



Examiners' Report

Principal Examiner Feedback

Summer 2023

Pearson Edexcel

GCE Psychology (8PS0)

Paper 2: Biological Psychology and Learning
Theories

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General Comments

The examination structure provided a range of question types over two main sections, Biological Psychology and Learning Theories. The final question required an extended response requiring candidates to address a theme that occurs in both biological psychology and learning theories.

Candidates' overall coverage of both biological and learning was consistent across the whole of the paper. There were very few unanswered questions and many of the questions were attempted in some detail, which benefitted the candidates when accessing level based higher marks.

Skill application across both areas was good for some and reflected that candidates were prepared for most aspects that the specification covered. Knowledge and understanding in several areas did impede students' awareness of what the question was asking resulting in a restricted number of marks being awarded. Candidates seemed to manage their time well and centres must be congratulated on their continuing development in preparing candidates for this 1 hour 30-minute paper.

Application of scenarios showed some improvement and reflected improving awareness that some candidates had of applying scenarios within their answers. It was disappointing to still read many answers which portrayed excellent knowledge and understanding of the question content both short and extended response - but failed to apply any areas asked for by the question, resulting in completely generic responses.

Longer responses were generally well attempted as expected with a continuing development towards understanding key taxonomy and what the question is truly asking – learning being the stronger this academic year. Conclusions embedded within answers for some candidates supported their answers, allowing them to access higher marks. Candidates who achieved higher marks supported their answers with research studies, theories, application, amongst other areas – especially in the 12-mark question.

There was a consistent awareness in candidates understanding of most command verbs on this paper, additional review for some would have benefitted them.

Centres are directed to the support materials available online, which explore the various question types for questions in the examination and the taxonomy for each question type. The remainder of this Examiners' Report focusses on each individual question and gives specific examples.

This aim is to highlight areas of good practice and illustrate some common errors, and thereby be used to help prepare candidates for future 8PS0/02 examinations.

Candidates should be reminded to write only within the spaces provided. Additional paper should be used whenever extra writing space is required.

Paper Summary

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

- Make sure that all key areas within the theory, studies, methods and practical sections are fully covered in preparation for any exam paper.
- Make sure that justification is provided within the questions to access A03 marks when required.
- When being asked about A02 – skill application to a specific context – it is important that responses are very clearly linked, to avoid generic answers.

Comments on Individual Questions:

Q01a

Many candidates were able to complete **Table 1** with the correct name of the different parts of the personality. Well answered responses included the 'id' and 'superego'. 'Ego' however, was less well answered. Some candidates attempted the question adding in other areas from Freud's theory, not associated with the personality. Access to marks was clear in terms of the taxonomy of the question which nearly all were able to attempt.

- (a) Complete **Table 1** with the name for the different parts of the personality in the space provided.

(3)

Definition	Part of the personality
<p>This part of the personality is rational and tries to balance the conflicting demands of other parts of the personality.</p> <p>It operates according to reality (the 'reality principle') and tries to satisfy pleasure (the 'pleasure principle') in a socially responsible way.</p>	ego
<p>This part of the personality tries to impose moral standards on the individual and includes the conscience and what a person should be like (the 'ego ideal').</p> <p>It operates according to morality (the 'morality principle') and tries to impose right and wrong in relation to pleasure, including forbidden behaviour such as aggression.</p>	superego
<p>This part of the personality focuses on pleasure and satisfying instinctual urges an individual may have.</p> <p>It operates according to pleasure (the 'pleasure principle') and does not understand logic, so it becomes frustrated, potentially leading to aggressive urges if denied pleasure.</p>	id

Examiner Comments

This response gained 3 marks for a correct completion of all parts of three parts of the personality.

Q01b

Candidates produced a variety of responses mostly attempting to focus on the weaknesses of Freud's psychodynamic explanation of aggression. Candidates commented on a variety of weaknesses including contradicting evidence, problems with catharsis, issues surrounding reductionism, biological alternatives such as hormones or learning theories like social learning theory.

