Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/23**

Paper 2 Research Methods **May/June 2020**

MARK SCHEME

Maximum Mark: 60

Published

Students did not sit exam papers in the June 2020 series due to the Covid-19 global pandemic.

This mark scheme is published to support teachers and students and should be read together with the question paper. It shows the requirements of the exam. The answer column of the mark scheme shows the proposed basis on which Examiners would award marks for this exam. Where appropriate, this column also provides the most likely acceptable alternative responses expected from students. Examiners usually review the mark scheme after they have seen student responses and update the mark scheme if appropriate. In the June series, Examiners were unable to consider the acceptability of alternative responses, as there were no student responses to consider.

Mark schemes should usually be read together with the Principal Examiner Report for Teachers. However, because students did not sit exam papers, there is no Principal Examiner Report for Teachers for the June 2020 series.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the June 2020 series for most Cambridge IGCSE™ and Cambridge International A & AS Level components, and some Cambridge O Level components.

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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Question	Answer	Marks
1	**Describe the difference between qualitative and quantitative data.** 1 mark for qualitative 1 mark for quantitative qualitative data = descriptive / detailed / in depth quantitative = numerical (difference is implicit here)	**2**

Question	Answer	Marks
2	**The study by Piliavin et al. (subway Samaritans) was conducted in a subway train.**	
2(a)	**Suggest <u>one</u> advantage of conducting a study in this location.** 1 mark for advantage 1 mark for link the participants were unaware that they were being observed so behaved normally = 1 advantage because people do get ill on trains = 1 link the passengers were (relatively) confined to the carriage = 1 link so they had to make a decision about helping or ignoring/leaving = 1 advantage so it was easy to judge whether they helped or not = 1 advantage	**2**
2(b)	**Suggest <u>one</u> disadvantage of conducting a study in this location.** 1 mark for disadvantage 1 mark for link it is possible that the participants had seen the situation travelling in the other direction = 1 link so this might have been a source of demand characteristics = 1 disadvantage there might have been differences between the participants = 1 disadvantage e.g. if the people travelling in one direction might have been cross after work = 1 link	**2**

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Question	Answer	Marks
3	**The study by Saavedra and Silverman (button phobia) was a case study.** **Explain the <u>two</u> reasons that the case study method was chosen, using examples from this study. Do <u>not</u> refer to 'longitudinal' in your answer.** 1 mark for reason (can be generic), 1 mark for example (will necessarily be linked) ×2 one participant / a (9-year-old) boy / rare case = 1 reason e.g. interesting because a button phobia is rare / the phobia was very narrow / he had volunteered for treatment = 1 reason in-depth data (about the history / symptoms / therapy) = 1 reason e.g. collected detailed data about his experience with the bowl of buttons in school = 1 reason	**4**

Question	Answer	Marks
4	**Baron-Cohen et al. (eyes test) collected data from several standardised tests**	
4(a)	**Explain what is meant by 'standardisation'.** 1 mark for definition removing differences between the experience of participants within the same level of the IV = 2	**1**
4(b)	**Give <u>two</u> ways that the Eyes Test was standardised.** 1 mark for a feature of standardisation **x 2** All participants had access to a glossary = 1 Images all the same size = 1 Always 4 emotions = 1 3 foils = 1 Only 1 is ever correct = 1 All photos black and white = 1 The test always had the same number of questions = 0 (it would be a different test otherwise) Participants all took the same IQ test = 0 (not standardisation of Eyes test)	**2**

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Question	Answer	Marks
5	**Descriptive statistics used in studies can include the range and the standard deviation.**	
5(a)	**State what these descriptive statistics measure.** 1 mark for: dispersion; spread; how much variation there is;	**1**
5(b)	**Explain <u>one</u> advantage of the standard deviation compared to the range.** 1 mark for explanation 1 mark for detail the SD takes all scores into account (and the range does not) = 1 explanation so the SD is more representative / informative = 1 detail	**2**

