

# Examiners' Report

## June 2017

GCE Psychology 9PS0 03

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## Introduction

Candidates generally found this paper accessible with the vast majority being able to provide a response to all questions in the time allowed. Weaker responses were generic and this hindered candidate performance as a cohort, so centres should remind candidates to always give a contextualised response when they are provided with a scenario / stem / context.

For research methods (section A) the best responses applied all of their ideas to the context/ scenario in the question. When there is a context/scenario provided and the question references back to the study (e.g. 'in the iPhone effect study') then candidates need to explicitly link their ideas back to the scenario/context. Weaker responses were commonly generic for 1b, 1c, 1d and 2b, which limited performance for these questions. Unfortunately it was common to see misconceptions and a misunderstanding of ethics for animal research for 2(b) which centres may want to revisit when preparing candidates for future series.

For the review of studies (section B) the best responses for Q3 engaged with the scenario/ context as there was no AO1 being assessed. Weaker responses gave purely generic statements in 3(b). Candidates were able to access Q4 as it was regarding two compulsory studies, but only the stronger responses focused on the demands of the question and gave more developed arguments regarding culture and gender. Candidates need to remember that rote learned recall of two studies will gain limited credit whereas those who focus on the demands of the question directly will be more rewarded.

The final section was issues and debates (section C) where candidates struggled with Q5 but accessed Q6 well. For Q5 the majority of candidates were able to offer lots of AO1 and AO2 but did not offer enough AO3 analysis, interpretation, and evaluation, so overall gave an imbalanced response. The final question provided an opportunity to stretch and challenge candidates, and this essay discriminated well between candidates, with the best responses giving a focused answer with a lot of specific detail to support their arguments.

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

## Question 1 (a)

Q1a required candidates to state a fully operationalised two-tailed hypothesis for the study.

Candidates generally performed well on this question, with the majority scoring either 1 or 2 marks. Most gave a two-tailed hypothesis, whilst a minority gave a one-tailed or null hypothesis. The best responses fully operationalised both the IV and DV and used a single sentence in a clear statement.

### 1 The iPhone Effect

Researchers wanted to investigate whether the presence of mobile phones influences the quality of in-person social interactions. In a field experiment, 100 pairs of participants were observed during the course of a 10-minute conversation.

The researchers recorded whether participants placed a mobile phone on the table or held it in their hand. The researchers measured the level of connectedness and empathetic concern at the end of the conversation for those with a mobile phone present and those where it was absent.

(Source: adapted from Mirsa et al. (1999))

(a) State a two-tailed (non-directional) hypothesis for the iPhone effect study.

(2)

There will be a significant difference in connectedness and empathetic concern ~~diff~~ between those that had a mobile phone present or absent during the conversation.



#### ResultsPlus Examiner Comments

This response was awarded 2 marks. The IV is fully operationalised and the DV is also fully operationalised. It is a two-tailed hypothesis which is accurate.



#### ResultsPlus Examiner Tip

Candidates should always fully operationalise their IV and DV when formulating a hypothesis.

## Question 1 (b)

Q1b required candidates to give an explanation of why the experimental/research design was appropriate for the study.

The best responses accurately identified the design for the AO2 mark, and then explained why this is relevant to the study given. The most common responses related to avoiding demand characteristics or avoiding order effects.

Unfortunately the majority of candidates either misunderstood the question and explained why a field experiment was appropriate, or made an assumption that a matched pairs design had been used when it had not been. Candidates are reminded to read the question carefully and centres are advised to reinforce to candidates what an experimental/research design is referring to (see specification point 9.1.3).

(b) Explain why the experimental/research design used in the iPhone effect study was appropriate.

(2)

The field experiment design was appropriate because you would need participants to believe the scenario is real to accurate responding behaviour and thus giving the study validity.



### ResultsPlus Examiner Comments

This response was awarded 0 marks. The candidate has misunderstood the question and has attempted to explain why a field experiment was appropriate.



### ResultsPlus Examiner Tip

Centres are advised to reinforce to candidates what is meant by an experimental/research design.

## Question 1 (c)

Q1c required candidates to give an explanation of one strength of using a field experiment for the study.

