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Examiners' report

PSYCHOLOGY

H567

For first teaching in 2015

H567/01 Summer 2024 series

Version 1

Contents

Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates.

The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. A selection of candidate answers is also provided. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.

A full copy of the question paper and the mark scheme can be downloaded from OCR.

Paper 1 series overview

Overall, the standard of responses was good. There was a wide range of answers, suggesting the paper differentiated appropriately. Higher achieving candidates wrote more extended and detailed responses that were contextualised and made good use of appropriate terminology. Some candidates found it difficult to use terminology appropriately and used concepts such as validity and reliability with some confusion. Those candidates often struggled with contextualising their responses – they simply rewrote the question stem/scenario detailed to introduce their answers throughout sections B and C and then forgot to apply their evaluation points to the scenario introduced. The presence of 'context words' alone in the response was not sufficient to contextualise response.

As in the previous series, it was necessary for candidates to have practice in the design and implementation of their own practical activities. This should have reinforced their knowledge and understanding of research methods in general, as well as some of the specific terms and concepts they could be assessed on. This would help candidates to comment on how conducting their own research has helped in the planning of novel research presented in this examination. It is important to note that research methods should be reinforced through the core studies, since Section A might require candidates to identify the research methods used in any of the core studies.

Finally, it is important to realise that a comprehensive understanding of inferential statistics and how they are interpreted is required. The majority of candidates were able to calculate Mann-Whitney U test, however they struggled with the interpretation of significance statements.

Contextualising responses
Rewriting the question stem/scenario detail to introduce answers throughout Sections B and C will not gain context marks unless evaluation points are applied to the scenario directly. The presence of 'context words' alone in the response is not sufficient to contextualise the response.

Candidates who did well on this paper generally:	**Candidates who did less well on this paper generally:**
• contextualised their responses • had a good understanding of experimental method, sampling techniques, designs, types of data and ethics and were able to provide strengths and/or weaknesses for these in their responses • wrote extended responses appropriate to the number of marks each question was worth • understood the difference between findings and conclusions • had a good understanding of how to calculate Mann-Whitney and how to interpret a significance statement • had a good understanding of terminology, in particular different types of validity.	• showed inconsistency in contextualising responses • had some understanding of experimental method, sampling techniques, designs, types of data and ethics although this was inconsistent • wrote less extended responses sometimes not appropriate to the number of marks each question was worth • frequently lacked understanding how to use Mann-Whitney, e.g. they were unable to explain the process of ranking data or interpret significance statement • had some understanding of terminology but some confusion present, for example, confusing internal and external validity.

Section A overview

There was good knowledge and understanding shown of the research methods, levels of data, descriptive and inferential statistics as well as mathematical calculations. In this section, candidates need to be prepared to identify research methods concepts in the core studies.

Overall feedback on multiple choice questions

Candidates answered the majority of the multiple-choice questions well. Incorrect responses were varied. The notable exceptions are outlined below.

Question 4

4 Which of the following is the best measure of central tendency to use if there is an extreme value in the data set?

A both the mean and the mode

B mean

C median

D mode

Your answer ☐ **[1]**

A lot of candidates responded well to this question, however some candidates opted for D incorrectly.

Question 5

5 If the standard deviation of a data set is 9, what is the variance?

A 3

B 4.5

C 9

D 81

Your answer ☐ **[1]**

A lot of candidates responded well to this question, however some candidates opted for A incorrectly.

Question 9

9 How many conditions were there in **Experiment 2** of Loftus and Palmer's (1974) study of eyewitness testimony?

A one

B two

C three

D four

Your answer ☐ **[1]**

A significant proportion of candidates chose the option B – two conditions, which is incorrect.

Misconception

There were three conditions (hit, smashed and control group) in the second experiment.

Question 13

13 Which correlation coefficient shows the strongest relationship between the variables studied?

A – 0.94

B – 0.87

C + 0.72

D + 0.86

Your answer ☐ **[1]**

Many candidates responded well to this question, however some candidates opted for D incorrectly, suggesting that candidates were guided by the negative sign rather than the coefficient to determine the strength of the relationship.

Section B overview

There was a good understanding shown of experimental research including sampling techniques, research design, operationalisation of dependent variables and controls. Candidates were able to outline strengths of open questions and experimental methods as well as suggest an appropriate open question.

To improve, candidates should practise operationalising variables when writing hypotheses and focus on detailing how the required features in Question 20 would be enacted/carried out. It is also important to contextualise responses to the scenario referred to, e.g. 'students' are relevant to many different contexts and studies, so candidates should strive to give more specific context.

