



A-LEVEL

PSYCHOLOGY A

PSYA1 – Cognitive Psychology, Developmental Psychology and Research
Methods
Mark scheme

Specification 2180
June 2014

Version: 1.0 Final

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.

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Section A Cognitive Psychology and Research Methods

Question 01**AO1 = 2 marks Knowledge of capacity and duration**

Capacity refers to how much can be held in memory.

“How much it holds” = 1 mark

Duration refers to how long a memory lasts.

“How long it lasts” = 1 mark

Credit accurate examples from STM or LTM eg for capacity STM can hold 7+/-2 chunks. Eg for duration LTM lasts for a lifetime.

Question 02 a**AO3 = 2 marks Knowledge and understanding of research methods**

High levels of control of extraneous variables

High replicability

Can conclude a change in the IV causes a change in the DV

1 mark for a very brief advantage eg “control of variables” or “can be repeated”

2 marks for accurate elaboration eg “someone else could repeat the experiment to check the results are reliable”

Question 02 b**AO3 = 2 marks Knowledge and understanding of research methods**

0 marks for a directional, correlational or null hypothesis

1 mark if slightly muddled or not operationalised, eg “There will be a difference in memory for list 1 and list 2.” “There will be a difference between the two conditions”.

2 marks for eg “There will be a difference in number of letters recalled for list 1 and list 2.”

Question 02 c**AO3 = 4 marks Knowledge and understanding of research methods**

`Repeated measures design = 1 mark (Accept repeated/within participants)

0 marks for related or for simply stating participants take part in both conditions.

Evaluation could include strengths of a repeated measures design (each participant acts as their own control/reduces the effect of individual differences) limitations of the design (interference/order effects) or comparison with other designs.

1 mark for identifying a relevant evaluation point eg participants are compared with themselves.

Up to 2 further marks for accurate elaboration, and/ or for identifying other relevant points.

2 marks eg participants are compared with themselves so individual differences are held constant

3 marks eg participants are compared to themselves so there are fewer problems with individual differences than if an independent design was used.

(3 marks can be awarded for elaboration of one issue or for identifying three issues that could be relevant to this experiment.)

Question 02 d**AO3 = 2 marks****Knowledge and understanding of research methods**

A random sample is likely to be more representative of the target population than an opportunity sample and therefore findings are more likely to be generalisable.

1 mark for a very brief or slightly muddled answer eg an opportunity sample is biased.

2 marks for accurate elaboration.

Question 02 e**AO2 = 2 marks****Application of knowledge to a novel situation**

Participants find it easier to recall letters which sound different. This suggests the letters are stored in an acoustic manner in STM, when presented acoustically.

1 mark for a very brief or slightly muddled answer which refers to acoustic encoding/encoding by sound eg STM encodes acoustically

2 marks for accurate elaboration e.g. similar sounding letters are more difficult to recall because we use acoustic encoding in STM.

Question 02 f**AO3 = 2 marks****Knowledge and understanding of research methods**

There is more variation in recall of list 1 than of list 2.

Variation in scores can be expressed in a number of ways e.g. spread of scores, range of scores, divergence of scores, how close scores are to the mean.

1 mark for a very brief or slightly muddled answer

2 marks for accurate elaboration.

Question 03**AO1 = 4 marks****Knowledge of the working memory model**

The function of the phonological loop is to store a limited number of speech based sounds for a brief time. It is made up of a phonological store (inner ear) which stores acoustically coded items for brief periods and an articulatory control process (inner voice) which uses sub-vocal repetition. The visuo-spatial sketchpad holds information coded in a visual form for a short period of time. It includes the visual cache, a passive temporary visual store, and the inner scribe, which provides a rehearsal mechanism.

Both components function as slave systems of the central executive.

AO1 Knowledge of the functions of working memory model
4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound knowledge of the functions of the phonological loop and the visuo-spatial sketchpad.
3 marks Less detailed but generally accurate Generally accurate but less detailed answer that demonstrates relevant knowledge of the functions of the phonological loop and the visuo-spatial sketchpad.

