

Examiners' Report

June 2025

GCE Psychology 9PS0 01

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Introduction

The examination structure provided a range of question types over five sections, with the final extended responses requiring candidates to address issues and debates.

Candidates are now familiar with the structure and expectation of 9PS01. Compared with previous sittings, many candidates demonstrated good psychological knowledge and understanding in this examination, and there were very few unanswered questions.

Most candidates attempted all of the questions, indicating that candidates are managing their time effectively. There was an improvement in candidate understanding of the taxonomy of questions, especially for the short-answer questions, with many able to meet the demands of questions more consistently.

Further development would benefit candidates when responding to 'explain' questions, where often the justification of their point was not developed fully. This was evident particularly in Question (Q)02(b), where weaknesses were often given but were not justified or exemplified to any degree, to achieve the AO3 mark.

Centres need to make sure they cover all aspects of the specification in sufficient depth to allow candidates to access marks on questions such as Q10, where blanks were seen due to lack of focus on these parts of the specification.

There was an improvement in candidates' understanding of the equal balance needed for 8-mark extended responses and often this was considered in the responses given. With a clear understanding of the 'assess' command word for Q14, it was evident that centres had taught candidates to provide arguments for and against the effectiveness for systematic desensitisation, using a range of Assessment Objective (AO)3 points and evidence to support.

However, it would benefit centres to ensure that candidates are prepared with a range of evaluative points, because in Q03, candidates frequently presented two evaluative points in the essay, which often limited marks given for the AO3 banding criteria.

One final concern was the number of candidates who answered outside the line space, often: using white space answering earlier questions on the last few pages of essay line space using the blank pages to answer questions. This was improved from previous series, but centres are reminded that candidates must not write outside the lines or continue answers in spaces provided for other questions.

Should candidates require additional space to answer any question they **must** use an additional answer booklet and not write their answers in various other spaces on the exam paper itself. Answers written anywhere but in the designated space will not be seen. There is always more space than necessary for responses.

The remainder of this Examiner Report will focus on each individual question, with the aim of highlighting areas of good practice and some common errors, which can be used to help prepare candidates for future 9PS0/01 examinations

Question 1

This was an AO1 skill question, whereby the focus needed to be on the British Psychological Society (BPS) code of conduct (2009). This included knowledge and understanding of any of the standards and principles within the Code of Practice. Most popular responses focussed on 'guidelines' within the principles, such as consent and the right to withdraw.

Candidates had relatively good understanding of how to ensure that standards are met in research and were able to provide examples of how these had, or had not, been adhered to, in social psychology. Where responses did not achieve full marks, this was often due to a lack of elaboration. It would benefit centres to ensure that ethical standards are taught in sufficient depth.

- 1 In your studies of social psychology, you will have learned about the British Psychological Society (BPS) code of ethics and conduct (2009).

Describe **two** ethical guidelines from the British Psychological Society (BPS) code of ethics and conduct (2009).

- 1 An ethical guideline is risk from harm. When conducting an experiment, researchers must only expose their participants to the same amount of harm they're exposed to in their daily life, they cannot exceed that level and cause more harm than necessary.
- 2 Another guideline is confidentiality. When conducting an experiment and the research is published, none of the details of participants should be published and they must remain anonymous unless they've consented to show their identity.



First

A mark is given for: providing an outline of 'risk of harm' (1)

Second

Marks are given for:

- outlining confidentiality in not publishing participant details (1)
- suitable elaboration in detail provided about remaining anonymous unless consent given (1)

Total: 3 marks

When describing ethics, it is useful for candidates to have examples to demonstrate how these are used in psychological research, to show full understanding.

- 1** In your studies of social psychology, you will have learned about the British Psychological Society (BPS) code of ethics and conduct (2009).

Describe **two** ethical guidelines from the British Psychological Society (BPS) code of ethics and conduct (2009).

1 one ethical guideline is the right to withdraw. Participants must be aware that they are allowed to leave the study without any consequences at any time for example in burghes study his participants were all told twice verbally and once in writing that they were allowed to leave at any time without any consequences.

2 Another ethical guideline is debrief which is where participants should be told the true aims of the study at the end to eliminate any deception. For example, in Milgrams study he debriefed his participants that the electric shocks were fake at the end of the study.



This response receives full marks.

Both paragraphs provide an outline of each point. They are elaborated to provide further detail by using research to demonstrate how they are used.

Total: 4 marks

Question 2(a)

This was a AO2 skill question, where the focus needed to be on Social Impact Theory (SIT). To gain credit, each marking point needed to make reference to an aspect of the theory and contextualise it within the scenario.

Where candidates achieved full marks, they were able to use the specific SIT principles to apply to the scenario. The most common responses focussed on strength and immediacy.

They drew on detail from the scenario such as Mr Jennings being a teacher, or in the canteen with the students, to demonstrate understanding of how the theory is applied to the scenario.

Responses that did not obtain marks were due to being generic and not engaging with the stem material. Often, they used 'Mr Jennings' as an AO2 reference, which was insufficient for AO2 credit.

Other responses focussed on why the students did not obey. This also was not creditworthy because the question was explicit about explaining why the students **did** obey.

Alternatively, candidates used generic 'factors affecting obedience', which could have applied to other theories.

- 2 Mr Jennings is a teacher who was instructing a group of 15 students to line up quietly in a queue during lunchtime in the school canteen. All of the students, except one, did as they were asked.

(a) Using social impact theory, state **two** reasons why 14 out of 15 of the students followed Mr Jennings' instruction.

(2)

- 1 The immediacy of an authority figure impacts obedience, due to Mr Jennings being known to the students and close in proximity by standing with them in the school canteen, ^{explains} ~~the~~ why obedience was higher.
- 2 As Mr Jennings has a high status of being a teacher and the students will deem him as knowledgeable, this increases the strength of his message to ^{who are the targets,} line up quietly as students will see him as a legitimate authority figure.



Marks are given for:

- Immediacy: in canteen so close to students (1)
- Strength: he is a teacher with authority (1)

Total: 2 marks

Question 2(b)

This question required candidates to explain one weakness of SIT. This is an AO1 and AO3 question.

There needs to be some form of link to show the weakness is specifically about the theory, as demonstrated in the mark scheme. This could either be in the AO1 or the AO3 mark.

The most frequent responses were similar to those in the mark scheme. The best responses used research evidence providing specific results to demonstrate which aspects of the theory may be flawed.

Some candidates had difficulty in giving sufficient evidence from the theory to support their evaluation point. Often, responses became generic because the evidence was vague, such as providing a weakness that could be relevant to other theories and explanation.

(b) Explain **one** weakness of social impact theory.

(2)

One weakness of social impact theory is Hofling's research that showed 95% of nurses delivered a lethal dose of a drug when told to over the phone by a doctor. This shows that immediacy/proximity has no effect on levels of obedience shown.



This response receives marks for:

- AO1 Evidence of Hofling presented in terms of the results found (1)
- AO3 Explains why this would be a weakness for immediacy (1)

Total: 2 marks

Question 3

Most candidates demonstrated a good understanding of Realistic Conflict Theory (RCT).

There was clear AO1 content explaining how competition for resources leads to intergroup conflict and how superordinate goals can reduce prejudice.

Practical applications such as jigsaw classrooms were commonly and appropriately referenced.