Question 19

Slipping up can be good

Psychologists have investigated many ways that could improve how children learn. However, most of these have concentrated on studying the effect of different teaching styles, rather than focusing on the child themself. A psychologist taking a more child-focused approach wants to study if being more relaxed affects concentration levels. They want to investigate if young children can concentrate better when wearing comfortable slippers on their feet compared to wearing shoes. The study is to be conducted in one large primary school with 240 children on the register.

19 Write a one-tailed alternative hypothesis for this study.

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..... **[3]**

Overall, this question was answered well. Good responses provided a one-tailed hypothesis with clearly operationalised both variables (e.g. independent variable being slippers vs shoes and dependent variable being concentration measured by spot the difference puzzle out of 20 (or similar)). A large proportion of candidates did not fully operationalise the variable of concentration which prevented them from gaining 3 marks.

Those who did not get any marks wrote a correlational or two-tailed hypothesis. Some candidates wrote a two-tailed hypothesis then a one-tailed, however the first answer can only be taken. The end of the first response was defined using a full stop for their statement.

Exemplar 1

Children (aged 5-10) who wear comfortable slippers will have better concentration measured on a (1-10) rating scale 1 being not concentrated at all, 10 being very concentrated young than children who are wearing shoes.

[3]

Exemplar 1 shows a full mark response with fully operationalised IV and DV.

Question 20*

20* Explain how you would conduct a study using the laboratory experimental method to investigate if wearing slippers affects a child's ability to concentrate. Justify your decisions as part of your explanation.

You must refer to:

- how you would use random sampling to obtain 30 participants for the study
- the experimental design you would use in this study
- how you would operationalise the dependent variable to obtain quantitative data
- the control of one extraneous variable.

You should use your own experience of practical activities to inform your response. **[15]**

The standard of responses was very good this series; most candidates were able to at least identify and describe each of the required features (RF). However most found it difficult to get the higher band marks. The best responses were characterised by writing a separate paragraph relating to each of the RFs: first, demonstrating understanding of what was involved and how to address it for the research presented; next by justifying the decisions made regarding how to address it and finally, drawing on the candidates own experiences of conducting research. All this needs to be discussed in context to obtain marks. There was much variation in how candidates demonstrated knowledge and understanding of each of the individual RFs. Often candidates did not provide enough detail.

RF1 (the use of random sampling method) was generally addressed well, however some candidates did not mention what happens after the random number/name generator selects the sample. This meant they did not clarify how they would end up with their final sample. A small proportion of candidates described stratified sampling, which is not on the specification. Candidates also lost marks for not justifying their choices in the relevant context as evaluations were general (e.g. a strength is that it is representative of the population) rather than unique to random sampling (e.g. no researcher bias).

RF2 (the experimental design) appeared to be well understood and explained by the candidates with almost all in relevant context. Candidates who lost marks on this RF justified their decisions but not in context of the current investigation.

RF3 (operationalising the dependent variable) was answered well with specific examples of quantitative measures of concentration, such as asking teachers to rate concentration on a scale of 1-10 (1 being poor concentration and 10 being very good concentration) or the number of times the letter 'f' is crossed out in a book extract. However, candidates lost marks if they indicated more than one measure. Justifications for this were varied and some not in context (e.g. quantitative data is easy to compare between groups) or not expanded upon (e.g. easy to analyse).

RF4 (a control of one extraneous variable) had the most varied responses, with candidates struggling to choose and explain appropriate controls. Better responses made references to controlling the situational variables in terms of noise or time of the day. A number of candidates chose to control features of the sample, e.g. gender, however this was limited to Level 2 due to the nature of the RFs (i.e. candidates were asked to use a random sampling method). Justifications were often linked to increased validity and/or reliability with better responses explaining why the control would lead to increased reliability and/or validity. Weaker responses confused the two concepts or simply stated the link to validity/reliability with no further elaboration.

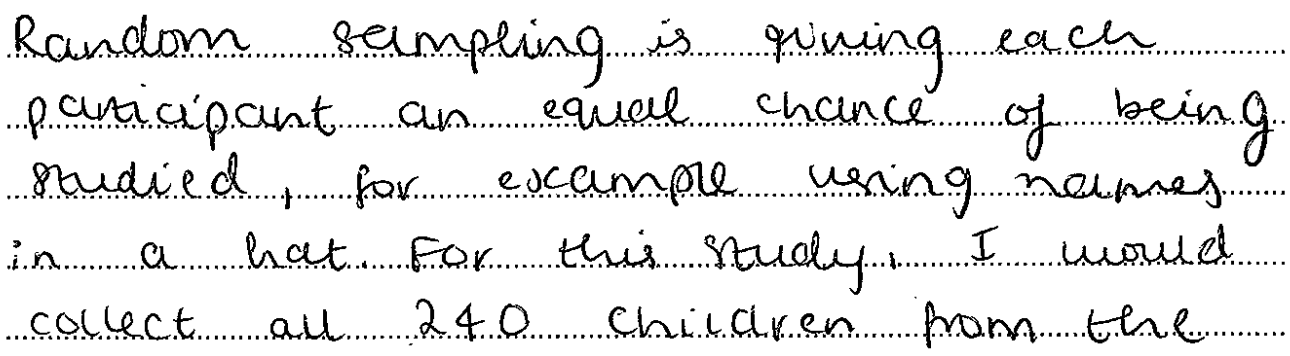
Most candidates made a reference to their own research, but for a number this was not explicit (it was impossible to determine what was their study about or how their chosen RF was used).

