
AS

Psychology Specification A

PSYA1 Cognitive Psychology, Developmental Psychology and Research Methods
Mark scheme

2180
June 2016

Version 1.0: Final Mark Scheme

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available from aqa.org.uk.

Section A Cognitive Psychology and Research Methods

Question 1

Select from the list below two features of the multi-store model of memory and two features of the working memory model. Write the appropriate letter A, B, C, D, E or F to complete the table. [2 marks]

AO1 = 2 marks Knowledge of features of models of memory

| | Feature 1 | Feature 2 |
|-----------------------------|-----------|-----------|
| Multi-store model of memory | B | F |
| Working memory model | C | D |

Multi-store model B and F or F and B = 1 mark
 Working memory model C and D or D and C = 1 mark

Question 2

Outline one strength of the multi-store model and one strength of the working memory model.

[2 marks + 2 marks]

AO2 = 2 marks + 2 marks Knowledge of strengths of MSM and WMM

Strength of MSM

Likely strengths include research evidence in support of the distinction between STM and LTM in terms of capacity, duration and encoding. For example, Milner (1965) case study of HM who was unable to retain any new information although his immediate digit span was within normal limits or Glanzer and Cunitz (1966) who investigated the effect of immediate and delayed recall on primacy and recency in a serial position curve.

Strength of WMM

Likely strengths include research support such as dual task studies and physiological evidence from brain scans or a non-evidence based strength e.g.: WMM explains common experiences such as not being able to do two similar tasks at the same time. Students may offer a comparison with the MSM and suggest WMM gives a better account of STM.

Credit any acceptable strengths.

For each strength, 1 mark for identification and a further mark for accurate elaboration. For example, there is evidence from dual task studies to support the WMM (1 mark). It is easier to do two tasks at the same time if they use different processing systems (verbal and visual) than if they use the same slave system (2 marks).

Question 3

Describe how encoding was investigated in one study of short term memory (STM). In your answer you should include details of the materials that were used and what participants were asked to do.

[4 marks]

AO1 = 4 marks Knowledge of one relevant study to investigate encoding in STM

Likely studies include Baddeley's (1966) experiment where participants were presented with one of four lists of 5 words. List A had acoustically similar words e.g.: cat, mat, sat. List B had acoustically dissimilar words e.g.: pit, day, cow. List C had semantically similar words e.g.: big, huge, tall. List D had semantically dissimilar words e.g.: hot, safe, late. Participants were given a list containing the original words in the wrong order and asked to rearrange the words in the correct order.

Conrad (1964) visually presented participants with several sets of six consonants at a rate of 0.75 seconds per letter. The letters were either acoustically similar or acoustically dissimilar. Participants wrote down the letters in the order they appeared and their errors were noted. Any appropriate way of investigating encoding in STM should be credited.

| AO1 Knowledge and understanding of procedures of one study into encoding in STM |
|--|
| 4 marks Accurate and reasonably detailed Accurate and reasonably detailed description that demonstrates sound knowledge of materials used and what participants were asked to do in one relevant study. |
| 3 marks Less detailed but generally accurate Less detailed but generally accurate description that demonstrates relevant knowledge of materials used and what participants were asked to do in one relevant study. OR Accurate and reasonably detailed description that demonstrates sound knowledge of materials used or what participants were asked to do in one relevant study. |
| 2 marks Basic Basic description that demonstrates knowledge of one relevant study but lacks detail and may be muddled. |
| 1 mark Very brief/flawed Very brief or flawed description that demonstrates very little knowledge of one relevant study. |
| 0 marks No creditworthy material presented. |

Question 4 (a)**What is a cognitive interview?****[2 marks]****AO1 = 2 marks Knowledge of cognitive interview**

A cognitive interview is a technique developed to be used by police when questioning witnesses to aid memory recall of an event. It requires a witness to recreate the context, recall all details, recall events in a different order and recall from different perspectives.