A recurring issue was the overuse of Sherif's Robber's Cave study. Whilst valid as supporting evidence, many responses focussed too heavily on the study, blurring the line between AO1 theory and AO3 evaluation. Candidates must remember that Sherif's study supports RCT; it is not the theory itself.

Where evaluation (AO3) was often well-attempted, this demonstrated a range of evaluative points, such as research evidence, alternative explanations and limitations of the theory too, using these to develop competing arguments.

However, some candidates showed limited AO3 by repeating the same evidence, particularly when comparing RCT to SIT, using in-group/out-group formation as overlapping points.

Many responses included unnecessary introductions or summary paragraphs. These are not required and often reduce time available for more valuable content.

Some essays drifted towards a SIT focus due to overemphasis on in-group/out-group dynamics. It is important that responses stay clearly aligned with RCT's central concept of conflict over resources.

AO1 and AO3 are equally weighted, therefore both areas must be developed. The most successful responses balanced clear explanation of theory with a range of well-structured evaluation points.

3 Evaluate realistic conflict theory as an explanation of prejudice.

(8)

Realistic conflict theory states an ingroup and outgroup forms due to differences between individuals but prejudice only occurs when competition for finite resources is present. Realistic conflict theory states that when competition occurs we have ~~an increase~~ an increase in prejudice due to zero-sums fate - the fact that there can be only one winner and one loser of this 'finite' resource. An example would be a football or hockey game in which only 1 team can win. A realistic example could be the Holocaust and the prejudice towards Jewish people stemming from lack of jobs for the population of Germans leading to distrust of Jewish people "taking their jobs". Sheriff et al's Robbers' cave study found that the eagles and rattlers ^{empirically} showed ingroup favoritism evidence for realistic conflict theory as the 2 groups, eagles and rattlers became prejudiced when competitions started in a tournament setting with baseball and tug-of-war games which later lead to prejudice with food fights, calling each other "sissies" and "ladies first" ~~as~~ and not wanting to be in the same mess hall. Therefore adding credibility to realistic conflict theory as an explanation of prejudice. ~~A need~~ However, Hyman and Spencer found that

when the boys knew each other they remained friendly in competition therefore lowering credibility of reductionism. First theory as factors such as friendship not taken into account.

^{negative}
~~positive~~ interdependence is the idea that for one group to win the other group must lose - this interdependency leads to prejudice with more ingroup favoritism and outgroup hostility. A weakness of realistic conflict theory is reductionism. prejudice is a complex social behaviour so breaking it down into a few concepts may lead to levels of explanation being lost further on cognitive and biological factors such as personality are not taken into account therefore no theory may ^{not} be as accurate. However, the realistic conflict theory states a solution for prejudice being superordinate goals. This is when both ingroup and outgroup work together to achieve a joint goal which can only be reached if both groups work together. A strength is the practical application of the jigsaw technique in schools where all groups working together towards a goal like pieces of a puzzle.



AO1 Level 4 Concepts of competition, zero sum fate, with some examples to show how the concepts work.

Page two: negative interdependence is described, followed by superordinate goals further on.

AO3 Level 3

Use of Sherif to evaluate competition, given the theory credibility. Followed with a counter-argument to demonstrate a chain of reasoning and ends with an application point.

If the AO3 demonstrated further competing arguments, this response would be 8/8.

Level 4

Total: 7 marks



Ensure candidates are familiar with a range of evaluations to help them develop good competing arguments.

Question 4

This question required candidates to state two features of short-term memory (STM), such as encoding, capacity, duration, or retrieval.

Most candidates performed well, with many achieving full marks.

A small number of responses referred incorrectly to aspects of Long-Term Memory (LTM) or components of the Working Memory Model (WMM), which were not creditworthy in this context.

Candidates should be encouraged to distinguish between features, ideally linking them to accurate characteristics such as “ 7 ± 2 items” for capacity, “around 18–30 seconds” for duration, or describing encoding as primarily acoustic in STM.

- 4** In your studies of cognitive psychology, you will have learned about the multi-store model of memory (Atkinson and Shiffrin, 1968).

State **two** features of the short-term memory store as it is used in the multi-store model of memory.

1 STM has a capacity of 7 ± 2 items

2 STM has a duration of 18–30 seconds



Marks are given for:

- Capacity and accurate detail (1)
- Duration and accurate detail (1)

Total: 2 marks

Question 5(a)

This question required candidates to state the operationalised dependent variable, specifically relating to the number of words recalled.

To be fully operationalised, responses needed to include both the measurable outcome (eg “number of words recalled”) and the scale or range (eg “out of 30”).

Whilst a number of candidates gave clear and accurate responses, many fell short by omitting key elements. A frequent error was to refer vaguely to the 'mean' or 'average'.

Another frequent mistake was to write a response that resembled an aim or hypothesis, rather than identifying the dependent variable itself. Other candidates described what would happen generally or referred to memory performance in broad terms, which was not specific enough.

Candidates should be encouraged to practice fully-operationalising variables by specifying exactly what is being measured and how it is quantified.

- 5 Jenny investigated the influence of semantic similarity on the accuracy of recall from long-term memory. She gathered 20 participants and used an independent groups design:

- Condition A: Participants were shown 30 semantically similar words.
- Condition B: Participants were shown 30 semantically different words.

Both groups were given an interference task of counting backwards from 500 for two minutes, and then asked to write down as many words as they could recall.

Jenny's results are shown in **Table 1**.

Condition	Mean number of words accurately recalled (out of 30)
Condition A: Semantically similar words	10
Condition B: Semantically different words	20

Table 1

- (a) State the fully operationalised dependent variable (DV) from Jenny's experiment.

(1)

the dependent variable is accuracy of recall from long-term memory, measured by the number of words recalled out of 30 words.



This response receives full marks because the dependent variable is given and fully operationalised.

Question 5(b)

Candidates were required to draw a bar-chart, including an appropriate title and axes labels.

The best responses were able to construct an appropriate bar-chart using full axes, labels, and a full title.

Weaker responses drew a different type of graph, did not separate the bars, plotted the data inaccurately, used an inaccurate scale or did not offer a full title or axes labels.