The best responses gave a full explanation of a strength of using a field experiment in the context of the study. Weaker responses gave a brief explanation for 1 mark or candidates gave a purely generic response.

The two most common strengths of using a field experiment included increased ecological validity and to reduce demand characteristics.

Candidates need to remember to apply all ideas to the stimulus or context when provided with one. The questions need contextual responses with explicit links to the study given in the question, which is made clear in the question being phrased.

(c) Explain **one** strength of using a field experiment for this study.

(2)

One strength of using a field experiment for this study was that it allowed participants to be in a natural environment as they normally would be with their phones. This therefore aids the validity of the results as the experimenter could gain naturalistic results from the participants and maintain mundane realism.



### ResultsPlus Examiner Comments

This response was awarded 2 marks. The candidate gives a full explanation of one strength of using a field experiment (ecological validity) which is in context of the study.



### ResultsPlus Examiner Tip

It was made clear in the SAMs and specimen papers that generic responses score 0 marks for questions such as this. Therefore, candidates are advised to contextualise all responses in this examination where possible in future series.

## Question 1 (d)

Q1d required candidates to give an explanation of two weaknesses of using the ranked scale questions for the study.

There was a mixed performance on this question with candidates spread across the full mark range. The best responses gave two appropriate weaknesses of using rank scales in the context of the study. Weaker responses were either generic or did not fully justify their weaknesses so could not gain maximum credit for each weakness. Some candidates gave general weaknesses of the study whereas the question asked for two weaknesses of using rank scales.

Where there is a context or scenario provided (as there has been here), candidates need to give a contextual response, which is directly linked to the scenario for each idea presented, as specified in the question.

- (d) To measure connectedness and empathetic concern ranked scale questions were used where 1 indicated not close (connectedness) or no concern (empathetic concern) and 7 indicated very close (connectedness) or high concern (empathetic concern).

Explain **two** weaknesses of using ranked scale questions in the iPhone effect study.

(4)

Participants may have different ideas about what is considered to be not <sup>close</sup> or very close, so there is subjectivity in their interpretation of the scale. This reduces the reliability and validity of results <sup>as not everyone will answer in the same way</sup>. The participants are limited by the closed questions - they aren't able to express the meanings and motives for their behaviour simply by choosing a number. Therefore, as their findings are ~~mainly~~ quantitative, they may lack validity, as it doesn't tell them why the presence of a phone ~~or~~ affects levels of connectedness and empathetic concern.



## ResultsPlus

### Examiner Comments

This response was awarded 4 marks.

The first mark is given for the different interpretation of the scales applied to the context, which is justified fully for the AO3 mark. Therefore, the first weakness scored 2 marks.

The third mark is given for not being able to express the meanings or motives for their behaviour as the ranks are quantitative. This is then fully justified for the AO3 mark and the whole weakness is applied to the context at the end. The second weakness also gets 2 marks.



## ResultsPlus

### Examiner Tip

Where candidates are asked for 'two' of something (in this case two weaknesses), they must link both back to the context/scenario in an explicit manner (or it would be generic and no AO1 is being assessed here).



## Question 1 (e)

Q1e required candidates to explain three appropriate conclusions that could be made using the data in Table 1.

Candidate performance varied, with them accessing the full range of marks. The best responses gave three accurate conclusions and supported each conclusion with evidence from the table. Weaker responses either gave basic conclusions with no evidence, or gave inaccurate conclusions. Candidates tended to be able to explain the mean scores more successfully than standard deviation scores. Some candidates just repeated data from the table without any form of conclusion, judgement or analysis, which were required for this question.

(e) The results of the study are given below in **Table 1**.

|                    | Mobile phone present |                    | Mobile phone absent |                    |
|--------------------|----------------------|--------------------|---------------------|--------------------|
|                    | Mean                 | Standard deviation | Mean                | Standard deviation |
| Empathetic concern | 3.54                 | 0.91               | 5.85                | 0.66               |
| Connectedness      | 5.05                 | 0.76               | 5.36                | 0.64               |

**Table 1**

Analyse the data in **Table 1** to explain **three** conclusions that the researchers might draw from these results.

(6)

Conclusion 1

With the mobile phone absent, the mean was higher for <sup>significantly</sup> empathetic concern (5.85 without phone, 3.54 with phone) highlighting that a person without a phone and concentrating more on the conversation will have more empathetic concern than those with a phone.