1 mark for a very brief or muddled answer e.g.: a way of helping eye witness testimony.
 2nd mark for accurate elaboration as above.

Question 4 (b)

Evaluate the effectiveness of the cognitive interview. Include reference to research evidence in your evaluation. **[4 marks]**

AO2 = 4 marks Evaluation of effectiveness of the cognitive interview

Students may refer to support from research studies which have shown the cognitive interview to be effective e.g.: Geiselman (1985) found recall from a cognitive interview compared favourably with a standard interview. They may give more negative points e.g.: the cognitive interview is time-consuming for police officers and some techniques such as changing perspective may lead witnesses to give inaccurate information.

There is a depth/breadth trade-off here. Students could gain full marks by using the findings of one research study effectively, or by referring to several points in less detail.

| AO2 Evaluation of the effectiveness of the cognitive interview |
|---|
| 4 marks Effective evaluation Commentary/evaluation demonstrates sound analysis and effective use of material to evaluate effectiveness of the cognitive interview. |
| 3 marks Reasonable evaluation Commentary/evaluation demonstrates reasonable analysis and reasonable use of material to evaluate effectiveness of the cognitive interview. |
| 2 marks Basic evaluation Commentary/evaluation demonstrates basic analysis and superficial evaluation of effectiveness of the cognitive interview. |
| 1 marks Rudimentary evaluation The use of material provides only rudimentary evaluation, muddled analysis and/or evaluation. |
| 0 marks No creditworthy material |

Question 5

Outline and evaluate one or more studies of the effect of misleading information on eye-witness testimony (EWT).

[4 marks + 4 marks]

AO1 = 4 marks Outline of study/studies into misleading information
AO2 = 4 marks Evaluation of studies into misleading information

AO1

Students must select a research study (studies) which relates to misleading information, so research into weapon focus should not be credited.

Students are likely to refer to Loftus and Palmer's (1974) experiment where the verb in the critical question was changed (smashed, collided, bumped, hit or contacted). Other relevant research would be Loftus and Palmer asking participants "Did you see any broken glass?" and Loftus et al's (1978) study using a red Datsun and Stop or Yield signs.

Research into anxiety and EWT is not relevant unless the candidate refers to leading questions such as Yuille and Cutshall where the witnesses to a real-life shooting appeared resistant to leading questions.

Research relating to age could also be relevant. For example, Warren et al (2005) found children were more likely to be influenced by leading questions than adults.
Credit any relevant research study/studies.

There is a depth/breadth trade-off. Students who outline more than one study can include less detail than those who outline one study.

AO2

Evaluation might refer to lack of ecological validity in relation to laboratory studies or lack of control in real life situations. Other methodological issues including sampling and implications for generalisation, possible replication and corroboration or findings with other studies could be included. Ethical issues could be relevant as could practical applications of the research.

| AO1 Knowledge and Understanding | AO2 Evaluation of studies |
|--|---|
| <p>4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound knowledge and understanding of at least one study of misleading information including accurate reference to findings. There is appropriate selection of material to address the question.</p> | <p>4 marks Effective evaluation Evaluation demonstrates sound analysis and effective use of a range of material to evaluate research into misleading information.</p> |
| <p>3 marks Less detailed but generally accurate Generally accurate but less detailed answer that demonstrates relevant knowledge and understanding of at least one study of misleading information. There is some evidence of selection of material to address the question.</p> | <p>3 marks Reasonable evaluation Evaluation demonstrates reasonable analysis and use of material to evaluate research into misleading information.</p> |
| <p>2 marks Basic Basic answer that demonstrates some relevant knowledge and understanding of at least one study of misleading information but lacks detail and may be muddled. There is little evidence of selection of material to address the question.</p> | <p>2 marks Basic evaluation Evaluation demonstrates basic analysis and superficial evaluation of research into misleading information.</p> |
| <p>1 mark Very brief/flawed or inappropriate Very brief or flawed description that demonstrates very little knowledge of at least one study of misleading information. Selection of material is largely inappropriate.</p> | <p>1 mark Rudimentary evaluation The use of material provides only rudimentary evaluation, muddled analysis and/or evaluation.</p> |
| <p>0 marks No creditworthy material.</p> | <p>0 marks No creditworthy material.</p> |

Question 6 (a)

Identify an aim of this experiment.