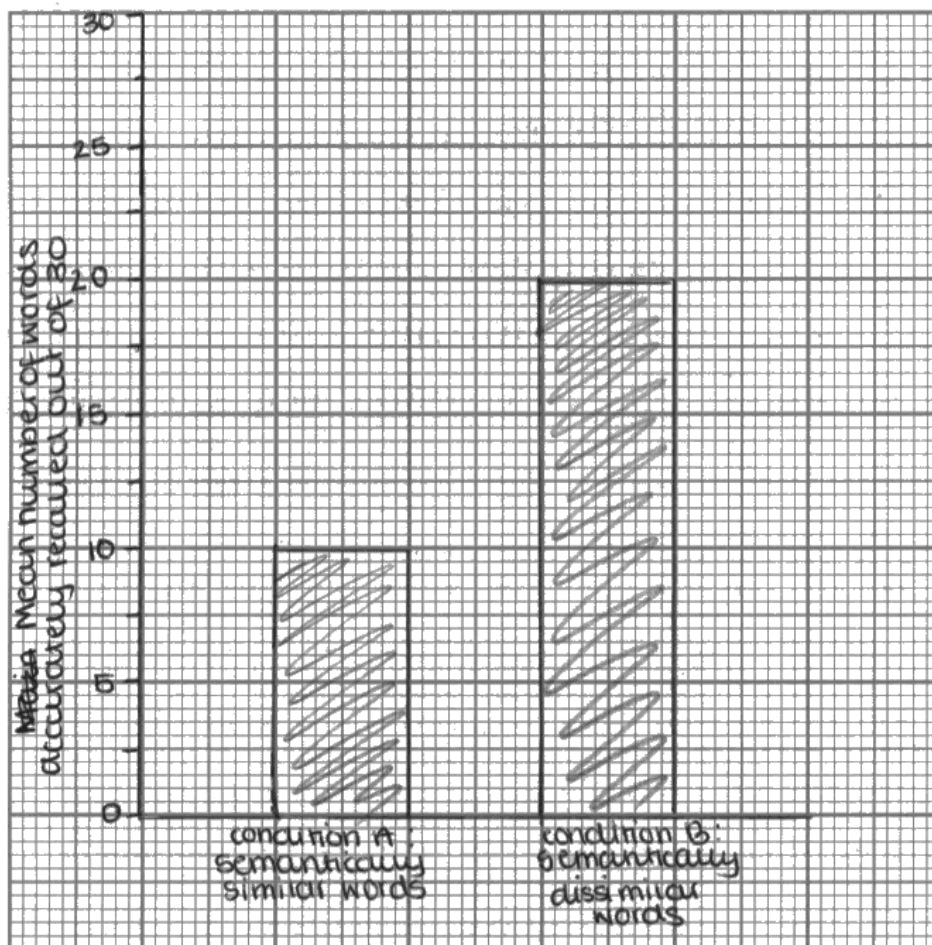
Usually, candidates gained two marks, generally for the title and the plotting of the data.

- (b) Using the data in **Table 1**, draw a bar chart to represent the data from Jenny's experiment.

(3)

Title

A bar chart showing the ^{mean} number of semantically similar and dissimilar words accurately recalled out of 30 after an interference task.





This response is given full marks for the:

- correct/appropriate title (1)
- correct/appropriate labelling of axes (1)
- correct plots of data points (1)

Total: 3 marks

Question 6

This question required candidates to explain one strength and one weakness of the case study method, specifically in relation to the scenario provided.

This is an AO2 application question, therefore credit could only be given to answers that made a clear application to the scenario.

A common strength identified was the rich, in-depth data case studies provided and successfully applied, such as referring to insights gained about Colin's memory functioning after his motorcycle accident. Similarly, a frequently-stated weakness was the lack of generalisability. However, many candidates lost marks by expressing this vaguely.

Where this weakness was answered well, candidates were able to draw on the uniqueness of Colin's specific circumstances, such as his memory difficulties following a motorcycle accident.

Unfortunately, many candidates gave generic evaluations of case studies and did not apply their points to the context of the scenario. These responses received no marks, because application is essential to meet the demands of AO2. For example, vague references to "long-term memory damage" were not sufficient unless linked to the specific details in the scenario.

Some candidates misinterpreted the task, evaluating the scenario itself, rather than the case study method used to investigate it.

For AO3, justification of the point did not need to refer to the scenario, but it had to support the stated strength or weakness. Some candidates gave a relevant strength or weakness but provided no explanation, which limited their AO3 mark.

- 6 Colin wanted to investigate long-term memory damage. He decided to conduct a case study on a patient with long-term memory damage who had been involved in a motorcycle accident. The patient is no longer able to make new episodic memories but she is able to make new semantic and procedural memories.

Colin has used several experiments to test the patient's long-term memory skills. He has also gathered qualitative data from notes he has made from observing her interactions with family and friends. Colin conducts an unstructured interview with the patient once a week.

Explain **one** strength and **one** weakness of Colin using a case study to investigate long-term memory damage.

Strength

One strength is that Colin is able to gather very in-depth information on long-term memory damage. Being able to gather more types of qualitative and quantitative data increases his insight into ~~for~~ details of and factors affecting his patient's long-term memory, increasing the validity of the study.

Weakness

A weakness is that case studies often involve very unique participants - Colin's patient can't form new episodic memories but can form semantic and procedural ones. It is almost impossible to find another participant with the same damage to long-term memory caused in the same way (motorcycle accident), so testing the replicability of results is difficult, decreasing the reliability.



Strength: 0 marks

This is generic: the response provides a strength of the method, but this is not contextualised to receive credit.

Weakness: 2 marks

AO1 Unique participant, with details from the scenario to create the contextualisation and hard to find a similar participant. AO3 The justification explains why this would limit reliability because it is difficult to replicate.

Total: 2 marks

- 6 Colin wanted to investigate long-term memory damage. He decided to conduct a case study on a patient with long-term memory damage who had been involved in a motorcycle accident. The patient is no longer able to make new episodic memories but she is able to make new semantic and procedural memories.

Colin has used several experiments to test the patient's long-term memory skills. He has also gathered qualitative data from notes he has made from observing her interactions with family and friends. Colin conducts an unstructured interview with the patient once a week.

Explain **one** strength and **one** weakness of Colin using a case study to investigate long-term memory damage.

Strength

One strength of Colin using a case study is that he will gain lots of valid, in-depth data as he is able to use a wide variety of research methods on his patient. For example, doing an MRI scan to observe damage, tasks to test the patient's procedural memory, observing their interactions etc. Therefore Colin can gain a very insightful and developed understanding on how long-term memory damage can affect a person that he wouldn't be able to ethically or practically conduct otherwise.

Weakness

A weakness of Colin using a case study is that he only has 1 patient. Brain damage is never completely localised, therefore the brain damage this patient has received and how it affects them from making new episodic memories may be completely unique to them and therefore can't be generalised to our understanding of long-term memory damage as a whole due to the unrepresentative sample.



Marks are given for:

Strength: 2 marks

AO1 Using a variety of methods to gain valid data and contextualised, with examples from the scenario.

AO3 The justification is that this will be insightful because other methods might be unethical and impractical.

Weakness: 2 marks

AO1 One participant and unique, with contextualisation to demonstrate.

AO3 Justification of why this would be difficult to generalise to others, with brain damage being unrepresentative.

Total: 4 marks

Question 7

This extended response question required candidates to demonstrate both AO1 knowledge of the original Working Memory Model (Baddeley & Hitch, 1974) and AO2 application to the scenario, with equal weighting given to each.

Generally, AO2 performance was stronger than AO1. The best responses were able to provide good detailed knowledge of the functions and limitations (capacity/duration) of the phonological loop and the Visio-Spatial Sketch Pad (VSSP), rather than only naming the components.

Many lower-level responses simply listed the parts of the model with little further explanation, which limited access to higher levels.

Some candidates misinterpreted the dual-task paradigm, incorrectly claiming that the VSSP and phonological loop cannot be used simultaneously, which led to flawed application.

Most candidates were able to apply the WMM to the scenario to some extent, but some showed limited or inaccurate knowledge of the original model. Only the 1974 version of the WMM should have been covered; inclusion of components added later, such as the episodic buffer was not creditworthy.

Where AO2 links were superficial, they often stated that Leonie's difficulty was due to a problem with her phonological loop or VSSP, without explaining why or how.