At times, candidates' answers were fully developed providing a thorough A01 identification of the strength/weakness followed by clear justification of it, which resulted in 2 marks being awarded for each.

A significant number of candidates were able to grasp the A01 mark for the identification of the strength/weakness of Freud's psychodynamic explanation of aggression, however justification was not always expanded indicating a lack of understanding on the part of candidates – this occurred for example for some when applying reductionism as a weakness. This meant that candidates could not always access the A03 mark as their answers did not have the elaboration to explain why it was an actual weakness.

(b) Explain **two** weaknesses of Freud's psychodynamic explanation of aggression.

(4)

1 Freud's psychodynamic explanation of aggression cannot be physically measured, it is all down to subjectivity.

2 It is not reliable as the theory cannot be proved as there is no written evidence that supports Freud's theory.

Examiner Comments

This response gained 0 marks.

The candidate has not identified a strength or weakness of Freud's psychodynamic explanation of aggression that has the clarity to be awarded the mark.

Q02a

Candidates answered these questions relatively well in terms of being able to describe one hormone and explain, using their identified hormone, Claus's aggressive behaviour. Stronger answers were able to explicitly link their answers to Claus, utilising the scenario throughout their answers. Answers mainly focused on the hormones testosterone and cortisol. Some candidates were able to identify one hormone in relation to Claus's aggressive behaviour but failed to develop their answers further for a second mark.

Only a minority of candidates did not attempt this question or provide a completely generic response. Moving forwards, candidates would benefit from additional practice of scenario-based questions such as this.

2 Claus is a 14-year-old teenager who has been getting into trouble in basketball matches. He frequently pushes opposition players over during games when his team is losing. As a result, the coach asks Claus to sit out of the game, and then Claus reacts in a rude manner to the coach.

(a) Describe how one hormone could explain Claus's aggressive behaviour.

Testosterone has been proven by Dabbs to ⁽²⁾ cause increased aggression when high levels are present. He found 10/11 prisoners with high testosterone were likely to commit a violent crime.

Examiner Comments

This response gained 0 marks. There is no clear description on one hormone in relation to Claus or the scenario, so the response is generic. This is also an A02 question, therefore Dabbs written in this way would not have been acceptable.

Q02b

Many candidates were able to grasp the A01 mark for identifying a strength of hormones as an explanation for aggression. The most common answers referred to supporting evidence and applications.

For many candidate answers, there was a lack of justification of the strength being referred to, which resulted in candidates only receiving partial marks for the strength. In some cases, candidates did not fully know the knowledge of hormones or explained it inaccurately. This then quite often transferred into an incorrect justification, again limiting marks that candidates could access for the strength.

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

(2)

Darby and Hargrave found ~~there~~ a positive correlation between ~~male~~ testosterone levels in female prisoners and their levels of aggression and violence. This shows that there is evidence in proving that a high level of testosterone ~~can~~ ^{high levels of} lead has a direct relationship between ~~between~~ to aggression.

Examiner Comments

This response gained 2 marks. There is a clear identification of a supporting study using testosterone which is then justified in terms of the question.

Q03a

Most candidates were able to identify the aim of their biological practical. A minority of candidates provided an aim for another practical – learning mostly. Stronger answers stated key areas of the biological topic and elaborated in the aim, although not needed in this detail at times this clarified the answer for the mark when statements were underdeveloped. Seldom was this question not attempted. Some areas stated were not on the specification.

3 You were required to carry out a practical investigation in biological psychology.

(a) State the aim of your practical investigation in biological psychology.

(1)

To see if there is a relationship between stress levels and aggression levels in the last 12 months.

Examiner comments

This response got 1 mark for a correct statement of the biological psychological practical investigation aim.

Q03b

Candidates struggled at times to access marks on this question. For some their knowledge of how they gathered the sample for their practical was partially accurate but hindered in terms of marks awarded due to the generic nature of their answers.

Stronger answers described how they gathered the sample for their biological practical in relation to many areas focusing on or around areas of the specification (i.e. aggression being the most common). Some candidates were able to go on to describe fully for two marks. Only a minority of candidates did not attempt this question. Moving forwards candidates would benefit from additional practice of completing practical questions – ensuring that less generic responses.

