Examiners' Report
Principal Examiner Feedback

Summer 2019

Pearson Edexcel Advanced Subsidiary GCE

PSYCHOLOGY 8PS02: Biological psychology and learning theories

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Introduction

Candidates overall coverage of both biological and learning was consistent across the whole of the paper. Skill application across both areas was good and reflected that candidates were prepared for all aspects that the specification covers.

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 minutes paper.

Application of scenarios was better this year and again reflects the growing awareness that candidates have of using the context material within their answers. It was disappointing to read some answers which portrayed excellent knowledge and understanding of the question content but failed to apply any areas asked for by the question, resulting in completely generic responses.

Longer responses were generally well attempted with a continuing development towards understanding key taxonomy and what the question is truly asking. Conclusions embedded within answers for many candidates supported their answers, allowing them to access higher marks. Candidates who achieved higher marks supported their answers with relevant research studies, theories, application, amongst other areas.

There was an improvement in candidates understanding of most command verbs on this paper, this applied consistently across all terminology would benefit candidates further.

1a

Lots of candidates were able to state the purpose of a PET brain-scanning technique for one mark. Many candidates were able to identify the correct knowledge associated with PET scans and embed this within their answers of which reference to brain activity seemed to be the most common. Other answers were credited if relevant to the PET brain-scanning technique. There was some confusion in terms of fMRI and CT scans, with a minority of candidates providing answer for these scanning techniques and not PET brain-scans.

1b.

Candidates produced a variety of responses mostly focusing on strengths and weaknesses of PET scans; however, there was some confusion in candidate answers in the differences between fMRI, PET and CAT scanning techniques. This resulted in candidates referencing strengths and weaknesses focusing on evaluation points from other scanning techniques which were not credible.

Candidates commented on a variety of strengths and weaknesses applicable to PET brain-scanning techniques. Strengths focused mostly on the validity of PET scans as a measurement of brain activity, whilst weaknesses focused on ethical issues to do with the radioactive glucose tracer, amongst other points.
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.

A significant number of candidates were able to grasp the A01 mark for the identification of the strength/weakness of the PET scan however justification was not expanded indicating a lack of understanding on the part of candidates. This meant that candidates could not be awarded the A03 mark as their answers did not have the elaboration to explain why it was an actual strength/weakness.

2a
The majority of candidate answers focused on Li et al (2013) or Brendgen et al. (2005) with a minority of candidates describing Van der Oever et al. (2008). Accuracy in candidate answers depended on how well they knew the procedure of their contemporary study. Answers mainly focused on how the studies had acquired samples, methods, apparatus used, amongst other credible areas – if accurate.

Some candidates did not read the question in terms of procedure and provided answers in terms of results, aims and conclusions which did not gain any marks. A minority of candidates left this answer blank which may indicate confusion in terms of what was needed for this paper, incomplete preparation in terms of all key areas of the contemporary studies or timing issues.

2b.

Many candidates were able to grasp the A01 mark for identifying a strength and weakness of their chosen contemporary study they had learned about in biological psychology. Answers varied in content depending on the choice of study. For Brendgen (2005) et al. answers often referred to the strength of the Preschool Social Behaviour Scale (PSBS-T), weaknesses favoured issues with the way the study measured how identical the twins were, lack of control by not asking for information about the father and how unrepresentative using twins as a sample in determining aggression. For Li et al. (2013) the use of matching of variables as a control, the sample images being used for all participants in both heroin and non-heroin groups were commonly used. In terms of weaknesses the sampling issues of only using male participants, the ethics surrounding the use of images that could potentially trigger a relapse were seen quite often. For Van der Oever er al (2008) applications to NHS saving on money as a strength and the problems of using rats in terms of generalisability to humans for a weakness were the most popular.

For many answers across all three studies 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 genetic answers on sampling, controls, and methods which could not be clearly credited as a strength or weakness of the chosen contemporary study. Candidates also, at times provided inaccuracies in terms of their A01 knowledge about their chosen contemporary study, again limiting the marks that could be awarded.

There was a minority of candidates who left this question blank indicating that there may have been inconsistencies on time spent by candidates learning their chosen contemporary study, timing issues when completing the exam paper or confusion between classic and contemporary studies even though the studies were listed in the question. This was seen in a few candidate answers when they provided answers relative to Raine et al. study in terms of strengths and weaknesses.