<p>2 marks Basic Basic answer that demonstrates some relevant knowledge of the functions of the phonological loop and the visuo-spatial sketchpad, but lacks detail and may be muddled. Or Generally accurate but less detailed answer that demonstrates relevant knowledge of the functions of the phonological loop or the visuo-spatial sketchpad.</p>
<p>1 mark Very brief and/or flawed Very brief or flawed answer that demonstrates very little knowledge of the functions of the phonological loop or the visuo-spatial sketchpad, or merely names subcomponents.</p>
<p>0 marks No creditworthy material.</p>

Question 04

AO2 = 4 marks Application of knowledge to a novel situation

Candidates could select strategies based on visual imagery such as method of loci, peg word method or mind maps. Acronyms/acrostics or narrative chaining could also be used.

The question refers to a student revising, so strategies which could lead to memory improvement in short term memory, such as chunking, should not be credited.

Simply naming/describing a memory strategy with no reference to the features of Bowlby's theory should not be credited.

AO2	Application of knowledge of memory improvement strategies.
4 marks Effective	The selection and application of psychological knowledge to memory improvement for the identified features is appropriate and effective.
3 marks Reasonable	The selection and application of psychological knowledge to memory improvement for the identified features is mostly appropriate.
2 marks Basic	The selection and application of psychological knowledge to memory improvement for the identified features is sometimes appropriate.
1 marks Rudimentary	The selection and application of psychological knowledge to memory improvement for the identified features is muddled and/ or mostly inappropriate.
0 Marks	No creditworthy material

Question 05

Total 12 marks

AO1 = 6 marks

Outline of relevant research study/studies

AO2 = 6 marks

Evaluation of relevant research study/studies

AO1

There is a wide range of possible studies which candidates could select from the topic areas named in the specification which are: misleading information, anxiety and age of witness.

Answers might describe one study in some detail, or describe a wider range in less detail.

Any aspects of relevant studies could be credited to gain full marks.

Examiners should check carefully studies with which they are unfamiliar.

Candidates may refer to research with older and younger adults eg Anastasi & Rhodes (2006) used participants aged 18 – 78 years. Warren et al (2005) found older children were more likely to be influenced by leading questions than adults.

For misleading information candidates 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.

For anxiety, Loftus's (1979) weapon focus experiment showed more participants correctly identified a person holding a pen (49%) than a person holding a knife covered in blood. Loftus and Burns (1982) found participants who saw a violent version of a crime where a boy was shot in the face had impaired recall for events leading up to the accident. However, in a real life study Yuille and Cutshall (1986) found witnesses who had been most distressed at the time of a shooting gave the most accurate account five months later. Also Christianson and Hubinette (1993) found victims of genuine bank robberies were more accurate in their recall than bystanders.

Research studies relating to cognitive interviews are relevant as long as they focus on accuracy. Description of techniques used in cognitive interviews would not receive credit.

AO2

Evaluation is likely to focus on the effectiveness of research. It will depend on the studies selected but might refer to:-

- methodological evaluation eg lack of ecological validity in laboratory research or lack of control in real life situations
- appropriate ethical issues
- practical applications/implications eg court cases
- links to relevant theory eg Yerkes Dodson and arousal, own age bias

AO1 Knowledge and understanding	AO2 Application of knowledge and understanding
<p>6 marks Accurate and reasonably detailed</p> <p>Accurate and reasonably detailed description of relevant studies that demonstrates sound knowledge and understanding.</p> <p>There is appropriate selection of material to address the question.</p>	<p>6 marks Effective evaluation</p> <p>Effective evaluation of material to address the question and provide informed evaluation.</p> <p>Effective use of research evidence.</p> <p>Broad range of issues and/or evidence in reasonable depth, or a narrower range in greater depth.</p> <p>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</p> <p>Less detailed but generally accurate description of relevant studies that demonstrates relevant knowledge and understanding.</p> <p>There is some evidence of selection of material to address the question.</p>	<p>5-4 marks Reasonable evaluation</p> <p>Material is not always used effectively but produces a reasonable evaluation.</p> <p>Reasonable use of research evidence.</p> <p>A range of issues and/or evidence in limited depth, or a narrower range in greater depth.</p> <p>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 relevant studies 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. Basic use of research evidence. 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 relevant studies. Selection of information is largely inappropriate.</p>	<p>1 mark Rudimentary evaluation The use of material provides only a rudimentary evaluation. Use of research evidence is just discernible or absent. 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>

Question 06 a

AO1 = 4 marks

Knowledge of learning theory explanation of attachment

The question states “Learning theory suggests attachment develops through classical and operant conditioning.”, so this should not receive credit if presented as an answer.