Conclusion 2

The connectedness of people talking to another person with a phone (mean = 5.05) didn't significantly differ from those without a phone (mean = 5.36) highlighting that the presence of a phone doesn't have much effect on the connectedness the person has towards the other person.

### Conclusion 3

People who had a phone during the conversation, standard deviation was 0.91 and 0.76 compared to those without a phone so 0.66 and 0.64. This shows those people who had a phone during conversation varied more in their answers than those that didn't so individual difference may also be a factor.

(Total for Question 1 = 16 marks)



#### ResultsPlus Examiner Comments

This response was awarded 6 marks overall.

Conclusion 1 had an appropriate conclusion about empathetic concern and supported this with relevant evidence from table 1 so was given 2 marks.

Conclusion 2 had an appropriate conclusion about connectedness and supported this with relevant evidence from table 1 so was given 2 marks.

Conclusion 3 had an appropriate conclusion regarding the standard deviation scores for connectedness and supported this with relevant evidence from table 1 so was given 2 marks.



#### ResultsPlus Examiner Tip

Candidates should give a conclusion when asked, not just repeat data from a source. Data can support or justify why a conclusion has been made, but is not in itself a conclusion.

## Question 2

Q2 required candidates to read and interpret the stimulus / context and then use this for parts (a) and (b) that followed. Overall candidate performance varied across the full mark range, with the majority scoring between 0-6 marks (out of the 8 available).

Part (a) required candidates to explain one practical application of the study given in the question.

The best responses gave a fully justified practical application of the study which was relevant and suitable. Weaker responses gave either a brief application for 1 mark or did not offer a relevant practical application of the study.

Part (b) required candidates to justify whether using animals was appropriate for the study.

The best responses gave a range of relevant ideas for or against the use of rats in the study, with all ideas given in context of the study in the question. Weaker responses either offered some brief arguments for or against or alternatively gave generic statements about animal experiments. Generic arguments for or against the use of animals did not gain credit as they needed to be explicitly linked to the study for credit (as no AO1 was being assessed).

- 2 Researchers wanted to test the effect of prenatal alcohol exposure on the development of the hippocampus in the brain. They administered repeated 1g/kg doses of pure alcohol (ethanol) in a nutritionally adequate liquid diet to pregnant rats. Control groups were fed the same liquid diet except for the substitution of sucrose (sugar) for pure alcohol (ethanol).

The brains of 60-day-old offspring were investigated and those that were exposed to alcohol were found to have 20% fewer hippocampal cells compared to the control groups. Prenatal exposure to pure alcohol (ethanol) permanently reduced the number of hippocampal neurones without altering physical growth.

(Source: adapted from Barnes and Walker (1981))

(a) Explain **one** practical application of the above study.

(2)

The study above shows that prenatal alcohol destroys hippocampal cells. This can be applied to society and explain why ~~pregnant~~ pregnant women do not drink ~~drinks~~ alcohol.

(b) Justify whether the use of animals in this study was appropriate.

(6)

The use of animals in this study was <sup>justified,</sup> ~~justified,~~ ~~the~~ studies, if they can, have to use a lower class animal than human because ~~it~~ it is more ethical. However, because they are using rats ~~to~~ the results ~~a~~ can not be generalised to humans because of extrapolation of the results.

The study does not say how many rats they used, ~~but~~  
~~if~~ if the results can have been the same with  
fewer rats. Barnes and Walker should ~~as~~ have used a  
least amount of ~~a~~ rats to get their results.

Also permits have to be obtained before any study involving animals, these states that you can't harm to animals which this study does as it harms the 60-day old rats, this is a reason why the use of animals was not appropriate.



**ResultsPlus**  
Examiner Comments

For part (a) this response was awarded 1 mark. There is a relevant practical application of the study identified by the candidate, but it was not fully justified for the second mark.

Part (b) was awarded 1 mark. The first statement made by the candidate is generic and the bit about generalisability is not specific enough to gain credit. The mark is given for the idea of using the fewest number of rats, but does not fully justify this (perhaps with some link to the 3 Rs). The final statement on page 2 is inaccurate.