3a

Candidates for this question provided a mixture of answers that were awarded marks
accordingly. Some candidates provided a hypothesis which did not meet the requirements of the question as it states that a non-directional (two tailed) alternative hypothesis is needed. Some candidates failed to realise that the hypotheses needed to be correlational and provided an experimental hypothesis or variations; indicating “difference” or “effect” - some form of causative statement.

Marks were awarded according to the elements of the hypotheses for example stating “a relationship” or equivalent and operationalising one or more of the variables. A significant number of responses from candidates were accurate and well operationalised showing knowledge of the non-directional (two tailed) alternative hypothesis Candidates would have benefitted from ensuring that all parts of the hypothesis were fully operationalised for example, “number of hours exercised in a week”. Quite a few candidates provided fully operationalised non-directional (two tailed) hypotheses for Daniel’s investigation which gained full marks.

3b

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 “d” and “d^2” were completed correctly by many candidates, although inaccuracies in calculations meant candidates lost marks later in their answers. Several candidates did not attempt this question and centres would be advised to ensure that candidates spend time learning this type of question as it is a clear mathematical expectation of the specification.

3c

A significant number of candidates answered this question with the correct answer. The question clearly states that candidates needed to express their answer in its simplest form which some candidates were able to do. There were minor anomalies in calculations from some candidates but the majority of candidates did attempt this question.

3d

Some candidates were able to identify an improvement for Daniel’s investigation, however many of these were either generic or not focused on validity which the question specifies. Candidates who were able to identify a validity improvement in relation to Daniel’s investigation quite often could not justify their answer for any further marks. Several

students provided answers that incorporated weaknesses of Daniel's investigation, the question clearly specifies one improvement – therefore could not be credited for their answers. Stronger candidates would apply their improvement to Daniel's investigation, giving specific details about Daniel's study on self-reported wellbeing in terms of their identification of an improvement, going on to justify their answers with reference to for example, population validity, ecological validity amongst other justification options.

4.

This question was attempted by most candidates in terms of an evaluation of the role of the central nervous system (CNS) and neurotransmitters in explaining human behaviour. Most able candidates referenced in knowledge of neurotransmitter transmission, examples of different neurotransmitters and how they explain human behaviour, structure of the CNS, impact of damage to areas of the brain – amongst many others. There were some inaccuracies in candidate answers in terms of several of these areas, in which candidates confused what different neurotransmitters did for example in terms of human behaviour.

For many candidates, there was a good use of Raine et al (1997), neurotransmitters applied to aggression, Olds and Milner (1954), alternative theories and issues relating to reductionism. The answers awarded higher marks successfully incorporated A01 and A03 points throughout their answers, in addition to providing a balance of strengths and weaknesses in terms of the role of CNS and neurotransmitters in explaining human behaviour. Some candidate answers were influenced by a lack of reference to A01 knowledge of the CNS and neurotransmitters, attempting to evaluate these areas without reference to knowledge about them.

As a level 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 the CNS and neurotransmitters in explaining human behaviour.

5a.

The majority of candidates were able for one mark to define natural observations in terms of familiar environments of the participants, own environments, natural setting or equivalent. A minority of candidates confused natural observations with other methods.

This was generally a well answered question.

5b.
Many candidates were able to grasp the A01 mark for identifying a strength and weaknesses of the naturalistic observational method. For many answers, there was a lack of justification which resulted in candidates only receiving partial marks for the strength and/or weakness. Strengths favoured reference to ecological validity whilst weaknesses focused for many candidates on extraneous variables. Candidates at times provided inaccuracies in terms of the A01 knowledge of naturalistic observations, quite often confusing them with other types of observations. This quite often these transferred into an inaccurate A03 justification, again limiting marks that candidates could access across the strength and weakness.

6a
Some candidates were able to describe “spontaneous recovery” as a feature of classical conditioning for two marks. Most of these candidates provided answers which referred to the CR and CS association suddenly reappearing after extinction or after a period of time or example – for up to two marks. Some candidates gave examples for part of their answer again focusing on different areas highlighted above or equivalent credible answers.
A few candidates left this blank or confused the “spontaneous recovery” term with other features from classical conditioning theory, gaining no marks.