According to classical conditioning food (UCS) produces pleasure (UCR). The mother is 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 associated with food and becomes a secondary reinforcer. The infant becomes attached to the mother because she is a source of reward.

Candidates 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 credit-worthy.

<p>AO1 Knowledge of learning theory explanation of attachment</p>
<p>4 marks Accurate and reasonably detailed Accurate and reasonably detailed description of the theory that demonstrates sound knowledge and understanding.</p>
<p>3 marks Less detailed but generally accurate Less detailed but generally accurate description of the theory that demonstrates relevant knowledge and understanding.</p>
<p>2 marks Basic Basic description that demonstrates some relevant knowledge and understanding of the theory but lacks detail and may be muddled.</p>
<p>1 mark Very brief/flawed Very brief or flawed description that demonstrates very little knowledge or understanding of the theory.</p>
<p>0 marks No creditworthy material presented.</p>

Question 06 b**AO2= 4 marks****Application of knowledge**

Schaffer and Emerson found less than half of infants had a primary attachment to the person who usually fed them. Harlow's research suggested monkeys became attached to the soft surrogate mother rather than the one who fed it. Lorenz found goslings imprinted on the first moving object they saw.

Credit any relevant research findings.

Maximum 1 mark for simply identifying relevant research eg Harlow's monkeys or imprinting.

Further marks for accurate explanation of why the findings challenge learning theory.

AO2	Application of knowledge
4 marks Effective	The selection and application of psychological knowledge of research findings that challenge the learning theory of attachment is appropriate and effective.
3 marks Reasonable	The selection and application of psychological knowledge of research findings that challenge the learning theory of attachment is mostly appropriate.
2 marks Basic	The selection and application of psychological knowledge of research findings that challenge the learning theory of attachment is sometimes appropriate.
1 marks Rudimentary	The selection and application of psychological knowledge of research findings that challenge the learning theory of attachment is muddled and/ or mostly inappropriate.
0 Marks	No creditworthy material

Question 07**AO2 = 4 marks****Outline of differences**

Candidates are most likely to outline differences relating to the following stages in the strange situation:-

- Exploration – resistant are fussy and less likely to explore
- Separation behaviour – resistant will cry and are much more distressed.
- Stranger anxiety – resistant will show more stranger anxiety.
- Reunion behaviour – resistant infants are harder to sooth. They may show ambivalent behaviour towards the mother.

For each difference 1 mark for a very brief or slightly muddled outline of the difference. Second mark for accurate elaboration. If candidates cover 3 differences credit the best 2.

Question 08 a**AO3 = 2 marks****Knowledge and understanding of research methods**

Ways that insecure attachments vary, eg:

- country A has the lowest % of insecure avoidant
- country C the lowest % of insecure resistant
- B and C have a higher percentage of insecure avoidant than A.

Award 1 mark for each accurate point.

