 5 0 5 8 6 R A 0 1 9 2 0

why Liam behaves the way he does. However, other factors need to be taken into consideration is his behavior is to be explained properly.

This gets level 2, 8 marks.

The A01 and A02 are at level 3. the A01 is accurate for both the biological explanation of aggression and learning theories, which include a bit about social learning theory and also operant conditioning. The A02 is within the A01 and shows application of evidence from the scenario.

The A03 is at level 2, some points are developed, such as Raine's study, but others are not developed, such as the study on rats with high testosterone. There is a conclusion at the end of the essay which is balanced but not well supported. E.g. what other factors need to be taken into consideration.

The answer cannot score above level 2 as the A03 is in level 2, but as the A01 and A02 are in level 3 it can go to the top of level 2 so 8 marks.

Examiner Comment

10 Liam is a 14-year-old boy who has been getting into trouble at school for fighting with other boys.

To what extent does biological psychology and learning theories and development explain Liam's aggressive behaviour?

You must make reference to the context in your answer.

(16)

In accounts of aggression, we cannot say that Liam's behaviour is just due to nature and just due to nurture, as with most things it's a combination of both and it takes the effect of both the biological and learning theories to help explain Liam's development of aggressive behaviour.

Biology plays a vital role in human aggression, one major factor that falls under biology is genes; where our genes affect ^{how} ~~our~~ aggressive we are. It was thought initially that people with XYY gene were aggressive; so we could've assumed that Liam had this extra chromosome but, they've shown that there was no significant difference in aggression levels for XY and XYY men; Moreover ^{rate of} the violence around the world cannot be accounted for by this genetic disorder which is a rare. However one possible ~~and~~ explanation is that Liam may have aggression that runs as a trait in his family; perhaps both his parents are aggressive so that due to him having their genes he too is aggressive; this is proven throughly Mednick's ^{adoption} study on 400 males criminals; where he found that it was twice as likely that a ~~a~~ child could be ~~a~~ a criminal if their biological ^(family) father was ~~also~~ a criminal. (The rate was much less for when the adoptive ^(family) father was a criminal.

Another biological factor is that differences in brain structures and abnormalities in the brain could be causing Ben to be so aggressive. A case study was done on an individual called



Phineas Gage; where after a railroad accident ^{which damaged his PFC} the once mild-tempered man became and ill-tempered, foul mouthed person which surprised his friends. However this was a case study and considers only one individual ^{so generalisability is low}. Moreover Raine et al found that in his 11, NARS murders (who we can also assume to be aggressive) had low activity in their PFC (pre-frontal cortex). In having said this, perhaps Ben too could have an abnormality or difference ^(less) activity in his PFC which could be causing him to be so aggressive. (However Raine et al was a natural experiment so it's hard to come to cause and effect conclusions). Moreover, we have evidence that disruption to the limbic system; especially the ~~PFC~~ amygdala is associated with aggression; eg. Charles Whitman who murdered several people had a tumour pressing against his amygdala; so perhaps Ben too might have something similar. Another biological factor is the level of testosterone; it was proven by Archer (1992) that higher levels of testosterone correlates with a higher level of aggression; (but this was a correlation and again ^{struggling to cause and effect conclusions are difficult}) so Ben could also be having high levels of testosterone which in turn is affecting / increasing his aggression. Levels of serotonin has also been associated with aggression; when serotonin levels were depleted in vervet monkeys they became aggressive; but since this is an animal study it restricts the ability to generalise (however it has been found that criminals, antisocials etc have low levels of serotonin in their cerebral spinal fluid) so Ben could have low levels of serotonin.

But Biology is inadequate to explain how ~~eg~~ and why Ben could be aggressive. The social learning theory tells us that we learn through observing and copying role models. So



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In the case of Ben, perhaps his father (more likely as SLT states that we identify with people who are similar to us, e.g. the same gender) would be aggressive character who fights with others. Ben, in howling, looked up to his father pays attention to this; and retains in his memory how his father is aggressive (punching, with a fist etc), and when the moment comes he will reproduce the behaviour; and Ben might be seeing the fact that he gets into trouble as attention so this would motivate him to continue ~~the~~ fighting. His aggression could also be due to factors such as video game playing; it was proven by Bushon et al. in 2001 that playing video games reduces how one sees themselves as human (less human) and could possibly cause Ben to be more violent and aggressive. The social learning theory is supported via the findings of Bandura, Ross and Ross who found that children tend to imitate aggressive models, and boys more than girls; and seeing as Ben is a boy; ~~therefore~~ it fits well.

The fact that both biology and learning ^{can} affect Ben's aggression, level can be supported by the findings of Brendgen; who found that in physical aggression 60% is due to genes (or biology) but only 20% genes for social aggression. This shows us that Ben's level of aggression which ~~is~~ ^{is} physical and most probably social is affected by both genes and the environment. So we can conclude by saying that both biological psychology and a learning theories are important in describing why Ben possesses such an aggressive character.

(Total for Question 10 = 16 marks)

TOTAL FOR SECTION C = 28 MARKS
TOTAL FOR PAPER = 96 MARKS



This gains level 4, 16 marks.

The A01 is accurate and thorough with biological explanations and social learning theory, and the A02 is sustained throughout and linked to the A01.

The A03 is well developed and logical, following on from the relevant A01 points, and is balanced with strengths and weakness of different approaches being considered.

There is a balanced judgement at the start of the essay in the form of the first paragraph.

Given the time considerations of the exam, this is a very good essay that is level 4 for all aspects of the essay so 16 marks.