Stronger responses considered capacity limitations or task demands and how these might overload specific subsystems, providing more thoughtful application.

Some candidates included a competing explanation or alternative theory. When done well, this was typically a comparison with the MSM or reference to competing research to show how WMM has improved understanding.

- 7 Leoni struggles to process information during lessons at college. She finds it difficult to note down information from the board before the teacher moves on to a new topic. Leoni gets embarrassed when she is asked a question by the teacher as she is unable to give an answer quickly. - low PL capacity

At home, Leoni forgets to complete tasks that her parents give her. Her mum had asked her to go to the shop for ten items for making dinner, but Leoni forgot two of the items.

Leoni is also learning to drive but is finding it very hard to manage to respond to what she sees in the driving environment and change gears at the same time. Her driving instructor gives her directions about where to turn, but Leoni often misses the turn as she struggles to process the directions of left and right fast enough.

Discuss how the working memory model (Baddeley and Hitch, 1974) can explain Leoni's processing of information.

You must make reference to the context in your answer.

(8)

The Working Memory model states that STM is split into 3 slave systems and the central executive. The central executive has no capacity of its own as it only passes on information to the slave systems. It is responsible for problem solving and switching tasks. Leoni may have a impaired central executive as she struggles to take the correct turning during driving lessons. She may struggle to switch between her acoustic encoding from what the instructor is giving her to the visual encoding of the road directions ahead as her visuospatial sketchpad is overloaded. Additionally, Leoni may have her phonological loop overloaded as she is struggling to take change gears at the same time. The working memory model only allows two objects in the same space to occur at the same time and as Leoni is already using her visuospatial sketchpad to focus on directions and turns, she can't also change gears.

The phonological loop is the acoustic encoding store which has the phonological store (inner ears) and the articulatory store (inner voice).

The phonological store has a duration and capacity of 2 seconds, and Leoni may have a reduced phonological loop capacity explaining why she struggles to process information at school. If the teacher moves on too fast as the

information goes to her may be under in large sections which she doesn't have to cope to process. Her phonological loop may

be overwhelmed as the teacher moves on quite quickly and if the teacher talks while Leoni is writing, he may miss this, this would overload her phonological loop. This is causing her not to encode the information and leading her to then not be able to answer the question.

The visuospatial sketchpad is located in the inferior parietal cortex. It has a capacity of 3-4 items, and

can explain why Leoni couldn't read all the items her mother gave her on the shopping list. She may have only been able

to hold 4 food items, with visual cache and when he spatial memory to read the way to the shop. Her phonological store

may have received 2 seconds worth of what her mother said, the leaving the 2 items as the memory capacity was full.

However, the multi-store model may account for why she forgot the food. She may have not encoded it into her STM store

due to not paying attention. She may have only listened to the first 8 items then not encoded the other two she may have mentally rehearsed these 8 items but not the others, explaining why she forgot 2.



AO1 Level 4

AO1 for this response was accurate, thorough and detailed. Each component is fully-defined and the function explained within the model.

It demonstrates understanding of the limited capacity within each component and how this impacts the function. There is also additional detail about each component providing a full explanation and description of the working memory model.

AO2 Level 4

The application is sustained throughout the response, following a logical chain of reasoning to demonstrate how the AO1 is linked to the AO2 skills.

There is also evidence of an alternative argument.

Therefore, given the quality of AO1 and AO2, this response achieves full marks.

Total: 8 marks

Question 8(a)

This question required candidates to provide one finding from their contemporary study, with credit awarded for accuracy and understanding of the result.

Most candidates referred to Brendgen et al (2005), followed by Li et al (2013) and then Vander Oever et al (2008). Most responses generally demonstrated a good understanding of the key findings for their chosen study.

Brendegan et al (2005) was the most popular response, with many candidates identifying correctly a comparison between monozygotic (MZ) and dizygotic (DZ) twins in relation to physical aggression.

They recognised that MZ twins showed higher concordance, suggesting a genetic influence. This was the most frequent correct response, often stated clearly and with appropriate comparison, achieving full marks.

Where candidates used the other studies, these would draw on numerical data from the research and was often accurate.

However, marks were often lost due to a lack of comparison, frequently making simple statements that did not demonstrate understanding of the finding or the misuse or inaccuracy of numerical data. Where candidates included numerical data, they needed to show understanding of what the numbers represented.

8 You will have learned about one of the following contemporary studies in biological psychology:

- Li et al. (2013)
- Brendgen et al. (2005)
- Van den Oever et al. (2008)

(a) State one finding of your chosen contemporary study.

(1)

Chosen study

Collecting data
When reporting on the self-report on ~~heroin~~ heroin cravings (0=not at all), the
14 heroin addicts reported an ~~avg~~ average of 3.3 on the craving scale whereas the control
group reported an average of 2.23 on the craving scale.



The finding contains numerical data that is accurate, and explains it to show understanding of what the numbers represent in terms of the findings.

Total: 1 mark

8 You will have learned about one of the following contemporary studies in biological psychology:

- Li et al. (2013)
- Brendgen et al. (2005)
- Van den Oever et al. (2008)

(a) State **one** finding of your chosen contemporary study.

(1)

Chosen study

Brendgen

Brendgen found that for physical aggression
monozygotic twin concordance was 0.61 and
dizygotic was 0.25



This is an example of numerical data being used to demonstrate understanding of the finding, but doesn't fully demonstrate understanding of the data quoted for credit.

Total: 0 marks

Question 8(b)

This question asked candidates to explain one weakness of a contemporary study from the biological psychology topic, with marks given both for AO1 (knowledge of the study) and AO3 (evaluation).

To be creditworthy, the weakness needed to be linked specifically to the chosen study, and this link could appear in either the AO1 or AO3 section of the response.

Overall, most candidates were able to identify a weakness for the first marking point. A minority of candidates found it difficult to demonstrate the weakness to the specific study, as stated in the mark scheme.

Therefore, whilst most candidates could identify potential limitations, stronger responses provided clear justifications or evaluative reasoning, in line with the dual focus of AO1 and AO3.

Brendgen et al was the most commonly-used study. Some candidates had difficulty making the issue of representativeness relevant, often not linking cultural norms of aggression in Canada to potential issues with cross-cultural generalisation. In the Van den Over et al study, a frequent misconception was stating that generalising from animal models (eg mice) to humans is a flaw, but this was rarely expanded upon to demonstrate a firm justification.

Similarly, with Li et al, stronger responses discussed the ethical concerns of exposing addicts in rehabilitation to drug-related cues, although some misapplied the issue or offered vague statements about general risk, without elaboration.

(b) Explain **one** weakness of your chosen contemporary study.

(2)

Chosen study

Brendgen et al

A weakness is that there is low internal validity. There were 123 twins ~~pairs~~ that were DNA tested out of the 234 twins that were from Quebec and 6 years old at the final 4 assessment, and the other twins were judged to be MZ or DZ based on their looks and characteristics. This exclusion^{not} of all twins receiving a DNA test questions the accuracy of results as some may have been misidentified by researchers due to bias.

(Total for Question 8 = 3 marks)



Marks are given for:

- AO1 Identification of the weakness in low internal validity because only some twins were DNA tested (1)
- AO3 justification of the weakness; credit given for understanding 'misidentification of twins lowering accuracy of the results' (1)

Total: 2 marks

(b) Explain **one** weakness of your chosen contemporary study.