[2 marks]

AO3 = 2 marks Knowledge of research methods

One aim of this experiment is to see if use of a mnemonic improves memory for naming the planets in order.

(Credit relevant alternative aims.)

1 mark for a very brief or muddled aim e.g.: to investigate a memory improvement technique.
2 marks for some elaboration relating to this experiment.

Question 6 (b) (i)

What is meant by ‘qualitative data’? Identify an example of qualitative data collected in this experiment.

[2 marks]

AO3 = 2 marks Knowledge of research methods

Qualitative data is non-numerical and includes descriptions in a verbal or written form
(1 mark).

An example from this experiment is the participants’ description of how they tried to learn the planets (1 mark).

Question 6 (b) (ii)

What is meant by ‘quantitative data’? Identify an example of quantitative data collected in this experiment.

[2 marks]

AO3 = 2 marks Knowledge of research methods

Quantitative data is numerical (1 mark).

An example from this experiment is the number of participants who correctly recalled eight planets in order (1 mark).

Question 6 (c)

What is reliability? Explain how the researcher could decide whether the results in Table 1 are reliable.

[1 mark + 3 marks]

AO3 = 1 mark + 3 marks Knowledge of research methods

Reliability refers to consistency 1 mark

1 mark for identifying a suitable way of checking reliability e.g.: do it again

2 further marks for accurate elaboration

E.g.: Carry out a replication of the experiment at a later date (1 mark) and look for similarity in both sets of results. (1 mark) If both sets of results are similar the researcher could decide the results in this experiment are reliable. (1 mark)

Or Carry out the same task with different participants (2 marks) and look for similar results (3rd mark)

Or Use the same participants with a different but similar mnemonic task (2 marks) and look for similar results (3rd mark)

Question 6 (d)

Suggest a possible extraneous variable in this experiment.

[2 marks]

AO3 = 2 marks Knowledge of research methods

Extraneous variables are anything other than the independent variable which could affect the dependent variable.

In this experiment a possible extraneous variable could be participants in Condition 1 using a mnemonic, even though they have not been instructed to do so. Also relevant could be individual differences in memory, environmental differences such as temperature or noise, and experimenter variables including the way in which the research is conducted.

Credit extraneous variables relevant to either part of the investigation.

1 mark for a very brief or slightly muddled answer e.g.: participant's previous knowledge.

2nd mark for accurate elaboration e.g.: participants may already know the planets in order.

Section B Developmental Psychology and Research Methods

Question 7

In the past, children were sometimes brought up in poor quality orphanages. The staff rarely picked the babies up, even for feeding.

Explain why learning theory suggests babies brought up in this way would have problems forming an attachment.

[4 marks]

AO2 = 4 marks Application of knowledge

Learning theory suggests attachment develops through classical and operant conditioning. According to classical conditioning food (UCS) produces pleasure (UCR). The mother is normally associated with the pleasure and becomes a conditioned stimulus. According to operant conditioning food satisfies the infant's hunger and makes it feel comfortable again (drive reduction). Food is therefore a primary reinforcer. The mother is normally associated with food and becomes a secondary reinforcer. The infant becomes attached to the mother because she is a source of reward. When children are not picked up during feeding they will be unable to form an association between the caregiver and pleasure so will not learn to form an attachment in this way.

Students may refer to classical conditioning, operant conditioning or both.