6b
The majority of candidates attempted this question with some success. Most candidates were able to make reference to the Anastasia context showing a clear understanding of A02 questioning. Lots of candidates referred to Anastasia falling off her bike producing an UCR of fear, following through to Camban becoming the CS associated with a CR of fear. A minority of candidates failed to include the Anastasia context in their answer, often providing answers with reference to classical conditioning procedure/theory. Occasionally candidates included in their answers supporting research from Pavlov salivating dog study or other strengths/weaknesses of classical conditioning theory within their answers. Generally, candidates were aware of the classical conditioning theory/procedure however some candidates confused the different elements or areas from within the scenario therefore resulting in answers that were incorrect.

7a.
Most candidates were able to calculate the mode for the number of anti-social behaviours recorded in programmes filmed in 2000. A minority of candidates calculated the mode for 2016 instead of 2000 as the question asks. A few candidates confused the calculation of the mean with the mode and provided a mean answer which was not credible.

7b
Most candidates were able to calculate the range for the number of anti-social behaviours recorded in programmes filmed in 2016. A minority of candidates left this answer blank or confused this with other calculations, providing incorrect answers.

7c
Many candidates were able to gasp at least one A01 mark for identifying a strength/weakness of Brian using thematic analysis to analyse the television programmes. Lots of candidates attempted to identify a strength/weakness of thematic analysis, however, many did not apply their answers to Brian's analysis of the television programmes. There was also a number of inaccuracies in terms of strengths and weaknesses of thematic analysis, in addition to a number of answers that did not focus specifically on thematic analysis. Stronger answers provided an identification of the strength/weakness for one mark which they justified – embedding within their answers reference to Brian's use of thematic analysis to analyse the television programmes.

8
A number of candidates identified two ways Denise could make her investigation scientific then went on to justify each in terms of the requirements of the question – referring to the context within their answers. Many candidates suggested the standardised procedure that Denise could put in place by getting all pupils to complete the same mathematical calculations and then went on to justify this with replication of the task for all pupils testing for reliability which they referenced in terms of being scientific. Better answers clearly referred to justification criteria and why what they had identified would be a way to ensure the investigation was scientific. Some candidates prefaced their answers with Denise's investigation but then gave only generic statements with no reference to the context within their answers. This meant that these candidates were limited on the marks available for A02. Some candidates described what Denise did with no justification of how she would make sure her investigation was scientific. A minority of candidates did not attempt this question or provided answers that were purely generic.

9.

Many candidates provided good answers of operant conditioning showing some knowledge of the theory to explain human behaviour. More able candidates referenced knowledge of learning through consequences, with additional knowledge coming from many areas including punishment, positive reinforcement, negative reinforcement and schedules of reinforcement. The use of examples to explain knowledge points were seen in many candidate answers; there was some variation in accuracy on this.

For many candidates, there was a good use of Skinner's (1948) animal studies on rats, Thorndike's (1911) studies, alternative explanations of operant conditioning, the application of reductionism – these being the most common ones seen. Some application of therapies was seen in the use of token economy programmes which were generally well applied.

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 operant conditioning. Some candidates' answers were affected by a lack of clear reference to A01 knowledge of operant conditioning theory, either describing the theory without reference to A03 or evaluating the theory without reference to the knowledge of the theory. 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 operant conditioning in explaining human behaviour.

10.

Many candidates responded well to the demands of this question in terms of their awareness that all three skill levels were being asked about. Many candidates were able to apply the Melissa scenario to both social learning theory and evolutionary theory. From social learning theory, many candidates displayed an understanding of the processes of social learning theory in terms of observing, imitation and role models. For evolutionary theory natural selection, survival of the fittest, passing on of genes amongst others were seen. As a result, many candidates were able to fulfil this requirement of the question.

A significant number of candidates failed to embed within their answers clear A01 and instead focused on A02. In many cases these although written well did lack the A01 necessary for the requirements of this level based question. Candidates who did this more successfully referred to Melissa observing fashion clothes in magazines and imitating her favourite celebrity role model in terms of A01 knowledge of the theory. For evolutionary theory, this focused towards the aggressive traits the boys showed Melissa to impress her in terms of A01 knowledge of the theory.

Within some candidate answers there were clear A03 points with the Bandura studies, Buss (2005), alternative explanations for the behaviour in the context and ideas of reductionism being the most common seen. Less able candidates seemed to embed A01 and A02 within their answers but this was not sustained throughout the A03 requirements.

As a levels based question, it is important to note that an A01/A02/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 all skills were able to demonstrate accurate and thorough knowledge and understanding of social learning theory and evolutionary theory in addition to a sustained application of relevant evidence from the context along with logical chains of reasoning being presented in a balanced conclusion.

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.