(2)

Chosen study

Li et al. (2013)

One weakness of Li et al. (2013) contemporary study is that it could be argued / considered as unethical. This is because researchers / psychologists are required to follow BPS guideline of do no harm to participants however some ex-heroin addicts suggested / at risk of suggesting a relapse into heroin use again as cue-related tasks of heroin-related imaging induced a craving of heroin. Therefore, this is a weakness as this can be seen as a form of physical & psychological harm that ex-heroin users may need treatment on further.

(Total for Question 8 = 3 marks)



Marks are given for:

- AO1 identification that the research is unethical, and this is further demonstrated within the study detail (1)
- AO3 justification because there is an explanation as to why carrying out an unethical procedure could be detrimental for the participants (1)

Total: 2 marks

Question 9(a)

This question required candidates to describe how Mandy used volunteer sampling, assessed entirely through AO2 application to the scenario.

To gain full marks, candidates needed to identify both how Mandy advertised her study and how participants self-selected, including relevant contextual details.

Most candidates were able to identify that Mandy could put posters up around campus, and this was the most common route to gaining one mark. However, many responses lost the second mark due to lack of specificity or context, such as simply stating "add contact details" without reference to the scenario.

Full marks were awarded when candidates gave a clear method of advertisement (eg posters on campus) and stated that interested students should contact Mandy to take part, often including details like email or phone number related to the sleep investigation.

Marks were often lost due to the self-selection process, which was not explicitly described. Alternatively, there was a lack of scenario context, such as omitting the reference to the sleep study.

In summary, whilst most candidates demonstrated a basic understanding of volunteer sampling, only those who provided a complete and contextualised description achieved both marks.

- correlation
- 9 Mandy is investigating whether there is a relationship between time spent outdoors and quality of sleep. She used a volunteer sampling technique to gather her participants from her university campus.

The students were required to complete a questionnaire to state how many hours they had spent outdoors in the previous week. They also had to give a self-rated score for quality of sleep, with 0 being very poor sleep and 10 being excellent sleep.

- (a) Describe how Mandy could use a volunteer sampling technique to gather participants for her investigation.

- asking for volunteers (2)

Mandy could create a leaflet detailing a brief summary of the aim of her sleep and time outdoors study, with her contact details and a place and time to meet. She could then place this on a notice board at her university campus and meet with participants who volunteered for her sleep study.



Marks are given for:

- using a leaflet contextualised to show how the study will be advertised (1)
- explaining how they will self-select 'time and place' with contextualisation to form the AO2 link (1)

Total: 2 marks

Question 9(b)

For this question, candidates were required to state two reasons for using a Spearman's rho. This assessed the ability of the candidate to understand why different statistical tests are used, depending on the research design used.

The question was answered very well, with candidates showing good understanding and using the scenario to inform their response.

It was rare for no marks to be given, and where this was the case, it was often due to a lack of knowledge about statistical testing.

(b) Mandy analysed her results using Spearman's rho.

State **two** reasons why Mandy used Spearman's rho to analyse her data.

(2)

- 1 Mandy used Spearman's rho to analyse her data because she was investigating whether there was a relationship between the time spent outdoors and quality of sleep.
- 2 Mandy used Spearman's rho to analyse her data because she used ordinal data such as ^{self} rating the quality of sleep an individual had in the previous week ~~from~~ with 0 being poor sleep and 10 being excellent sleep.



Marks are given for:

- relationship (1)
- ordinal data (1)

Total: 2 marks

Question 9(c)

For Q09(c), candidates were required to identify an appropriate improvement for the study and then justify this fully, in context.

The best responses offered a relevant and appropriate improvement and then justified this fully in the context of the study. They proposed improvements within the context of a correlational design, often suggesting ways to improve the measurement of the co-variables from the scenario study.

Another frequent improvement was to use stratified sampling instead of volunteer sampling, to increase the representativeness of the sample. These responses achieved high marks when the justification linked the improvement to greater generalisability of Mandy's findings beyond university students.

Where candidates did not gain credit, this was often because they gave weaknesses rather than explaining how Mandy could improve her study or suggesting to change the method to an interview.

(c) Explain **one** improvement that Mandy could make to her investigation.

(2)

She could further operationalise what classes as a excellent sleep and what is a poor sleep otherwise the data can be subjective and make it less valid her findings less valid.



A mark is given for:

- the improvement to fully operationalise the definition of sleep and how this would be carried out (1)

There is no justification, to receive credit.

Total: 1 mark

(c) Explain **one** improvement that Mandy could make to her investigation.

(2)

An improvement is to gather ^{objective} ~~subjective~~ data for the numbers of hours of sleep and time spent outdoors by giving the participants an apple watch / fitness tracker to measure the number of steps completed, for example. This would improve the validity of the results as she can ~~test~~ test the results from the tracker and compare with the self-test scores of the participants to see if the two sets of data agree.

(Total for Question 9 = 6 marks)



Marks are given for:

- AO1 identification of the improvement in how to gather the data (1)
- AO3 justification of how this would make it objective and valid, compared with self-reported data (1)

Total: 2 marks

Question 10

This extended response question assessed candidates on their knowledge (AO1) and evaluation (AO3) of one adoption study, with equal weighting between both AOs.

The strongest responses came from candidates who had studied Heston, Mednick, or Tienari. These essays tended to include accurate and relevant methodological details, as well as effective evaluation. They discussed issues of generalisability, control of environmental variables, and conclusions about genetic influence.

Weaker responses were often vague, lacked reference to specific procedures or findings, or confused adoption methodology with twin or family studies. Some used partial elements of an adoption method, without providing enough context to demonstrate clear understanding.

Unfortunately, many candidates did not attempt this question or incorrectly wrote about twin studies. This question was generally poorly-answered due to a lack of preparation or confusion around which studies met the criteria.

Centres are encouraged to ensure candidates are taught at least one appropriate adoption study in sufficient depth to meet both AO1 and AO3 demands.

10 In your studies of biological psychology, you will have learned about an adoption study.

Evaluate **one** adoption study you have learned about in biological psychology.

(8)

Kety et al did a study to find out whether there was a genetic basis of the diagnosis of Schizophrenia by comparing adoptive family of S and biological family of patients. The sample consisted of 175 G4 Schizophrenic ^{all from Danish population} patients ^{mostly DZ twins} who had not been hospitalised since 1964. Their diagnosis was categorised into 3 categories: borderline diagnosis, Chronic suffer, shorttime suffer. They had a control group who were matched on this was tested through psychiatric interviews, personality testing, medical records check, language tape recording to check for disordered thinking etc. The control group consisted of 68 patients who were matched on age, gender, age of adoption, diagnosis of Schizophrenia. Able to track down 463 relatives through medical records where 2 psychiatrists were matched on did blind testing to see whether diagnosis relatives with a unique code to match with patient. Codes like B = just like patient C = unable to determine diagnosis C = indicate personality. The results found that those who have biological relatives had diagnosis of SZ compared to control group and more biological family had a diagnosis of SZ compared to adoptive families. Showing genes play a part in diagnosis of Schizophrenia but there needs to be an environmental trigger. 8.9% biological diagnosis 1.4%

A ~~weakness~~^{Strength} of Kety's Study is that it used Match pair design ~~to all at~~ as all patients ~~were~~ had a Control group that were matched on gender, age of adoption and diagnosis of Schizophrenia. This increases the validity on the research on whether Schizophrenia is due to genes as it allows for comparisons to be made for accurate results.