Question	Answer	Marks
6	**Describe the use of the ethical guidelines of 'numbers' and 'housing' in relation to animals in research, using any examples.** 1 mark for basic definition. 5 further marks for detail / examples. Numbers of animals must be minimised / smallest number should be used; That will produce a valid result; E.g. Pepperberg only used 1; Housing must be suitable e.g. in terms of: • space; • e.g. for exercise; • social grouping / solitariness as appropriate; • clean; • but not too clean so as to distress the animal; E.g. Pepperberg allowed Alex out of his cage to fly around; Housing must be like their natural habitat = 0	**6**

Question	Answer	Marks
7	**Jodie is investigating attitudes to doodling in class. She wants to obtain a sample that includes students and teachers.**	
7(a)	**Name <u>one</u> sampling technique Jodie could use to obtain her sample.** Most likely: opportunity = 1 mark Volunteer = 1 mark	**1**
7(b)	**Suggest how Jodie could use this sampling technique to obtain her sample.** 1 mark for description of use 1 mark for link to Jodie's study (including teachers and students) Opportunity: use people who are available = 1 mark description e.g. the students and teachers in her classes = 1 link Volunteer: allow people to self select = 1 mark description put up adverts for participants to respond to = 1 mark description e.g. put up notices in school asking for teachers and students to respond = 1 link	**2**
7(c)	**Suggest <u>one</u> advantage to using this sampling technique in Jodie's study.** 1 mark for simple linked advantage Opportunity samples are easy to collect so Jodie should be able to find a big sample of students and teachers (making her results valid/generalisable) Lots of students doodle so she can get a big sample Volunteers are likely to be willing e.g. to talk about doodling Students often have free time so are likely to volunteer	**1**

Question	Answer	Marks
7(d)	**Explain <u>one</u> problem with using this sampling technique in Jodie's study, compared to <u>one</u> other sampling technique.** 1 mark for identifying a problem (must be implicitly or explicitly linked to Jodie's study) 1 mark for explaining it OR for explaining why the other technique is better 1 mark for identifying an alternative sampling technique Opportunity: (limited to available people) so likely to be similar / lack variety = 1 mark identification of problem e.g. the students and teachers might **not be typical** of those in all subjects/ schools = 1 explanation use volunteer sampling instead = 1 alternative e.g. a volunteer sample from school could include students and teachers of all ages Volunteer*:* (limited to people who respond) may all be very willing / educated = 1 mark identification of problem e.g. they might **not be typical** of those in other schools = 1 explanation use random sampling instead = 1 alternative e.g. a random sample from school would include students and teachers of all ages	**3**

Question	Answer	Marks
8	**Todd is using a questionnaire to investigate personality, such as being a calm or anxious person.**	
8(a)	**Describe what is meant by a 'questionnaire'.** 1st mark: written questions 2nd mark: detail Data collection method using written / online / not face to face questions; (1st mark) Participant give information about themselves / is a self report; (2nd mark)	**2**
8(b)(i)	**Suggest <u>one</u> open <u>and</u> one closed question about personality that Todd could use in his questionnaire.** Open question = 1 mark, Closed question with answer options = 1 mark Open question e.g.: Describe your personality; Explain whether you believe you are calm or anxious; Are you calm or anxious, explain why; Closed question e.g.: Would you describe yourself as being: very outgoing, somewhat calm, somewhat anxious, very anxious?; To what extent do you agree with the statement 'I am a clam person'? strongly agree / agree / don't know / disagree / strongly disagree;	**2**

Question	Answer	Marks
8(b)(ii)	**Explain whether the open or the closed question that you suggested in part (b) (i) would be more informative about personality.** 1 mark for 'open' **and** reason why 1 mark for detail Open question because it provides more detail; (reason) e.g. because the participant can say why; (detail) Open because the participant can say what they really mean; (reason) Because they are not restricted by forced choices; (detail)	**2**
8(c)	**Describe how Todd could obtain informed consent from the participants in his study.** 1 mark for 'provide information about the study' (about personality) 1 mark for 'evidence of consent' Either information or consent must be linked for 2 marks Give them a brief = 1 (information generic) Then ask them if they are willing to participate in a study about personality = 2nd = 1 linked consent Tell them that there will be questions about introversion and extraversion = 1 link Ask them for written permission = 1 consent generic	**2**