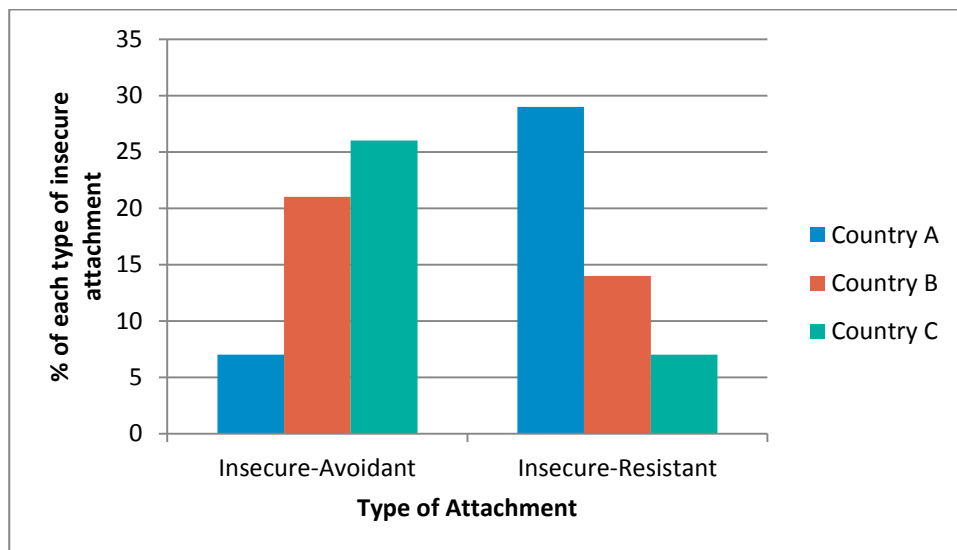
Question 08 b**AO3 = 3 marks****Knowledge and understanding of research methods**

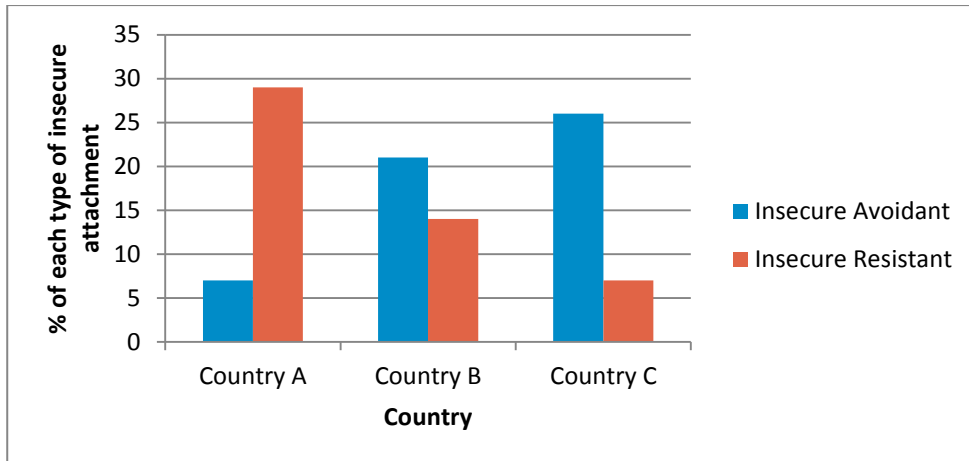
0 marks if the candidate has not drawn a bar chart.

1 mark for drawing a bar chart using an appropriate scale.

Up to 2 marks for accurate and complete labelling. For 2 marks both bars and the vertical axis should be clearly labelled.

If candidate has included secure attachment or partially included insecure attachment maximum 2 marks (1 mark for appropriate scale and 1 mark for accurate complete labelling).



**Question 09 a****AO3 = 1 marks****Knowledge and understanding of research methods**

Positive correlation 1 mark

If more than one box is ticked, zero marks

Question 09 b**AO3 = 2 marks****Knowledge and understanding of research methods**

A main limitation is that there is no manipulation of an IV so it cannot be assumed that a change in one variable caused a change in the other, so cause and effect cannot be established.

Other variables may affect both measured variables.

Correlations only measure linear relationships.

Accept all correct answers including those which refer to statistical significance, number of pairs of scores and distortions caused by outliers.

1 mark for a very brief or slightly muddled answer eg it doesn't show cause and effect.

2 marks for accurate elaboration.

Question 09 c**AO3 = 4 marks****Knowledge and understanding of research methods**

Likely ethical issues relating to observation include obtaining informed consent from parents and children; possible deception if parents and/or children are not aware their aggressive behaviour is being observed; maintaining confidentiality etc

Likely methodological issues include deciding how to categorise aggressive behaviour; children behaving differently when being observed etc.