A weakness of this Study is that it uses a restricted sample of patients from the as patients were all Danish or from the Danish area. This lowers the generalisability as it doesn't take into account represent people from other countries and if their genetic basis is involved with diagnosis of Schizophrenia in the general population.

However, a strength could be the restricted sample of having patients from the Danish ^{area} population as this increases the reliability to ~~the~~ as the sample can be easily replicated again ~~increasing the~~ into finding out if there is a genetic relationship between Schizophrenia diagnosis.

2. an if there is a genetic link for diagnosis of SZ.

A ~~weak~~ strength is that Kety used a high level of controls such as ~~to~~ test for diagnosis of SZ such as personality testing, psychiatric interviews and tape recording to measure ~~deluded~~ thinking. This increases the reliability of results as it eliminates and isolates extraneous variables making results more accurate.

(Total for Question 10 = 8 marks)



AO1 Level 4

Accurate and detailed knowledge and understanding, showing clear knowledge of the aim, procedure, results and conclusions.

AO3 Level 3 A range of evaluations developing a mostly coherent chain of reasoning whereby there is some understanding of competing arguments.

The AO1 allows the essay to reach Level 4.

Total: 7 marks

10 In your studies of biological psychology, you will have learned about an adoption study. → Heston

Evaluate **one** adoption study you have learned about in biological psychology.

(8)

Heston's adoption study investigated whether ~~the~~ schizophrenia is more caused by genetics or the environment via the use of adopted twin schizophrenic birth mothers compared to controls. The sample consisted of 47 participants ~~and~~ and 50 controls. They were all from Oregon state with the participants selected from twin mothers who were from the American psychiatric hospital. They were matched on ~~8~~ sex, length of time in care and type of eventual placement. A strength of the study is high ~~reliability~~ ^{validity} ~~reliability~~. The matched pairs design ~~or~~ based on length of time in care and type of eventual placement allows accurate comparisons to be made between participants and controls therefore ~~allowing~~ ^{allowing} testing for ~~consistent~~ ^{accurate} comparisons ~~in data~~ to be made to determine whether disorders like schizophrenia are more genetic or environmentally based. A weakness is ethnocentrism and low generalisability. The sample was taken from Oregon state, U.S.A. and the schizophrenic birth mothers from American psychiatric hospital therefore results may not be representative of other cultures in general population. Heston and 2 other researchers

conducted a comparison using a dossier of information such as school, hospital and criminal records, family and friend interviews and each participant was rated on a scale out of 100 with ^{a score} less than 75 indicating troublesome ~~symptoms~~ symptoms. A strength is inter rater reliability. Heston and 2 other researchers all had to come to the same conclusion of the score out of 100 for each participant therefore increasing the consistency and accuracy of data as researcher bias was minimised. The results of the study found the psychosocial score average for participants was ^{65.2} ~~65.2~~ compared to ^{80.1} ~~69.2~~ in controls. In the category of more than 1 year of hospitalisation they found 2 in the controls and 11 in participants. Quantitative data found that even those with schizophrenic mothers grew up to be 'successful' and 'at risk'. A strength of the study is high validity. Both quantitative and qualitative measures were taken into account therefore such as descriptions of successfulness and psychosocial score therefore increasing accuracy of data. A weakness of data is that it was secondary and retrospective data not gathered by researchers themselves therefore data such as interviews with family may decrease accuracy of data. To conclude Schizophrenia does have a biological component but social factors also have an influence as proposed by Meeus's stress model. (Total for Question 10 = 8 marks)



AO1 Level 4

- The knowledge and understanding is accurate and thorough.
- It provides specific details of Heston's procedure and findings to give a good level of depth.

AO3 Level 4

The evaluation:

- demonstrates a range of well-developed and logical assessment
- shows an awareness of competing arguments
- ensures evaluations are evidenced by relevant details from the study

Total: 8 marks

Question 11

For this question, the command word is 'identify', therefore for credit there does not need to be elaboration beyond the identification of the two stimuli.

Most candidates were able to access full marks, identifying the relevant content for the concepts within the question.

Where credit was not given, this was often due to candidates confusing the two concepts, which led to them putting cat and scratch the wrong way round.

It was a very rare occurrence to see a generic response, demonstrating that candidates are becoming familiar with the demands of scenario-based questions.

11 As a child, Petunia loved cats. One day, when she was playing in her garden a cat scratched her arm, frightening her. This caused Petunia to develop a phobia of cats.

Identify the unconditioned stimulus (UCS) and the neutral stimulus (NS) for Petunia's phobia.

Unconditioned stimulus (UCS)

The UCS is being scratched.

Neutral stimulus (NS)

The Neutral stimulus is cats.



Marks are given for:

- Unconditioned stimulus – being scratched (1)
- Neutral stimulus – the cat (1)

Total: 2 marks

Question 12

This question required candidates to apply Social Learning Theory (SLT) to explain learned behaviour within a scenario, with all marks awarded for AO2 application. To be creditworthy, responses needed to go beyond the wording of the question, using accurate SLT terminology and showing clear contextualisation from the scenario.

Stronger answers identified SLT concepts (eg observation, imitation, modelling, identification, vicarious reinforcement, mediational processes) and applied these to specific elements of the scenario. They explained how Spencer's behaviour was influenced and learned through these mechanisms.

Whilst most candidates demonstrated a general understanding of SLT principles, very few were able to identify and apply four distinct SLT concepts. Some confusion was noted between SLT and operant conditioning, and there were still some responses gaining no marks because they were generic.

Responses that simply retold the scenario or repeated the wording of the question without deeper application were not credited, in line with mark scheme guidance.

- 12 Spencer is 12 years old, and his brother Mark is 16 years old. Spencer watched Mark wash their mum's car and receive £5.00. The next time Mark was asked to wash his mum's car, Spencer asked if he could help Mark. Mark showed Spencer how to wash one of the wheels with the sponge and soapy water, and then Spencer washed the other three wheels of the car.

older same gender

vicarious reinforcement
attention retention motor R

Spencer helped Mark wash the car several times. One day, Spencer was asked by his mum if he would like to wash the car on his own. Spencer washed the car and received £5.00. motivation

Describe how social learning theory could account for Spencer learning to wash the car.

social learning theory suggests learning is through observation and imitation, a role model is someone older + higher status and same gender as observer. Mum is older than Spencer and the same gender, showing Spencer looks up to mum as a role model. When Spencer saw mum being paid £5 for washing the car, he paid attention to this reward and wanted to gain the money reward himself which is vicarious reinforcement, making Spencer motivated to imitate ~~spencer~~ mum's behaviour of washing the car. When mum showed Spencer how to wash the car he paid attention, retained the knowledge and knew he had the ability to reproduce washing the car after seeing ~~spencer~~ ^{Spencer} Mark demonstrate how to wash one of the wheels as ~~he~~ ^{Spencer} cleaned the other 3. He became motivated to clean the car as a motivation of £5.00 from his mum increasing imitation of washing the car.