Addressing required features

The best responses are characterised by addressing each RF separately. Within each paragraph candidates should:

- demonstrate an understanding of RF and how to address it in context of the scenario given
- justify the decisions made in context of the scenario given
- draw on own experiences of conducting research and demonstrate how it informed their planning of the currently proposed research.

Exemplar 2



register & place each name into a random online number generator. Then, I would generate 30 names randomly from the list, to be my participants and I would ask them if they are willing to take part. Random sampling is useful in this study because it means everyone has an equal chance of being selected, meaning no particular child is at an advantage to be picked for the study; this reduces bias as the researcher is not choosing names themselves, which means the sample is more diverse and representative. Therefore we can generalise this to all students concentration levels. In my own experiment into background noise & concentration, I used opportunity sampling; this was done by selecting the first 30 students I saw in the college common room and recruiting them as my sample. This proved to be ineffective because the majority of participants were friends so displayed shared characteristics; they had similar concentration levels. Conducting random sampling would have made the results much more representative as participants

are less likely to have similar levels of concentration, increasing the representativeness of the study.

Exemplar 2 addressed RF1 well and in context. Justification in context and explicit reference to their practical work is present. This would be an example of a Level 4 response.

Question 21 (a)

21

(a) Suggest **one** open question you could use to obtain some additional information for this study.

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..... **[3]**

This question was answered very well and was contextualised – the majority of candidates achieved full marks. A common occurrence was that many candidates explained why the question was chosen, however marks were only awarded for the question itself. Candidates must be mindful of the command words to make the most of their examination time.

Question 21 (b)

(b) Outline **one** strength of the use of open questions in this study.

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..... **[3]**

The majority of candidates achieved full marks and showed confidence in the strengths of using qualitative data in research, referring to gaining rich detail, insight or depth from responses. Responses that did not score well either did not include context or did not fully explain why detail is a strength for this data.

Assessment for learning

Questions requiring candidates to outline one strength and/or weakness tend to be answered well if they follow a point, explain, context structure.

Question 22

22 Outline **one** strength of conducting this study as a laboratory experiment.

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..... **[3]**

Candidates were confident with the strengths of lab experiments and better responses referred to the control of extraneous variables and how this strengthens confidence in cause and effect. Equally successful responses referred to standardisation, which enables replication to check for consistency of results. Weaker responses lost marks as they did not always include clear evidence of the controls or standardisation (i.e. no context) as well as for their confusion of validity/reliability, such as attributing reliability to cause and effect.

Question 23

23 Outline **one** way you could uphold the ethical consideration of respect in this study.

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..... **[2]**

This question differentiated well as answers covered the full range of the mark scheme. The best responses identified relevant ethical guideline that comes under the principle of respect and explained how they would uphold it in the context of the scenario presented.

A significant proportion of candidates got zero marks because they chose an ethical consideration that is not under respect such as debrief or they did not consider the implications of the scenario, i.e. they referred to gaining consent from the children themselves. Candidates need to be aware that informed consent can only be gained from a consenting adult – either the participant themselves or a parent/guardian.

Question 24

24 Explain **two** factors that could affect the external validity of this study.

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2 .....

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[6]

Good responses accurately identified factors which could impact external validity. The strongest referred to population and ecological validity as separate points with contextualisation. A notable number of candidates was unable to differentiate between internal and external validity, which meant low (or zero) marks.

Section C overview

A good understanding of inferential statistics, bar charts, evaluation of the quantitative data and independent measures design was shown in this section. Many responses were in context of the study on whether reading aloud or reading in silence improves recall. Weaker responses tended to be brief.

Question 25

Sounds familiar

Memory can be influenced by many different things. However, there are techniques which we can use to improve our memory. One such technique involves reading aloud the information we want to remember. A psychologist investigated this by giving participants a set of 30 words to try and remember. Six participants studied the words in silence. A different group of six participants were instructed to read the words aloud when trying to learn them. The data collected is presented in the table below.