Accept all correct answers.

For each issue 1 mark for a very brief or slightly muddled answer eg "Is pushing aggressive?"

2nd mark for accurate elaboration.

Candidates who refer to CRB checks would need to make a case for why this is an ethical or methodological issue to receive credit.

Question 09 d

AO1 = 4 marks

Knowledge of the effects of institutional care

Hodges & Tizard (1989) found negative social effects such as attention seeking behaviour and problems with peer relationships in both adopted and restored children. Rutter's longitudinal study of Romanian orphans showed negative effects on social and cognitive development, especially for children who had spent the longest time in an institution. Robertson and Robertson's study of the effects of short term residential care would be relevant, eg PDD.

Answers based on the possible effects of failure to form attachments during a critical/sensitive period could be credited. Credit reference to a lack of negative consequences of early institutional care.

It is unlikely that candidates would be able to make case studies such as Genie relevant to institutional care. The effects of day care or animal research are not credit-worthy.

AO1 Knowledge of the effects of institutional care
4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound knowledge of one or more effects of institutional care. There is reference to relevant research.
3 marks Less detailed but generally accurate Generally accurate but less detailed answer that demonstrates relevant knowledge of one or more effects of institutional care.
2 marks Basic Basic answer that demonstrates some relevant knowledge of one or more effects of institutional care, but lacks detail and may be muddled.
1 mark Very brief and/or flawed Very brief or flawed answer that demonstrates very little knowledge of one or more effects of institutional care.
0 marks No creditworthy material.

Question 10

AO1 = 4 marks
development

Knowledge of one study of the effects of day care on social

The effects of day care on aggression and peer relations are included in the specification, so it is likely that candidates will select research which relates to these.

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 US, the NICHD study has followed the progress of more than 1000 children since 1991. It was 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.

Field (1991) found the more time children spend in day care, the more friends they had. The EPPE project (2003) looked at large numbers of children in different types of pre-school provision and found high quality care was associated with greater sociability with other children. However, it also concluded 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. Dilallo (1988) found children who spend

more time in day care were less cooperative and helpful in their relations with other children. Campbell (2000) found children who were in care for a long time each day were less socially competent than children who spent shorter days in care. Candidates may refer to older studies. This is acceptable as long as they are investigating day care (not institutional care) and relate to children's social development.

AO1	Knowledge and understanding
4 marks	Accurate and reasonably detailed Accurate and reasonably detailed description of one relevant study that demonstrates sound knowledge of what was done and what was found.
3 marks	Less detailed but generally accurate Less detailed but generally accurate description of one relevant study that demonstrates relevant knowledge of what was done and what was found OR Accurate and reasonably detailed description of one relevant study that demonstrates sound knowledge of what was done or what was found.
2 marks	Basic Basic description that demonstrates some relevant 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 11

AO2 = 4 marks

Application of knowledge

Children who are not looked after by their parents need to have an opportunity to form an attachment with someone else. Candidates may refer to the advantages of foster care or adoption rather than institutional care.

Reference to key workers in day care would be relevant, as would parents staying with children in hospital.

There is a very wide range of potentially relevant material for this question. Candidates may give a reasonably detailed answer in relation to one area, such as day care, or refer to several areas more briefly.

AO2	Application of knowledge of research into attachment.
4 marks	Effective The selection and application of knowledge of research into attachment to child care practices is appropriate and effective.
3 marks	Reasonable The selection and application of knowledge of research into attachment to child care practices is mostly appropriate and reasonably effective.
2 marks	Basic The selection and application of knowledge of research into attachment to child care practices is brief and or sometimes appropriate.
1 marks	Rudimentary The selection and application of knowledge of research into attachment to child care practices is very brief, muddled and/ or mostly inappropriate.
0 Marks	No creditworthy material

Assessment Objectives

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

6a	4		
6b		4	
7		4	
8a			2
8b			3
9a			1
9b			2
9c			4
9d	4		
10	4		
11		4	
Developmental and Research Totals	12	12	12
Totals	24	24	24