Marks are given for:

- role model, older brother /same gender (1)
- attention/retention in the learning process (1)
- reproduction, making a direct reference to Mark copying a direct behaviour washing the three wheels to imitate Spencer washing one wheel (1)
- vicarious reinforcement with relevant AO2 link (1)

Total: 4 marks

Question 13

Q13(a)

This question was an AO2 maths question requiring candidates to calculate the chi square equation for the results of Rahul's investigation.

Most candidates achieved the full four marks here for their calculation of the statistical test, and they should be commended for the strong mathematical skills shown in this question.

Errors were often seen where candidates did not complete the full formula. Candidates are advised to make full use of the formula presented at the front of the exam booklet, as well as using the table in the question.

In addition to this, candidates should always present their final answer on the answer line provided so that it is clear to the examiners.

Q13(b)

This question was an AO2 maths question requiring candidates to determine whether or not Rahul's data were significant. Most candidates achieved the mark here for their determination of significance from the statistical test.

Again, candidates should be praised for these skills. Where errors were seen they were often in misunderstanding the critical values tables and thus giving an incorrect statement of significance.

- (a) Complete **Table 3** to calculate the chi-squared test for Rahul's investigation. You must give your answer to **two** decimal places.

(4)

		Observed	Expected	O-E	(O-E) ²	(O-E) ² /E
Large car	Below the speed limit	10	13.57	-3.57	12.7449	0.94
	Above the speed limit	12	8.43	3.57	12.7449	1.51
Small car	Below the speed limit	19	15.43	3.57	12.7449	0.83
	Above the speed limit	6	9.57	-3.57	12.7449	1.33
Chi-squared =						4.61

Table 3

SPACE FOR CALCULATIONS

Chi-squared (χ^2) 4.61

- (b) Rahul had a one-tailed (directional) hypothesis with $df = 1$ and used $p = 0.025$ as his level of significance.

3.84

Determine whether there was a significant difference between the speed at which the large and small cars were being driven.

(1)

the
~~the~~ calculated value is 4.61 which exceeds the critical value of 3.84 then for indicating that there is a significant difference between the speed at which the large and small cars were being driven.

(Total for Question 13 = 5 marks)



- Q13(a): 4 marks
- Q13(b): 1 mark

Total: 5 marks

Question 14

This extended response question required candidates to assess the effectiveness of systematic desensitisation (SD), with equal weighting given to AO1 (knowledge and understanding) and AO3 (evaluation and judgement).

Stronger candidates were able to provide clear, structured descriptions of SD and make informed, balanced judgements on its effectiveness. These also included a competing argument, for instance acknowledging that although SD is slower and more expensive than flooding, it is more suitable for certain clients due to being less traumatic.

They referenced research evidence, most commonly Capafóns et al, and occasionally McGrath. Evaluative comments often highlighted both strengths and limitations of SD to provide mini-judgements on the effectiveness throughout the essay.

Most candidates performed better on AO3 than AO1, often showing limited detail in the description of the therapy beyond outlining the fear hierarchy and relaxation techniques. Whilst some candidates offered convincing definitions and explanations of how SD is carried out, others gave only superficial accounts.

Weaker responses lacked precise knowledge or did not make clear evaluative points, particularly in justifying their judgments as required by the “assess” command word.

Systematic desensitisation implements the theory of classical conditioning and association and assumes if a phobia can be learned it can be unlearned.

The first step is functional analysis in which the clinician will question the duration, severity and triggers of the phobia as well as the impact this has on normal, everyday activity, such as work life and hobbies. Then they will instruct the patient to create a hierarchy of scenarios from the easiest and not afraid to most fearful. An example may be a picture of a spider, then a toy plastic spider - then being near a spider then holding a spider this can be done in-vitro meaning in real life leading to participants to eventually holding a spider or in-vitro with use of virtual reality headsets or an imagination technique. A strength of this treatment is supporting research from Capatzen's study into the fear of flying which found a 90% effectiveness of systematic desensitisation in treating the fear of flying. However adding credence to the research. However this research was specifically into fear of flying, rather than the generalisability of the study as may not be representative of all phobias.

furthermore research by McGarr found that although systematic desensitisation helped smaller phobias such as arachnophobia it did not help more ^{complex} social phobias such as agoraphobia therefore showing a limit in the effectiveness in systematic desensitisation.

The 3rd stage of the treatment is breathing and relaxation techniques which are then used with the hierarchy of most fearful to least fear scenarios as patients work there they may work through even phobia at their own pace. This process can take 6-8 weeks but depends on the individual. A strength is low social control in treatment, the patient is in control of when they move on and what techniques they use such as diaphragmatic breathing or mindfulness with the clinician acting as a guide therefore the treatment is more likely to be effective outside of the clinic if patient is in control.

Wills and Edwards found that systematic desensitisation was more effective than flooding in treating the fear of mice in 50 female participants therefore adding credibility to the effectiveness however considering the large time commitment needed it may give rise to more attrition rates as people may not have time lowering the effectiveness of treatment may may start.

(Total for Question 14 = 8 marks)



AO1 Level 4

The AO1 for this particular response was considered accurate and thorough. It demonstrates a clear understanding of the different stages of systematic desensitisation.

Within each of their concepts, the candidate has defined what the concept means but also shows understanding of how to carry out the therapy, using examples throughout their answer. They also provide practical steps in how the therapy is conducted.

AO3 Level 4

AO3 judgements are made throughout the essay and demonstrate a good understanding of how to construct competing arguments. Each evaluation is well-developed and specific to assessing the therapy.

Total: 8 marks

Question 15

This extended response question required candidates to discuss the debate of practical issues in the design and implementation of research, in the context of their observational practical from the learning topic.

Many candidates found this question difficult, and a significant number either left it blank or wrote responses that did not meet the demands of the question.

Some candidates focussed too heavily on describing or evaluating their practical, without demonstrating explicit knowledge of practical issues debate such as validity, reliability, and generalisability.

Where candidates did engage with the question appropriately, the most common AO2 examples involved observations of gender differences in pro-social behaviour. These included: saying thank-you to a bus driver, or holding doors open, or gender-based comparisons in driving behaviour, such as car size.

A minority of candidates referenced video-based observations, which were accepted, particularly in schools where live observations were not feasible. However, it is strongly recommended that candidates are given the opportunity to carry out live observations where possible.

With regards to AO1, the majority of candidates demonstrated mostly accurate knowledge and understanding of design issues, often with generic or vague statements such as "we made sure it was reliable" without explaining how or why.

Stronger responses were able to give in-depth knowledge and apply concepts like observer bias, inter-rater reliability, ecological validity, and sampling limitations, in the context of their study.

Weaker responses were unsuccessful due to omitting the fact that the study was observational or not establishing that it measured a learned behaviour. Others lost credit where their practical, as described, appeared unethical, or where the scope and scale of the practical seemed implausible.

It is important centres are reminded that practical investigations need to meet the ethical standards for research.

15 Discuss the practical issues you considered in the design and implementation of your learning theories practical investigation.

(8)

*One practical issue is internal validity. This refers to how accurately ~~you~~ the dependent variable study ~~and~~ investigates what it aims to investigate.

In my learning theories practical, we used a range of qualitative + quantitative data in our data collection. We produced tally charts of a list of pre-determined pro-social behaviours (such as saying thank you). (quant data). We then noted down any other behaviour that we observed that was not previously listed on our tally charts.