(b) Describe how you gathered the sample for your practical investigation in biological psychology.

(2)

we recruited a sample of 20 male participants using an opportunity sampling method as it was less time consuming due to participants coming forward themselves showing willingness to take part in our study.

Examiner Comments

This response gained 0 marks as it is generic.

Q03c

Many candidates attempted to describe their biological practical results – there was some confusion with results and conclusions which for some limited the number of marks they were awarded. A minority of candidates provided results for alternative practicals, which resulted in no marks being awarded.

Most common results included, scatter graphs, scatter graph results, Spearman's, percentages, raw data comparisons amongst many others. Better answers provided a description of different types of results, providing at times clear numerical data to reinforce the context of their answers within the biological practical area they had completed for their practical.

(c) Describe the results of your practical investigation in biological psychology.

(3)

Individuals who rated themselves with high levels of stress also rated themselves with high levels of aggression on the Likert Scale.

Examiner Comments

This response gained 0 marks as it is generic. There is no description of any result such as Spearman's, height differences, scores in additional to other credible areas.

Q03d

Many candidates attempted this question with some success in terms of providing a strength/weakness of their biological practical investigation. Some candidates correctly identified a strength/weakness of their biological practical but failed to make links to the biological practical itself, therefore providing generic responses.

A minority of candidates provided strengths/weaknesses for practicals that were not from biological psychology. Candidates who did provide clear reference to their biological practical did not always go on to justify their weaknesses in full for additional marks. The most successful candidates referred clearly to data gathering, sampling, self-rating correlational questionnaires, planning decisions or lack of, extraneous variables, amongst others – focusing on biological practical areas. These were then sometimes successfully related to subject bias, invalid results, replication problems, and reliability amongst other acceptable points.

(d) Explain **one** strength and **one** weakness of your practical investigation in biological psychology. (4)

Strength

we used a standardised procedure,
we gave each pp the same questionnaire
This means our practical can be
repeated over and over and tested
for reliability.

Weakness

The sample size was too small, ^{70 pps} ~~small~~
and they were all ~~university~~ students
so this makes our results harder to
generalise as it is not representative
of the target population.

Examiner Comments

This response gets 0 marks. There are no links to any biological practical for their identification or justification marks.

Q04

This was a discuss question that required candidates to demonstrate an equal emphasis between knowledge and understanding and application in their answer about the key question for society they had studied in biological psychology.

Candidates were required to show knowledge and understanding of their key question of relevance to society and/or individuals and link their points to appropriate theories, concepts and/or research from learning theories.

Many candidates completed this well in their response, those who did not achieve as highly often described their key question with limited discussion of the theoretical points or concepts from psychology. Alternatively, some candidates demonstrated some theoretical points and/or concepts from psychology but attempted limited knowledge and understanding of their key question to this.

A minority of students failed to identify their key question clearly at the beginning or within their answers.

A few described explanations or studies without a link to the key question itself. Better responses were seen in relation to drug addiction; often involving different variations and the nature/nurture debate. Established clear and accurate A01 within answers ensured those who did this well were rewarded with access to higher level band marks.

4 Biological psychology has been used to explain key questions of relevance to today's society.

Discuss the key question for society you have studied using concepts, theories and/or research from biological psychology.

(8)

Key question

What are the implications for society if aggression is found to be largely caused by nature?

Aggression and aggressive acts are mirrors of people everyday, with over 400,000 homicides in 2019. Aggressive acts can be rape, assault, murder, arson, robbery etc. And with not just the person who is a victim to aggressive behaviour being hurt, but all of their friends, family, coworkers and communities affected too.

Aggressive behaviour and acts is so prevalent in today's society that it costs the world ~~14~~¹⁴ trillion per year, that's over \$5 a day per person in the world, just a 5% reduction in violent crime is enough to double the global debt fund - according to the World Economic Forum.