**ResultsPlus**  
**Examiner Tip**

Candidates need to give responses that are specific to the context given to them in the question. Generic answers will commonly score no credit so it is vital that candidates apply all their ideas to the scenarios given.

### Question 3

Q3 required candidates to read and interpret the stimulus / context and then use this for parts (a) and (b) that followed. Overall candidate performance varied across the full mark range, with the majority scoring between 0-6 marks (out of the 8 available).

Part (a) required candidates to explain what the information given in the question regarding the observed value meant for the outcome of the study.

The best responses used the information they had been given to compare the observed/ calculated value with the critical value and then justified what this meant for the study findings. Weaker responses gave a brief statement of either comparison of the observed/ calculated value with the critical value or gave a general yet accurate statement about the results (both scored 1 mark).

Part (b) required candidates to explain how useful social learning theory could be in accounting for the findings of the study.

The best responses applied the main concepts used in social learning theory to the findings of the study and gave supporting evidence or counter arguments to fully justify their ideas. Weaker responses focused only on the application of the theory, usually with generic statements related to social learning theory.

### 3 Superman vs The Joker

Playing computer video games is a very popular pastime, which has been suggested to have an influence on human behaviour. The characters within the games may encourage people to act in particular ways after engaging with the game for a period of time.

To assess the influence of computer video game characters on behaviour researchers recruited the help of 60 students aged 17 to 37 years old. The participants were divided into two groups where they played a violent computer video game as either Superman (a hero) or The Joker (a villain). Those assigned as Superman (a hero) had to protect another character from threats (prosocial behaviour) whereas those assigned as The Joker (a villain) had to attack another character (antisocial behaviour).

After 15 minutes participants were thanked and they left the laboratory where an apparently lost letter was lying on the floor. Researchers noted the number of participants who posted the letter in a postbox, which was close by, and those who ignored the letter. Those who posted the letter were considered to be acting in a prosocial manner whereas those who ignored the letter did not act prosocially.

(Source: adapted from Happ, 2013))

(a) The results of the Superman vs The Joker study are given below in **Table 2**.

|                         | Superman (hero) | The Joker (villain) |
|-------------------------|-----------------|---------------------|
| Pick up and post letter | 14              | 6                   |
| Ignore letter           | 16              | 24                  |

**Table 2**



The researchers carried out a chi-squared ( $\chi^2$ ) test and found an observed value of 4.8 for a 5% level of significance with a one-tailed test.

Explain what this shows in terms of prosocial behaviour for those assigned to play as either Superman (hero) or The Joker (villain).

(2)

As the observed value of 4.8 is greater than the critical value of 2.71, this shows that there is a significant difference. Therefore, those who played the game as the hero observed and imitated the hero's behaviour and also posted the letter, which is a more thing to do than they learnt from the hero.

useful - bandura / other key - freud - catharsis

(b) Explain how useful social learning theory could be in accounting for the findings of the Superman vs The Joker study.

(6)

Social Learning Theory is fairly useful in explaining these findings. It suggests that those playing the hero or villain observed and paid attention to the behaviour that the character was exhibiting. They then retained this information to use at a later date (in this case, to use when they saw the letter lying on the floor). Participants then reproduced behaviour similar to what was exhibited in the game. For example, those who played as the hero were more likely to reproduce the behaviour as they ~~also~~ played as a character who would also commit good deeds. They would then be motivated to do this again. This may have been through vicarious reinforcement. For example, those who played as the hero may have seen the hero be rewarded or praised for their behaviour, making them want to feel the same. They may also feel internal reinforcement as doing a good deed may be rewarding for them.

~~themselves~~ themselves. Support for social learning theory comes from Bandura & who found that boys were more likely to imitate aggressive acts towards a bobo doll than girls, and boys were more likely to imitate models of their own gender. This supports the theory as it shows we learn through observation and imitation. However, this may not reflect real life learning as it was conducted in a lab which is an artificial environment, therefore reducing the ecological validity.

An alternative explanation comes from Freud, who would say that the reason almost the same amount of people in the two groups ignored the letter as those who picked it up is due to catharsis. As they didn't play a violent character, they weren't able to discharge any aggression meaning they were unlikely to pick up the letter. However, this is a fairly weak explanation as it doesn't explain why most of the people in the villain group that would have experienced catharsis still ignored the letter.