~~A strength of using both quantitative data and qualitative data (triangulation)~~

Another practical issue is inter-rater reliability. This refers to the level of agreement ~~for~~ between two researchers on ~~observing~~ an study. ~~Our~~ My practical investigation involved ~~multiple~~ 5 researchers on each restaurant. Making a tally of pro-social behaviours observed and then comparing the results that they each obtained. The inter-rater reliability found was 85%.

Another practical issue is generalisability. This refers to the extent to which results can be applied to the general population.

Our opportunity sample involved 16 men and 14 women, aged ranging between 30 and 65. This shows a very varied sample, with a range of ages, using both men and women.

* The aim of my practical investigation was to investigate whether there were gender differences in pro-social behaviour shown in public. It involved counting pro-social behaviours observed in a local fast food restaurant.



AO1 Level 3

Knowledge and understanding is shown. Start with definitions of various concepts in relation to the debate, such as internal validity, inter-rater reliability and generalisability.

AO2 Level 3

In each paragraph the candidate applies their practical in relation to the AO1 content they have started with. They demonstrate how they carried out their practical in relation to the practical and design issue defined.

At the end they describe the aim, which provides insight about what they did for the practical. The essay provides coherent chains of reasoning. The knowledge provided is accurate and they do apply relevant evidence from the practical throughout the essay.

Total: 6 marks

Question 16

This extended response question required candidates to evaluate whether psychology is a science, focussing specifically on the social and cognitive approaches. Marks were equally-weighted between AO1 (knowledge and understanding of the debate and content from the topics) and AO3 (evaluation and judgement about scientific credibility).

Stronger responses used content from both social and cognitive psychology correctly, to explore the scientific status of each approach. They often defined and applied scientific concepts (eg objectivity, hypothesis testing, theory construction).

They demonstrated how both social and cognitive research methods contribute to (or limit) scientific credibility and offered balanced evaluations with some depth or contrast between the approaches.

Most candidates were able to identify basic features of science, such as control, objectivity, falsifiability, and replicability. However, many presented only one approach, which limited their response and also reflected the time-constraints of the examination paper.

Common AO1 examples included Milgram or Sherif for social psychology (often focussing on standardised procedures or lack of control), Baddeley, Schmolck or HM for cognitive psychology (with mixed success in identifying relevant scientific features).

Where candidates found it difficult to gain credit, this was due largely either to a lack of AO3 development or a misapplication of the debate. Timing and misunderstanding of the command word “evaluate” were also notable issues, where responses did not build a reasoned chain of argument.

With the addition of 15 minutes being added to the overall paper, this should allow candidates the opportunity to achieve more marks on the essay in the future, allowing them more time to write their response.

16 Evaluate whether social and cognitive psychology can be considered scientific.

(12)

Social psychology could be considered scientific as procedures are often standardized when investigating prejudice. For example, Sherif used a sample of 22, 11-year old males from Oklahoma who were all Protestant and of a similar education level. They were split into 2 groups based on religious beliefs of their clans, i.e. the Spring clans and the two groups had to compete in set tasks e.g. basketball, swimming, golf and baseball tug of war. Points were given as ^{rewards} prizes and prizes were given to those with the most points. This is a strength as by ^{standardising the procedure,} having all boys completed the same task e.g. tug of war in the same way it means the study was high in reliability. This means the study may have prejudice development in groups can be easily replicated to see if results on development of prejudice are consistent over time. However, the study could be considered less scientific ~~by using unstandardised procedures it means~~ as results from the study were collected by sociometric analysis of meeting friendship patterns between the boys. Makes the study less scientific as friendship patterns have to be subjectively interpreted by the researcher, lowering reliability as results on development of prejudice may not be consistently interpreted over time and by different researchers.

Cognitive psychology could be considered scientific as it often collects quantitative data when investigating memory.

For example, Cabeza and Amaral (1997) used a sample of 570 volunteer participants from public and private schools in Madrid, and a mean digit span was collected for each age and age group. Digit span was recorded by the maximum length participants could recall at least 2 out of 3 sequences in the correct order without error. Digit span was about 4.5 for a range of digit span. One strength of collecting quantitative data e.g. preschool children had a mean digit span of 3.76 is that data on digit span can be objectively interpreted without bias. However, the study is high in reliability as results on how digit span changes with age will be consistently interpreted in the same way over time. However, the study could be considered less scientific as it was not a controlled experiment as impairment in hearing, reading, and writing ability were controlled for amongst participants. Also, the study is high in reliability as can be sure age is affecting digit span not impairment in hearing etc., allowing a more accurate case and effect to be distinguished between age and digit span.

However, cognitive psychology could be considered less scientific due to often making case studies with brain damage over long periods of time. For example, case study of HM lasted over 55 years. HM had a surgery where his hippocampus were removed as a result of him being epileptic and having seizures. Over 55 years, carried out memory tests many interviews, cognitive status tests + IQ etc. This is a weakness as it makes cognitive psychology less scientific.

Scientific as a relationship may form over the 55 years between the researcher + the HM. This decreases the validity of the study as HM's processing issues as a result of his surgery as conclusions drawn may not be a true and accurate representation of his brain damage due to researcher / interpretation bias, making the study less scientific. However, some people may argue the case study was scientific as it was found HM had no recollection previous testing using the maze / walking frame had occurred, therefore he would not remember previous he researcher over the 55 years to be able to build a relationship with him. Also the case study could actually be considered ^{increasingly} scientific ~~as can be seen from the findings on HM's processing issues as a result of his memory impairment~~ ^{not simply a product of a relationship between HM and the researcher.}

causing him to be isolated from society.

To conclude the study is useful as there are practical options for society if social and cognitive functions are scientific, such as finding from HM which part of the brain needs to be rehearsed in STM before it enters LTM. Can be used in education to introduce repeating tasks to help students learn new concepts. However, whilst finding may be found to be true & accurate, could lead to issues with social control e.g. isolating young boys from one another at a young age to prevent prejudice which could lead to sticky labels + stereotyping of young boys being prejudice.

(Total for Question 16 = 12 marks)



AO1 Level 4

AO1 knowledge of what is a science followed often by AO1 knowledge from the topic, further to elaborate and demonstrate thorough knowledge and understanding.

AO3 Level 4

Well-developed explanations for why being scientific is a strength. This is often contrasted by explaining why it is also weakness not to be scientific, using a range of evaluative points to present balanced conclusions.

Total: 12 marks

Paper Summary

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

- When asked an 8-mark extended response essay for theories that assesses AO1 and AO3, ensure there is a range of evaluative points
- Centres need to make sure they are using the specification to teach the relevant dated theories
- When asked to explain an improvement, do not write about a weakness of the study. Focus on an improvement and how/why it would improve the study. Also, ensure that the improvement does not change the research method but only an aspect of the procedure
- When asked to explain a strength or a weakness, ensure the strength/weakness is fully justified, to gain the AO3 mark. Ensure that it is not generic but is specific to the content in the question
- For 'discuss' 8-mark questions do not include evaluative comments
- For AO2 questions, make sure the scenario is used fully in relation to the theory/concept in the question, to demonstrate how the knowledge is relevant to the scenario

Grade boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:
<https://qualifications.pearson.com/en/support/support-topics/results-certification/grade-boundaries.html>