Question	Answer	Marks
9	**Arjun and Mary have collected data about aggression in adults using an observation.**	
9(a)	**They want to know if they have good inter-rater reliability.** **Describe how they would test this for their study.** 1 mark per valid point made. Must have correlate/compare results for 3 marks Both Arjun and Mary would score the same episode/video of behaviour; And compare/correlate their results; If they are similar they have high inter-rater reliability;	**3**
9(b)	**Explain why it is important that Arjun and Mary have good inter-rater reliability in their study.** 1 mark for explanation (generic) 1 mark for link So that they can be confident that they are consistent in their recordings = 1 generic Therefore their judgements of the same aggressive behaviours will be consistent = 1 link Because reliability is important to validity = 1 generic If they are not consistent in scoring aggression they cannot make credible decisions based on their findings = 1 link	**2**
9(c)	**Suggest <u>one</u> advantage of using participant observation in Arjun and Mary's study.** 1 mark for advantage 1 mark for link The observer can become absorbed in the social situation = 1 advantage E.g. to understand why the adults were being aggressive = 1 link	**2**

Question	Answer	Marks
9(d)	**Suggest <u>one</u> disadvantage of using participant observation in Arjun and Mary's study.** 1 mark for disadvantage 1 mark for link The observer can become **too** absorbed in the social situation = 1 disadvantage So they are unable to be objective about / are subjective about the adults' aggression (as they know them) = 1 link There are physical risks to the researchers = 1 disadvantage Arjun / Mary may get hurt in the aggression = 1 link There are physical risks for the participants / (it is unethical because) it could break the guideline of protection = 1 disadvantage Arjun / Mary / other people may hurt a participant in the aggression = 1 link	**2**
10	**Kenley is studying whether manipulating participants' mood (to 'good' or 'bad') will make them better at identifying positive facial expressions such as 'friendly' and 'happy'.**	

Question	Answer	Marks
10(a)	**Describe how Kenley could conduct a laboratory experiment to test whether manipulating a participant's mood will make them better at identifying positive facial expressions.** Three major omissions for a laboratory experiment are: What: will be recorded, i.e. DV (+ operationalisation) How: IV (+ operationalisation) controls The minor omissions are: where – location of participants when data is collected (e.g. sleep lab) who – participants Also: • experimental design (any are appropriate here) • sampling technique • sample size • description of how data will analysed, e.g. use of measures of central tendency and spread, bar charts • ethical issues Other appropriate responses should also be credited. Mark according to the levels of response criteria below: **Level 3 (8–10 marks)** • Response is described in sufficient detail to be replicable (i.e. what and how). • Response may have a minor omission (i.e. who or where). • Use of psychological terminology is accurate and comprehensive. **Level 2 (5–7 marks)** • Response is in some detail. • Response has minor omission(s) (i.e. who and/or where). • Use of psychological terminology is accurate. **Level 1 (1–4 marks)** • Response is basic in detail. • Response has major omission(s). • If response is impossible to conduct max. 2. • Use of psychological terminology is mainly accurate. **Level 0 (0 marks)** No response worthy of credit.	**10**

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>10(b)</td><td>
Identify <u>one</u> practical weakness/limitation with the procedure you have described in your answer to part (a) and suggest how your study might be done differently to overcome the problem.
Do <u>not</u> refer to ethics or sampling in your answer.

Answer will depend on problem identified.

Problems may, for example, be matters of:
Validity
• operationalisation
• difficulty with lying / social desirability
• difficulty with response biases
Reliability
• inter-rater consistency
• intra-rater consistency

This list is not exhaustive and other appropriate responses should also be credited.

<table>
<tr><th>marks</th><th>comment</th></tr>
<tr><td>3–4</td><td>Appropriate problem identified.
Appropriate solution is clearly described.</td></tr>
<tr><td>2</td><td>Appropriate problem identified.
plus
EITHER
Explanation of why it is a problem
OR
Ineffectual but possible solution described.</td></tr>
<tr><td>1</td><td>Appropriate problem identified.
Little or no justification.</td></tr>
<tr><td>0</td><td>No response worthy of credit</td></tr>
</table>
</td><td>4</td></tr>
</table>