The explanation must be directly linked to attachment. Unrelated descriptions of classical or operant conditioning are not creditworthy.

| AO2 Application of knowledge |
|---|
| 4 marks Effective The selection and application of psychological knowledge relating the scenario to the learning theory of attachment is appropriate and effective. |
| 3 marks Reasonable The selection and application of psychological knowledge relating the scenario to the learning theory of attachment is mostly appropriate. |
| 2 marks Basic The selection and application of psychological knowledge relating the scenario to the learning theory of attachment is sometimes appropriate. |
| 1 marks Rudimentary The selection and application of psychological knowledge relating the scenario to the learning theory of attachment is muddled and/or mostly inappropriate. |
| 0 marks No creditworthy material. |

Question 8

Which two statements best describe the behaviour of a child who shows an insecure-resistant attachment type in the ‘Strange Situation’? [2 marks]

AO1 = 2 marks Knowledge of attachment types

A and E

1 mark for each correct answer.

If 3 or more are ticked, 0 marks.

Question 9

Apart from ethical issues, outline one problem with using the ‘Strange Situation’ to identify different types of attachment.

[2 marks]

AO2 = 2 marks Evaluation of the Strange Situation

There are a number of potential problems of using the strange situation to identify different types of attachment.

- Children may show characteristics of insecure attachment because they are used to being separated from their mother.
- Ecological validity would also be relevant. The strange situation is carried out in controlled conditions and might not be generalised to other situations.

1 mark for identification of a relevant problem.

2nd mark for accurate elaboration.

Credit any relevant potential problems.

Question 10

Outline one research study of the effects of day care on aggression. [4 marks]

AO1 = 4 marks Knowledge and Understanding

The EPPE project (2003) looked at large numbers of children in different types of pre-school provision and found that high levels of group care before the age of three (and particularly before the age of two) were associated with higher levels of aggression.

Shea (1981) observed children (average age 4 years 3 months) who attended pre-school for 2, 3 or 5 days a week. He found that over a 10 week period aggressive behaviour decreased in all three groups.

In the USA, the NICHD study has followed the progress of more than 1000 children since 1991. It found that the more time children spent in day care from birth to four and a half years, the more adults rated them as aggressive.

Credit any aspect of relevant studies as long as they relate to day care (not institutional care) and to aggression.

| |
|--|
| AO1 Knowledge of the effects of disruption of attachment |
| 4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound knowledge of one study of the effects of day care on aggression. |
| 3 marks Less detailed but generally accurate Generally accurate but less detailed answer that demonstrates relevant knowledge of one study of the effects of day care on aggression. |
| 2 marks Basic Basic answer that demonstrates some relevant knowledge of one study of the effects of day care on aggression. |
| 1 mark Very brief and/or flawed Very brief or flawed answer that demonstrates very little knowledge of one study of one or more effects of day care on aggression. |
| 0 marks No creditworthy material. |

Question 11 (a)**Explain why using interviews might be better than using questionnaires.****[4 marks]****AO3 = 4 marks Knowledge of research methods**

There are different routes to full marks in this question. Students can explain one advantage of using interviews rather than questionnaires in reasonable detail or more advantages in less detail.

Answers may be related to the stem (parents of children who attended day care) but this is not essential.

Advantages of using an interview rather than a questionnaire could include:

- more detailed information is likely to be collected in an interview because further questions can be asked based on the participant's responses
- any misunderstood questions can be explained and rephrased
- interviews are a good source of qualitative data
- an interview may be able to address sensitive issues which would be difficult in a questionnaire
- participants may be more honest when face to face with a researcher.

| AO3 Knowledge of research methods |
|--|
| 4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound understanding of one or more advantages of using an interview rather than a questionnaire. |
| 3 marks Less detailed but generally accurate Less detailed but generally accurate answer that demonstrates relevant understanding of one or more advantages of using an interview rather than a questionnaire. |
| 2 marks Basic Basic answer that demonstrates some relevant understanding of one or more advantages of using an interview rather than a questionnaire, but lacks detail and may be muddled. |
| 1 mark Very brief/flawed Very brief or flawed answer demonstrating very little understanding of one or more advantages of using an interview rather than a questionnaire. |
| 0 marks No creditworthy material. |

Question 11 (b)

What is meant by an ‘investigator effect’? Explain a possible investigator effect in this observational study.