One way aggression can be caused by nature is through brain structure, with Raine et al (1997) finding that murderers pleading Not Guilty Reason of Insanity (NGRI) had different brain structures than non-murders that were matched on age, gender, ethnicity etc. Therefore this finding could mean aggression ~~and~~ can be caused by nature. However however, Raine this study did not account for if the murders had had any brain damage in the past.

Another way aggression could be caused by nature is with hormones, for example Pabbs et al 1995 showing ~~research~~ showed us that ~~if~~ the more violent the crime a ^{prisoner} ~~prisoner~~ had committed, the more higher testosterone they had. Another theory supporting that aggression could be caused by nature is the dual hormone hypothesis' saying that testosterone causes aggression only when cortisol is low. Therefore ~~as~~ testosterone has evidence to suggest that it can cause aggression, with supporting studies.

Finally, neurotransmitters can cause aggression as when serotonin is low, dopamine is high, meaning a person is more energetic and therefore more ^{likely} to aggress. These neurotransmitters may be responsible for aggression.

In conclusion, there is ~~many~~ much evidence to suggest that aggressive behaviour is caused by nature and therefore should be studied more, as if ^{aggression} this is found to be caused by nature there may be mass exclusion of people, which is not good for society, however ~~there~~ ^{it} also may mean intervention and monitoring can take place for those who may be more prone to aggression.

Examiner comments

The response gained 5 marks.

A01 – Level 3 for accurate knowledge and understanding of several examples of relevant key question areas but not thorough for level 4. A02 – level 2 as it was occasionally supported through the application of relevant evidence.

Q05a

Many candidates were able to access one mark for a definition of retention as used in social learning theory. A minority of candidates confused this with other areas of social learning theory. Very few candidates did not attempt this question. The most successful suggested that retention is the memory of the behaviour to be performed later by the observer. Some candidates elaborated their answers with examples, although not necessary for a one-mark question if sometimes did add to the accuracy of their answers.

5 As part of your psychology course you will have covered social learning theory.

(a) Define what is meant by 'retention' as used in social learning theory.

(1)

Retention is the second stage of social learning and its to remember the role model's behaviour.

Examiner Comments

This response gained 1 mark for a correct definition of retention as used in social learning theory,

Q05b

Lots of candidates were able to access one mark for a definition of reproduction as used in social learning theory. A minority of candidates confused this with other areas of social learning theory. Very few candidates did not attempt this question. The most successful suggested that reproduction is when an individual has the ability to recreate the behaviour the role model has displayed. Some candidates elaborated their answers with examples, although not necessary for a one-mark question if sometimes did add to the accuracy of their answers.

(b) Define what is meant by 'reproduction' as used in social learning theory.

(1)

reproducing the observed behaviour alone that was observed from a role model and then acting it out / performing it

Examiner Comments

This response gained 1 mark for a correct definition of reproduction as used in social learning theory.

Q05c

Lots of candidates attempted and answered this question well. Many candidates were able to grasp the A01 mark for identifying a strength of social learning theory. The most common answers for social learning focused on supporting studies – mainly Bandura's or application to society.

For many answers there was a lack of justification of the strength being referred to which resulted in candidates only receiving partial marks. Some candidates provided a supporting study for example but then did not justify this in terms of social learning theory itself for the second mark. Although most candidates attempted this question not all provided enough knowledge within their answer to access and identification mark.

(c) Explain **one** strength of social learning theory.

(2)

There is experimental evidence in Bandura's 1961 study where they found that girls were more likely to imitate female role models while boys more likely to imitate male role models. This supports the claim that the role model is more likely to be imitated if they are the same gender as this increases the identification with the role model.

Examiners Comments

This response gained 2 marks. One mark for identification of a relevant study, and one mark for justification in relation to social learning theory.

Q05d

Many candidates attempted this question with some success in terms of providing two weaknesses of their learning theory. A minority of candidates correctly identified weaknesses of social learning theory and then went on to justify their answer for the full marks.

Some candidates were able to provide an identification and justification of a weakness of social learning theory or identifying two weaknesses but went did not justify for additional marks on either. A minority of candidates provided weaknesses for classical and operant conditioning, therefore, could not be credited. The most successful candidates referred to contradictory evidence, reductionism, alternative biological theories, amongst others.