Number of words correctly recalled (max. 30)					
Reading aloud group			**Silent study group**		
Participant	**Score**	**Rank**	**Participant**	**Score**	**Rank**
a	24	9.5	a	14	2
b	27	11	b	16	3
c	21	6	c	12	1
d	20	5	d	29	12
e	23	8	e	17	4
f	22	7	f	24	9.5
$n_1 = 6$			$n_2 = 6$		

25 Outline **one** conclusion that can be made from the raw data presented in this table.

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..... **[3]**

Candidates really struggled to differentiate between findings and conclusions. Although almost all candidates included context in their response, the vast majority of those simply noted a finding and did not explain what the implications of the finding are for memory/recall. For those who attempted to explain the implications, often they made a general statement that memory is improved, rather than attempting to explain why reading aloud may improve memory.

Assessment for learning

Candidates need to practise forming a conclusion. Phrases such as: 'this is because…', 'this suggests that…' might be useful.

Question 26

26 Draw a fully labelled bar chart showing the mean number of words recalled in each condition. Plot the means to two significant figures. **[4]**

Almost all candidates knew how the bar chart is supposed to look. However, a significant proportion of candidates lost at least 1 mark. The most common mistakes included: not plotting the bar to two significant figures, not operationalising conditions in the title, incorrect labelling of the y axis by stating the number of words recalled rather than mean number. Compared to previous series, fewer candidates placed the bars together.

Question 27

27 Give **one** reason why the Mann-Whitney U test is the appropriate inferential test to use to analyse the data from this study.

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..... **[2]**

Candidates were able to identify at least one reason for the use of Mann-Whitney U test, however the use of context was inconsistent. The most common mistake was to give two reasons and not to include context, which resulted in only 1 mark.

Question 28

28 Before using the formula for the Mann-Whitney U test, the data obtained must be ranked. In the results, two participants have the same score of 24. Explain how this is dealt with when ranking the data.

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..... **[3]**

Most candidates were able to identify the issue of tied ranks, which was contextualised. Not all explained how to find the shared rank (by either calculating the mean of ranks or finding median/middle value).

Question 29 (a)

29

(a) Calculate the U value for the Mann-Whitney U test for the data collected in this study. Show your workings. You may use the formula presented below.

U = the smaller of U_1 and U_2

Where U_1 is …

$$U_1 = R_1 - \frac{n_1(n_1 + 1)}{2}$$

and U_2 is …

$$U_2 = R_2 - \frac{n_2(n_2 + 1)}{2}$$

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..... **[5]**

The majority of candidates responded really well to this question showing full workings and calculating correct U value. Errors on this question typically stemmed from incorrectly adding the ranks for the conditions. A fair number of candidates lost a mark as they did not indicate the final U value.

Question 29 (b)

(b) How is the critical value used to determine if the findings are statistically significant?

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..... **[1]**

Overall, the question was answered well. Some candidates lost marks as they referred to expected rather than observed/calculated value.

Question 30

30 Explain what $p > 0.05$ would mean if it appeared as part of the significance statement when reporting the findings from this study.

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..... **[3]**

The vast majority of candidates misread the greater than sign, which meant that their interpretation of significance was incorrect. It was quite common for candidates to incorrectly state that the research is significant. Some candidates did not understand what a significance statement is and instead provided suggestions as to how to look up a critical value.

Exemplar 3

There ~~catcutat~~ is no significant difference as there is a more than 5% probability the difference between correct recall of words in a silent study or reading aloud condition are due to chance. Accept the null hypothesis and reject the alternate as the conditions of study do not have a significant affect on correct recall /30 on a memory test. **[3]**

Exemplar 3 shows correct interpretation of the significance statement in context.

Question 31 (a) and (b)

31

(a) Explain **one** strength of using quantitative data in this study.

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..... **[3]**

(b) Explain **one** weakness of using quantitative data in this study.

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..... **[3]**

As with previous strengths/weaknesses questions, the best responses followed a PEC structure, although sometimes the comment did not link back to the point identified and therefore did not get the final mark. Some simply stated 'therefore more/less valid and more reliable' rather than being specific.

Question 32 (a)

32 This study used an independent measures design.

(a) Identify **one** strength and **one** weakness of this design.

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[2]

This was very well answered. Context was not necessary but was included by a number of candidates.

Question 32 (b)

(b) Outline **two** ways that an independent measures design could affect the validity of this study.

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2 .....

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[4]

Common responses to this question included reference to demand characteristics, order effects and participant variables. These were clearly explained within the context of the scenario. Weaker responses did not make a judgement as to how validity would be affected, i.e. increased or decreased. A number of candidates gave answers focusing on the use of a lab experiment rather than the independent measures design (specifically making references to ecological validity), which was not creditworthy.

Question 33 (a) and (b)

33 Which section of the write-up of a practical report would each of the following appear in, other than the abstract?

(a) Details of sample obtained.

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..... **[1]**

(b) Suggestions for possible future research.

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..... **[1]**

A large proportion of candidates knew the answers, however some still used abstract despite the question asking them not to.

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