[4 marks]

AO3 = 4 marks Knowledge of research methods

Investigator effects occur when the researcher's behaviour, characteristics or attitudes influence the research in some way. This includes the way the presence of the researcher may influence the participants.

Note: Demand characteristics are not credit-worthy in this study.

No marks for an answer which simply restates the words e.g.: “a way in which the investigator effects/affects research”.

Maximum 2 marks for an accurate understanding of investigator effects but no reference to this observation.

There are different routes to full marks. Students could be stronger on definitions or stronger on application. Students whose explanation of a possible investigator effect in this observation shows clear understanding of the term can be awarded full marks, even though there is no separate definition.

For example, the psychologist may expect some forms of day care to be more beneficial for social development than others. This may become unconsciously communicated to the children through mannerisms such as smiling or frowning when the children behave in certain ways.

Students may also refer to actions taken in designing the study such as selection of participants.

| |
|--|
| AO3 Knowledge of research methods |
| 4 marks Accurate and reasonably detailed |
| Accurate and reasonably detailed answer that demonstrates sound understanding of what is meant by an investigator effect and a possible investigator effect in this situation. |
| 3 marks Less detailed but generally accurate |
| Less detailed but generally accurate answer that demonstrates relevant understanding of what is meant by an investigator effect and a possible investigator effect in this situation. |
| 2 marks Basic |
| Accurate and reasonably detailed answer that demonstrates sound understanding of what is meant by an investigator effect but no reference to a possible investigator effect in this situation. Or a basic answer that demonstrates some relevant understanding of what is meant by an investigator effect and a possible investigator effect in this situation. |
| 1 mark Very brief/flawed |
| Very brief or flawed answer demonstrating very little understanding of what is meant by an investigator effect or a possible investigator effect in this situation. |
| 0 marks |
| No creditworthy material. |

Question 11 (c)

Explain one or more ethical issues that the researcher should consider when carrying out research with children.

[4 marks]

AO3 = 4 marks Knowledge of research methods

Likely ethical issues relating to carrying out research with children include:

- obtaining informed consent from parents and the child if appropriate
- possible deception if parents are not fully aware of the research aims
- giving the parents the right to withdraw their child and any data from the research at any time
- maintaining confidentiality of the child and their family
- avoiding distressing the children.

Merely identifying one or more ethical issues, 1 mark.

| AO3 Knowledge of research methods | |
|---|---|
| 4 marks Accurate and reasonably detailed | Accurate and reasonably detailed answer that demonstrates sound understanding of one or more ethical issues which should be considered when carrying out research with children. |
| 3 marks Less detailed but generally accurate | |
| | Less detailed but generally accurate answer that demonstrates relevant understanding of one or more ethical issues which should be considered when carrying out research with children. |
| 2 marks Basic | |
| | Basic answer that demonstrates some relevant understanding of one or more ethical issues which should be considered when carrying out research with children. |
| 1 mark Very brief/flawed | |
| | Very brief or flawed answer demonstrating very little understanding of one or more ethical issues which should be considered when carrying out research with children. |
| 0 marks | |
| | No creditworthy material. |

Question 12

Outline and evaluate one or more research studies into the effects of institutional care.

[12 marks]

AO1 = 6 marks Knowledge of research studies into the effects of institutional care
AO2 = 6 marks Evaluation of research studies into the effects of institutional care

AO1

Any aspect of relevant research studies can be credited but they must relate to the effects of institutional care.

Robertson and Robertson's research into separation is creditworthy as long as reference is made to effects of care in a residential nursery rather than foster care.

Quinton found women who had been raised in institutions had difficulties when they became mothers and their children were more frequently in care than a control group.

Hodges and Tizard studied children brought up in a residential nursery until they were around four years old. Almost all of the adopted children and some of the restored children formed a close attachment to their parents, but both groups had difficulties with peer relationships and were more attention seeking than controls.