(d) Explain **two** weaknesses of social learning theory. (4)

1. One weakness is that it fails to recognize an individual's free will. Although the four stages outlined by Bandura reflect internal cognitive processes, ~~it fails~~ this explanation of observational learning is challenged by an individual's past experiences.

2. Another weakness of social learning theory is that it is too simplistic. Observational learning suggests by viewing others, behaviour will be presented, though this explanation is very deterministic in that a human's brain is complex and we may present a behaviour for other reasons.

(Total for Question 5 = 8 marks)

Examiner Comments

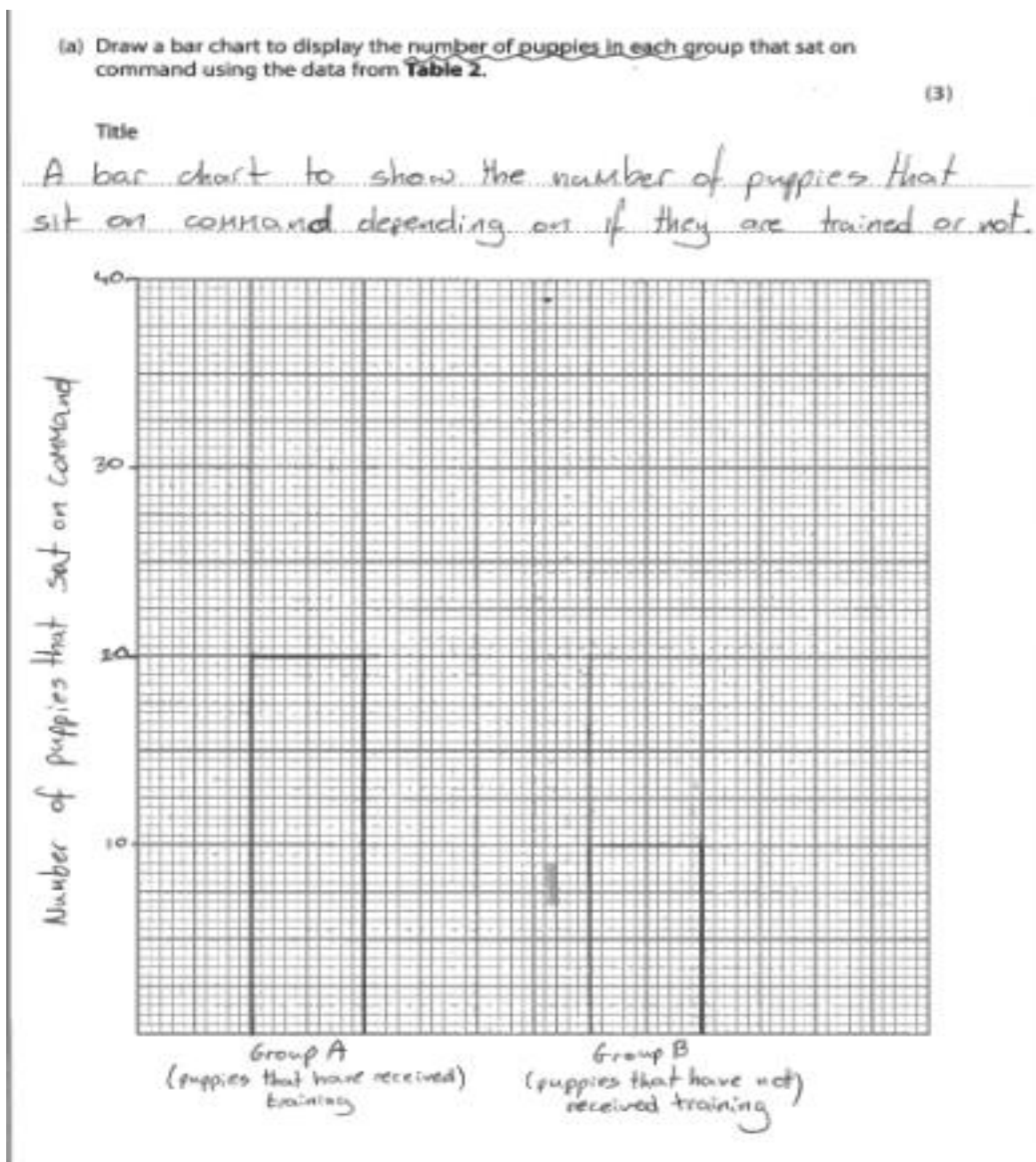
This response gained 3 marks. Two marks for identification of Bandura study and justification of free will be due to past experiences. One mark for second weakness for identification of social learning theory being deterministic but no clear justification mark.