Overall, social learning theory is very useful in explaining why more people who played ~~hero~~ heroes picked up the letter. This means the findings have more practical applications in encouraging helping behaviour by making people observe more positive role models.

(Total for Question 3 = 8 marks)



For part (a) this response was awarded 2 marks. The observed and calculated values are compared as appropriate and then an accurate justification of what this means for the study is made by the candidate.

Part (b) was awarded 4 marks. The first mark (AO2) is for the idea of a participant observing, retaining the behaviour they saw in the video game to be used at a later date. A second mark (AO2) is given for the reproduction of the behaviour which is applied to the context appropriately. A third mark (AO2) is given for the idea of vicarious reinforcement which is applied accurately. The Bandura point is generic and needed to be linked to the scenario for credit. A final mark (AO3) was given for the use of Freud as an alternative explanation of the findings of the study, which was appropriately linked to the context.



## Question 4

Q4 required candidates to evaluate the cultural and gender issues of the two compulsory studies named in the question. Overall candidate performance varied across the full mark range, with the majority scoring 2-12 marks (out of the 16 available).

The best responses focused on evaluating the cultural and gender issues of the two studies, with reference to their methods and implications for the real world. They used terms relevant to culture (e.g. ethnocentrism) and gender (e.g. androcentrism) appropriately and considered both studies with accuracy. The AO1 knowledge and understanding was accurate and thorough and the AO3 showed a well-developed and logical evaluation of both culture and gender issues for the two studies. There tended to be multiple accurate judgements throughout the essay which led on from logical chains of reasoning throughout. These responses gave a consideration to the methods, implications of the studies, and consideration of culture and gender regarding the participants and the researchers.

Weaker responses tended to give lots of knowledge and understanding about the two studies, almost offering rote learned versions of the studies, with little consideration given to the culture and gender issues which should have been the focus of the response. A lot of candidates focused briefly on the generalisability of both studies in terms of the participant groups, with varying degrees of accuracy.

- 4 Psychology is the scientific study of the human mind and behaviour. The findings of psychological research have been used to help solve major problems across the world. However, it has been suggested that the findings of psychological research may have cultural and gender issues.

Evaluate the cultural and gender issues of Sherif et al. (1954/1961) and Rosenhan (1973), with reference to their methods and implications for the real world.

(16)

The gender issue within Sherif et al (1954/1961) study is that all of his participants were male and all of ~~the~~ the same age group. This limits the usefulness of the results due to the fact that the sample was chosen so poorly that we are only able to apply the results that were found to males of the same age group. ~~and~~ Because of this, we are also unable to generalize the findings of Sherif's study. However, regardless of

the gender issues of the study it is still reliable due to its ability to be replicated. Although the ethics of the study may be questionable due to the fact that the boys had conflict with each other which may have affected individuals in different ways to others.

Also the participants that he used were all American therefore bringing cultural issues as well as gender issues into the equation. Because of the cultural issues within Sheritt's study sample that he had used within his study the results he came out with will only be able to be generalized and applied towards 11-12 year old males from America. The validity of this experiment is also questionable due to the fact that the Realistic Conflict Theory was tested and proven however only within American males aged 11-12. Therefore we are still unsure as to whether the results would follow the same pattern if the sample was a lot more diverse.

Rosenhan et al (1973) carried out one of the most important and valuable studies of

all time the aim was to test the reliability of the DSM however many more things were discovered. Rosenhan's study consisted of pseudopatients who were required to see a doctor and complain about hearing strange things etc. By doing this they were testing the reliability of the DSM, as this is what would have been used to diagnose them (although there was nothing at all the matter with the pseudopatients).

It was proven that the DSM is unreliable when all of the pseudopatients (including Rosenhan himself) were admitted into mental institutes.

Baring in mind the symptoms they had shown were completely made up and nothing at all to do with mental health. However the pseudopatients were admitted into a number of different mental institutes where they were able to see how patients live and were treated which ~~was~~ was appalling. Rosenhan states

The pseudopatients all stayed in the institutes for a given amount of time (however as soon as they were admitted they stopped showing any of their mentally ill symptoms yet still weren't allowed to leave). Rosenhan himself stated that he felt as though they would only let you



leave when you had accepted your illness not  
when it had gone. However all of the <sup>pseudopatients</sup> patients  
eventually were released and so were  
the results from the study.