Rutter studied Romanian children who have been placed in institutions before being adopted by UK families. Children who spend longer in the institutions were more likely to show long-term effects.

Older research studies e.g.: by Spitz, Goldfarb, Robertson or Freud and Dann would also be relevant.

Studies where children were not cared for in institutions e.g.: Koluchova's twin study or animal research eg Harlow are not relevant. It is unlikely that students would be able to make Curtis's study of Genie relevant.

AO2

Evaluation will depend on the studies selected. Students may evaluate research studies in terms of methodology, e.g.: for Robertson and Robertson's study of John, strengths and limitations of case studies; for Hodges and Tizard, problems of natural experiments; for Rutter, strengths and limitations of longitudinal research. Students may refer to the fact that the effects may depend on a number of factors including age of child and quality of later care as well as individual differences in the institutional experience as well as in the child's ability to cope. Practical implications such as how this research has influenced child care practice eg foster care would also be relevant.

| AO1 Knowledge and understanding | AO2 Evaluation |
|--|--|
| <p>6 marks Accurate and reasonably detailed Accurate and reasonably detailed description that demonstrates sound knowledge and understanding of one or more research studies into the effects of institutional care. There is appropriate selection of material to address the question.</p> | <p>6 marks Effective evaluation Effective use of material to address the question and provide informed evaluation. Broad range of issues and/or evidence in reasonable depth, or a narrower range in greater depth. Clear expression of ideas, good range of specialist terms, few errors of grammar, punctuation and spelling.</p> |
| <p>5-4 marks Less detailed but generally accurate Less detailed but generally accurate description that demonstrates relevant knowledge and understanding of at least one research study into the effects of institutional care. There is some evidence of selection of material to address the question.</p> | <p>5-4 marks Reasonable evaluation Material is not always used effectively but produces a reasonable evaluation. A range of issues and/or evidence in limited depth, or a narrower range in greater depth. Reasonable expression of ideas, a range of specialist terms, some errors of grammar, punctuation and spelling.</p> |
| <p>3-2 marks Basic Basic description that demonstrates some relevant knowledge and understanding of least one research study into the effects of institutional care, but lacks detail and may be muddled. There is little evidence of selection of material to address the question.</p> | <p>3-2 marks Basic evaluation The use of material provides only a basic evaluation. Superficial consideration of a restricted range of issues and/or evidence. Expression of ideas lacks clarity; some specialist terms used; errors of grammar, punctuation and spelling detract from clarity.</p> |
| <p>1 mark Very brief/flawed Very brief or flawed description that demonstrates very little knowledge or understanding of least one research study into the effects of institutional care. Selection of information is largely or wholly inappropriate.</p> | <p>1 mark Rudimentary evaluation The use of material provides only a rudimentary evaluation. Expression of ideas poor; few specialist terms used; errors of grammar, punctuation and spelling often obscure the meaning.</p> |
| <p>0 marks No creditworthy material presented.</p> | <p>0 marks No creditworthy material presented.</p> |

Assessment Objectives Grid for PSYA1 June 2016

| QUESTION | AO1 MARK | AO2 MARK | AO3 MARK |
|-------------------------|-----------|-----------|-----------|
| 1 | 2 | | |
| 2 | | 4 | |
| 3 | 4 | | |
| 4a | 2 | | |
| 4b | | 4 | |
| 5 | 4 | 4 | |
| 6a | | | 2 |
| 6b | | | 4 |
| 6c | | | 4 |
| 6d | | | 2 |
| Cognitive Totals | 12 | 12 | 12 |

| | | | |
|--|-----------|-----------|-----------|
| 7 | | 4 | |
| 8 | 2 | | |
| 9 | | 2 | |
| 10 | 4 | | |
| 11a | | | 4 |
| 11b | | | 4 |
| 11c | | | 4 |
| 12 | 6 | 6 | |
| Developmental and Research Totals | 12 | 12 | 12 |
| Totals | 24 | 24 | 24 |