Q06a

Most candidates were able to attempt to draw a bar chart. For 3 marks, candidates had to state an appropriate title. The quality of titles produced by candidates varied, those who scored the mark were able to accurately state both variables clearly e.g. “number of puppies” and “those who had received training and those who did not”.

A minority of candidates did not attempt the title. A second mark was awarded for labelling the axes correctly, this like the title varied with some well-detailed axes from many candidates. The final mark was for the correct plotting the data points which many candidates did well.

Not all candidates made use of the graph paper and instead plotted their graph in one small area, this is not recommended as it makes plotting the data difficult for the candidate. A few candidates did not attempt this question at all.



Examiner comments

This response gained 3 marks.

One mark for correct/appropriate title; one mark for correct/appropriate labelling of axes; one mark for correct plots of data points.

Q06b

Candidates who were prepared for this type of question answered it very well, successfully providing the calculations needed for 4 marks. The completion of columns O-E was completed correctly by many candidates. $(O-E)^2$ again was generally well completed. However, the latter two steps for additional marks were not as accurate and resulted in some candidates only achieving 2 marks. A minority of candidates did not attempt this question or did not complete the final step to two decimal places as asked by the question. For some there were early errors in calculations.

(b) Complete Table 3 to calculate the chi-squared for Claire's data to two decimal places. (4)

		Observed	Expected	O-E	(O-E) ²	(O-E) ² /E
Group A: Puppies that had received the training	Puppies that sat on command	20	15	5	25	1.67
	Puppies that did not sit on command	5	10	-5	25	2.5
Group B: Puppies that had not yet received the training	Puppies that sat on command	10	15	-5	25	1.67
	Puppies that did not sit on command	15	10	5	25	2.5
Chi-squared =						8.34

Table 3
SPACE FOR CALCULATIONS

Chi-squared (χ^2) 8.34

Examiner Comments

This response gained for marks. All 4-marking points are correct culminating in 8.34.

Q06c

Many candidates attempted this question with some success in terms of providing a strength of Claire using quantitative data in her investigation. However, many candidates did not link their answer to the scenario which resulted in limited access to marks. Candidates who did access full marks were able to identify a strength in Claire using quantitative data in her investigation and then went onto justify this strength in relation to quantitative data. The most successful answers referred to objectivity and reliability.

(c) Explain **one** strength of Claire using quantitative data in her investigation.

(2)

Quantitative Data allows Claire to be objective in her findings which ensures she collects reliable and useful results. This makes it easier also to compare the findings of the two groups.

Examiner Comments

The response gained 0 marks. There is no reference to the scenario so becomes a generic response.

Q07

Many candidates were able to grasp the A01 mark for identifying a strength and weakness of operant conditioning. They often referred to supporting evidence from Skinner (1948) rats study for the strength and incomplete explanations/alternatives of learning for a weakness. Candidates sometimes went onto develop their justification mark as supporting operant conditioning as explained by positive reinforcement for example for the strength and for the weakness suggesting alternative explanations such as social learning theory of imitation/modelling and not due to the consequences of an action.

Additional strengths quite often focused on application to therapies such as token economy and for weaknesses the absence of free will as an alternative, the alternative of biological factors amongst others. For many answers there was a lack of justification which did limit the number of marks that could be awarded to some candidates. In some cases, candidates provided generic answers or answers that focused on strengths and weaknesses of studies and not operant conditioning theory.