The entire study had a very diverse  
sample of pseudopatients therefore there  
are no gender issues within this study;  
however Rosenhan's pseudopatients were only  
admitted into institutions around the USA  
however this was across the entire country  
therefore the study is actually generalizable  
to the whole of America and not just a  
few states however we are unable to  
generalize it and apply the results to the  
rest of the world.



### ResultsPlus Examiner Comments

This response was awarded level 2 - 5 marks overall.

The candidate shows knowledge and understanding (AO1) of the methods of the two studies, but offers little consideration to AO3 in terms of evaluation, interpretation, analysis of culture and gender issues. There is no consideration of the implications for the real world of either study.

The response most closely fits level 2 as the AO3 produces statements with some development but this is not developed enough to satisfy the level 3 requirement. There is a weighting towards AO3 on this question (AO1 6, AO3 10), so therefore this response was pushed down to the bottom of level 2 due to the AO3 being so weak in comparison to the AO1.



### ResultsPlus Examiner Tip

Candidates need to focus on the question given and not reproduce rote learned responses - which in this case was knowledge and understanding of the two studies.

## Question 5

Q5 required candidates to evaluate how far the biological approach can explain human behaviour, such as that given in the scenario/context in the question. Overall candidate performance varied across the full mark range, with the majority scoring 0-8 marks (out of the 12 available).

This question assessed AO1, AO2, and AO3 so required knowledge and understanding of content or ideas candidates had learned during biological psychology / the biological approach, then to apply their ideas to the scenario, with analysis, interpretation, and evaluation of the content offered, leading to judgements and conclusions.

The best responses gave accurate and thorough knowledge and understanding of content from the biological approach, which was applied in a sustained way to the scenario/context given in the question. The candidate gave well-developed evaluative points to support or refute biological psychology as an explanation of human behaviour, with a link back to the scenario/context given in the question.

Weaker responses gave brief statements, of varying accuracy, from biological psychology with an attempt made to apply their ideas to the scenario. Very frequently candidates with weaker responses made no attempt to evaluate so made a limited attempt at addressing the question.

The most common ideas used from the biological approach were evolutionary theory, the influence of neurotransmitters, hormones, brain function or structure. Candidates commonly used learning theories (e.g. SLT) and personality theories (e.g. Eysenck) when using alternative explanations.

- 5** Companies that enable people to meet potential romantic partners are becoming increasingly popular. Some companies include a series of questions during registration that assist them in recommending which people are a potential 'match'.

Mandy decides to use a company to meet a potential romantic partner and is recommended a number of 'matches' who have similar interests. Mandy's mother disagrees with this approach and tells Mandy that romantic relationships are purely biological in basis.

Evaluate how far the biological approach can explain human behaviour such as meeting potential romantic partners. You must make reference to Mandy's situation in your response.

(12)

The biological approach suggests that all of our behaviour is a result of our biology, such as hormones, brain structure and genes which may all be used to explain behaviour such as meeting romantic partners. Such an approach is taking on the side of nature in the nature nurture debate.

One possible explanation to meeting romantic partners is evolution. This is the idea that our genes are passed down from our parents and evolve with natural selection. Using this explanation one could argue that individuals meet romantic partners to ensure that their genes are passed on to offspring. Without meeting such partners their genes would die out because they would not be able to pass them on. There is lots of supporting evidence for the theory of natural selection such as from Darwin and Hutton. Yet Ken and Shackleton seem to be most appropriate suggesting that when men feel threatened in a relationship they go into their female and act threatening towards other males. This therefore provides evidence for the fact that meeting romantic partners is due to evolution meaning Maslow's method is accurate in saying that romantic relationships have a biological basis. Such an explanation is argued to be highly credible since the theory of natural selection is widely accepted in the scientific community. Although it is refuted by creationists one would argue that God made humans the best way could be meaning we haven't evolved through survival of the fittest. Another potential explanation of behaviour such as meeting romantic partners is brain structure / functioning. Such an explanation of human behaviour is highly

credible since it relies upon objective, scientific methods like brain scanning. For example Kahn et al found evidence to suggest that aggression is a result of brain structure in a group of 41 males, because of abnormalities of functioning in the prefrontal cortex which is responsible for regulating behaviour and the amygdala which has a role in identifying threats. Such evidence doesn't cause interpretation and may suggest that behaviour is a result of brain functioning and that romantic relationships are a result of our biology.