There was a minority of candidates who left this question blank indicating that there may have been inconsistencies on time spent on other areas over this question.

7 In learning theories you will have studied operant conditioning.

Explain **one** strength and **one** weakness of operant conditioning.

Strength

A strength of operant conditioning is that it is not harmful to use on participant, as it is simply a system of rewards + punishment.

Weakness

A weakness of operant conditioning is that it can be incredibly difficult + time consuming to use this method on adults, as their minds are harder to manipulate than a child's.

Examiner Comments

The response gained 0 marks. There is no clear identification or justification of a strength or weakness for any marks.

Q08

Many candidates provided good answers for an alternative treatment for phobias to systematic desensitisation. The most common and well answered tended to select flooding as a treatment for phobias. A minority of candidates wrote about token economy.

The best answers successfully incorporated A01 and A03 points throughout their answer, in addition to providing a balance of strengths and weaknesses in terms of aspects of one alternative treatment for phobias from learning theories other than systematic desensitisation. Some candidates' answers were affected by a lack of clear reference to A01 knowledge of their treatment, either describing the treatment without reference to A03 or evaluating the treatment without reference to the knowledge of the treatment of phobias. Balance in some candidate answers again limited their level in addition to an absence of coherent chains of reasoning which then could not always be presented in a balanced conclusion.

As a levels-based question, it is important to note that an A01/A03 response was required which needed to show equal emphasis between knowledge and understanding versus evaluation and conclusion. Therefore, those candidates who scored highly on both skills were able to demonstrate accurate knowledge and understanding of one treatment for phobias based on learning theories, other than systematic desensitisation.

8 Evaluate one treatment for phobias based on theories of learning, other than systematic desensitisation.

(8)

The other treatment is flooding. Flooding is where you get the person to face their phobia automatically instead of over time by throwing them into the deep end. This is why it is also known as exposure therapy.

One advantage of flooding is that since it ~~is~~ involves getting the person to face their phobia quickly it means that the treatment for the phobia doesn't take as long + isn't as long a process.

However, one disadvantage is that it can cause the person a lot of stress which could lead to psychological harm. This is because you are throwing them into the deep end + getting them to face + deal with their phobia without coming to terms with it + slowly easing them in. Also, flooding cannot be used for classical conditioning as it is a gradual + step by step approach

Another disadvantage is that it isn't preventing their phobia from coming back in the future. It could lead to systematic desensitisation where their phobia comes back suddenly + without the process of re conditioning. It will not have extinguished

Examiner comments

This response gained 3 marks. A01 - Level 1 – demonstrates isolated knowledge and understanding. A02 Level 2 – statement with some development in the form of mostly accurate and factual material, leading to a superficial conclusion.

Q09

The majority of candidates were able to attempt this question with some success. In terms of each study, Raine et al (1997) was well attempted with knowledge reference to PET scans, sample, results and conclusions; however, there were key omissions for some of these elements within candidates' answers. For some candidate's coverage of Little Albert (1920) was good, with the strongest candidates referring to the objects presented, laboratory procedure and sample used. A minority of candidates applied knowledge that was unrealistic of one or both studies asked about.

Many candidates were able to evaluate their studies in terms of generalisability and/or validity. Common answers referred to Little Albert (1920) study lacking generalisability and/or lack of ecological validity from taking place in a laboratory environment. For Raine et al. (1997) answers focused on increased validity through matching participants in terms of sex, age, medication in addition to the lack of validity from using a Continuous Performance task (CPT), amongst others.

Candidates' answers were restricted in terms of reaching the higher levels for different reasons, an imbalance between Raine et al (1997) and Little Albert (1920) or answers having strong A01 knowledge but limited A03 (or vice versa). There was a lack of a well-developed argument for many. In terms of A03, some candidates did proceed with providing evaluative statements, but these were quite often underdeveloped, for example 'lacked ecological validity' but did not go on to say why. A minority of candidates did not understand what was meant by validity and/or generalisability, for these answers both studies quite often had knowledge but showed limited development in terms of A03, meaning progression to higher level bands was not possible. In addition, some candidates did not apply the requirements of the question and provided evaluative point in relation to reliability amongst other areas.