Finally hormones can be used to explain behaviour and romantic relationships. There has been significant evidence from scientific methods like sound scanning in Bobbs et al. which suggest that testosterone causes aggression. Thus hormones may exist that influence romantic relationships. However evidence from such explanations is not internally valid because it is merely correlational and it is unknown of direction or causal link.

In conclusion there are high levels of evidence to suggest that behaviour is a result of biology. However the applications to romantic relationships generally seem to be weak other than that of the study of evolution which can explain romantic relationships through the need to create offspring to pass genes through natural selection.



## ResultsPlus

### Examiner Comments

This response was awarded level 2 - 5 marks. The AO1 knowledge and understanding is brief with some at the beginning of each idea presented and also some regarding Raine on page 2. There is AO2 application to the scenario/context at various points (mostly on page 1, but some on page 2 and a tiny bit on page 3). There is an attempt at evaluation with some on Raine (page 2) and use of correlational research (on page 3). Overall the AO2 and AO3 kept this in the middle of level 2, so 5 marks were awarded.



## ResultsPlus

### Examiner Tip

If candidates are asked to 'evaluate' for 12 marks all three AOs are being assessed, so candidates should include AO1, AO2, and AO3 in their response.



## Question 6

Q6 required candidates to assess the extent to which psychology could be considered a science. Overall candidate performance varied across the full mark range, with the majority scoring 2-16 marks (out of the 20 available).

The best responses offered accurate and thorough knowledge and understanding of the features of science and content from their course. Examples used were relevant to the scientific feature(s) being assessed and had specific detail which was accurate. The analysis, interpretation, and evaluation was well-developed with a range of content from different topic areas being judged by a variety of features of science. There were clear judgements made throughout the essay which considered the significance of the different ideas presented and the essay had a logical chain of reasoning throughout.

Weaker responses gave a limited number of features and were generally repetitive, judging different psychological theories with the same features. Examples used were sometimes inappropriate for the feature or unsuitably judged. The content used was more generic and vague and did not have the specific detail and accuracy that the stronger responses contained.

A wide variety of features of science were commonly used by candidates, but some were only used by the stronger responses in an appropriate way. The stronger responses tended to have a more able grasp on falsifiability, the hypothetico-deductive approach, empiricism, and the idea of paradigms. Most common features were control, replicability, and objectivity vs. subjectivity.

**6** Assess the extent to which psychology could be considered a science.

(20)

Sciences are considered to be reliable and have a valid and reliable method of research that can be adjusted and reproduced and can be based on the idea of falsifiability to test if something can be proven to be false.

Sometimes in psychology, for example, Sigmund Freud produced a paper called 'The Ego and the Id' which was not falsifiable. He didn't conflict theory, but aiming to prove the relevance of his theory. This. Therefore this is considered unscientific as in psychology research don't aim to test if their theories

can be disproven but create research to prove theory.

However many lab experiments are used with which have strict control over extraneous variable and therefore has high reliability and validity as it often a standardised procedure with a clear cause and effect conclusion for example Valentine and Mesout had a standardised procedure of how individuals would walk through the London Dungeon meaning data collected is valid and reliable and easily

replicated to see if similar results will be produced making psychology more scientific as results can be easily replicated.

However it is argued that data may not be valid as often in social psychology such method such as questionnaires or self report data are used to collect data which can be affected by demand characteristics if what participants want to be think the researcher wants such a Eysenk personality questionnaire the aims of the study may be guessed. Overall affecting the validity of the study meaning that in psychology there are issues with accuracy of data sometimes

making it hard to draw a valid solid conclusion.

Also often in psychology the such ~~thing~~<sup>factor</sup> as social interaction and aggression have to be operationalised in order to carry out the study. This can be suffered by the researcher and there's sometimes isn't a clear connection between the dependent variable and the operationalised ~~character~~ factor for example aggression being measured by a Likert scale on a questionnaire. This is unrealistic and can't be generalisable to target population of the mass public making it less scientific as it isn't always valid or applicable and can be open to subjective interpretation.

~~the~~ On the other hand such methods such as brain scanning is used to measure linkages between brain functioning and possible murder who plead not guilty due to reasons of insanity such as in Raine. This is a valid measure and is credible as a scientific method ~~rather data can be~~ and data can be objectively interpreted repeatedly making it also more ~~real~~ reliable and therefore more scientific.

However in psychology we often use volunteer samples when testing theory for example Milgram, who used an add in a paper to find participants to be teachers to administer shock to a stage participant. This lack of validity and generalisability is often those who volunteer have a unique quality about them and ~~can~~ ~~there~~ this therefore means that they may also produce different results to the wider target population and ~~that is~~ make findings inaccurate and invalid due to the common unique character therefore making psychological studies less scientific.

Many psychological studies and theories however have application that is useful and a bit realistic as would the data from scientific studies for example assertive community therapy has been proven to be useful to individuals who have schizophrenia and makes in a study it was shown men ~~that~~ assertive community therapy had made them more functional as members of society ~~of~~. Meaning psychology has a positive application to society as proven making it a science.

Psychology also use statistical test to prove



significant difference in results which is seen as credible as they can help prove an application and cause and effect of a theory which can't be affected by any bias, therefore using such test a chi-squared data can accurately be analysed making it more scientific.

Psychology often use qualitative data which can be affected by researcher bias as they can be subjective when scribing data to thematic analysis and it's not easily coded or found and 100% accurate cause an affect for example Rosenhan and participants' net behaviours of nurses, such as ignoring them, this can be affected by researcher bias as they may not net what they prove their theory making less scientific.

Overall psychology is unscientific as many factors are affected by researcher bias in aim to prove a theory more than disprove one, such as observation as a method of collecting data can be biased as experimenter can pick and chose what they observe and <sup>record</sup> ~~write~~ ~~offer~~ affecting the overall reliability of experiment and therefore making every theory questionable. Although some aspects of psychology may be scientifically credible.

*mainly biological psychology many aspects and methods outweigh these procedures.*



### **ResultsPlus** **Examiner Comments**

This response was awarded level 2 - 8 marks.

The AO1 knowledge and understanding shown by the candidate is mostly accurate (there are some inaccuracies). The AO3 is mostly generic and there are some judgements made by the candidate. There are a range of features of science covered by the candidate, but the arguments lack the development required for level 3. Overall this was moved to the top of level 2 due to the range of features so it was awarded 8 marks.



### **ResultsPlus** **Examiner Tip**

Candidates need to use specific ideas and show development in their arguments to reach the higher levels for these extended open response questions. There are more marks available for AO3 in this 20 mark 'assess' essay so candidates need to demonstrate more analysis, interpretation, and evaluation of the topic being assessed in addition to accurate and thorough knowledge and understanding to be awarded the top levels.

## Paper Summary

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

- Fully operationalise all variables when formulating a hypothesis.
- Read the questions carefully and identify the information that is required.
- Apply all ideas in research methods (and any individual points) to the context/scenario if one is provided in the question. Avoiding generic statements will increase candidate performance in particular in this section of the paper.
- Carefully read essay questions to establish the correct focus of the question. If the question is asking about gender and cultural issues in reference to two studies (as with Q4) then the focus should be on the cultural and gender issues with the studies being analysed and evaluated as necessary (the AO1 knowledge should not therefore just be rote learned statements that a candidate can recall about a study with no reference to the focus of the question).
- Evaluate questions for 12 marks; assess all three AOs so candidates need to use AO1, AO2, and AO3 material in fairly even proportions to reach the higher levels. This can be achieved with logical chains of reasoning with AO1-AO2-AO3 chains where appropriate.
- In 20 mark extended open questions there is an opportunity for stretch and challenge for candidates to show what they have learned during the whole A-level course. Candidates do need to retain focus in these questions though as it can appear at times that the candidate is writing everything they can remember, rather than forming a coherent well-developed essay which has a focus on the demands of the question being asked.

## Grade Boundaries

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

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





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