Occasionally candidates did not finish their answers to this question which may indicate timing issues for some. This was even more apparent in answers that provided an excellent overview of Raine et al. (1997) or Little Albert (1920) but could not provide the same quality for the other study before they were finished.

As a level-based question, it is important to note that an A01/A03 response was required which needed to show an equal emphasis between knowledge and understanding versus judgement and conclusion. Those candidates who scored highly on both skills were able to demonstrate accurate and thorough knowledge and understanding of Raine et al (1997) and Little Albert (1920) in addition to key application of validity and generalisability throughout their answers.

This A01 knowledge was displayed with logical chains of reason throughout their answers, not just in the second half of the essay. This, therefore, allowed these candidates to demonstrate an awareness of competing arguments throughout their answer, enabling them to provide a balanced response. The most able candidates provided answers which did not just provide knowledge then evaluate what was being asked in the question but demonstrated knowledge and evaluated through each statement or paragraph the candidate was writing about - these allowed candidates to access quickly and efficiently the balanced judgement/ decision elements of the level banding.

SECTION C

- 9 Evaluate the classic studies by Raine et al. (1997) and Watson and Rayner (1920) in terms of validity and generalisability.

(12)

Raine et al wanted to investigate the differences in brain structures between murdering NGRIS and non-murdering NGRIS. Raine's procedure had high internal ~~validity~~ validity because a standardised procedure was followed thoroughly. The participants were not given their medications since 2 weeks prior to the test to ensure that there was no affect on brain activity caused by the medicine. Also, all participants went under a PET scan and had to perform a 32-min target recognition task so that their brain activity could be measured for the same task. Moreover, Raine matched his participants carefully with 41 NGRIS and 41 pts in the control group, both groups contained 39 male pts and 2 female pts who were matched for age and gender. Also, there were 6 schizophrenics in both groups. Due to the high controls in sample and procedure, Raine has high internal validity but low ecological validity due to the artificial setting.

Alternatively, Raine has low generalisability for the wider human population because the sample included only NGRIS and ~~murderers~~ criminals but the results may be generalisable to a target population of murderers

as the findings may be used to support NQRI cases.

Similarly, Watson and Rayner wanted to investigate if a fear response may be elicited through ~~a~~ classical conditioning and if the response can be generalised to similar stimuli and be extinguished by reversal. Watson and Rayner ~~used~~ performed their investigation on a single child who was "stolid" and lacked fear responses to most stimuli. Little Albert was an 11 month old child and was different in terms of emotional capabilities in comparison to others his age. Therefore, ~~states~~ the findings of Watson and Rayner may not be generalisable to a wider population because Little Albert was only a child and he had ^a ~~elicit~~ rare response to generally fear-related stimuli.

However, Watson and Rayner ensured that the validity of the experiment was high in terms of ecological and internal validity. This is because the conditioning ^{sessions} ~~settings~~ often took place in a hospital lab room because that was the workplace of little Albert's mother and the conditioning ~~a~~ was also observed in a different setting of a theatre. The changes in the situation suggest that there were few situational variables impacting the fear response. Moreover, Watson and Rayner used a scheduled timetable to condition Albert into associating a white rat with a fear response. The sessions took place in intervals of weeks, days and a month. This ensured that the conditioned response would not be extinct. ~~mo~~ Also, the fear stimuli of the banging rod noise was presented with the white rat at a fixed number of events. This further increases the validity of the study.

Overall, both Raine et al and Watson and Rayner have high validity due to controlled variables such as age, medications and intervals of conditioning but have low generalisability due to the samples of NGRTS and the sample of using only one ~~boy~~ male child. Therefore the studies may have high scientific credibility but cannot be used to support many theories

Examiner Comments

This response gained 8 marks. A01 – Level 3 demonstrated accurate knowledge and understanding. A03 – Level 3 developed arguments using mostly coherent chains of reasoning leading to a conclusion being presented. Grasp of competing arguments but evaluation a little imbalance.