Mark Scheme (Results)

November 2021

Pearson Edexcel
GCE Psychology 9PS0/03
Paper 3: Psychological Skills

General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.

- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.

- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.

- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.

- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.

- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.

- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.

- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Section A: Methods

Question Number	Answer	Mark
1(a)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Table 1. One mark for identification of a conclusion related to extraversion (AO2) One mark for justification of the conclusion (AO3). For example: • The Instagram users saw themselves as less extraverted than the observers did (1) as observers gave consistently higher ratings such as for user 2 where observers gave a 1.62 higher rating on average than the user (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
1(b)	**AO2 (1 mark), AO3 (1 mark)** Candidate responses have to be drawn from evidence presented in Table 1. One mark for identification of a conclusion related to openness (AO2) One mark for justification of the conclusion (AO3). For example: • The observers saw the Instagram users as less open to new experiences than they did (1) which is shown by lower average ratings such as 5.20 for user 1 compared to a self-rating of 7 (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
1(c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a strength in the context of the Instagram study (AO2) One mark for justification of the strength (AO3) For example: - Quantitative data in terms of the rating given to extraversion or openness will be more objective and less biased than qualitative data (1) because the number rating cannot be interpreted differently by different researchers unlike the reasons for the extraversion or openness ratings that could be more subjectively analysed (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
1(d)	**AO2 (2 marks), AO3 (2 marks)** One mark for identification of each strength in the context of the Instagram study (AO2) One mark for justification of each strength (AO3) For example: • Qualitative data in terms of the reasons for the ratings will be generated which is more valid than numbers (1) because greater detail will allow the researchers to understand why the personality ratings were given which will give a better insight into the judgments made (1). • Comparing the qualitative data to the quantitative ratings will increase the internal validity of the Instagram study (1) because it will allow the researchers to check the observers verbal opinions against the numerical ratings to see if they are consistent with one another (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(4)**

Question Number	Answer	Mark
2(a)	**AO2 (2 marks)** Up to two marks for description of how the researchers could have used random sampling for the navigation study. For example: • The researchers of the navigation study could put all the names of the males and females in the local town into a computer database (1) and they could use a random number generator to select the first 45 local people to participate in the maze task (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
2(b)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness of using a random sampling technique in the context of the navigation study (AO2) One mark for justification of the weakness (AO3) For example: • The local people chosen using random sampling may all have excellent memory ability so the sample would lack generalisability to the local town (1) as the chosen sample may do very well at the maze task whereas the population of the town are likely to have varied memory ability so the findings would not be representative of the local town (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
2(c)	**AO2 (1 mark), AO3 (1 mark)**	**(2)**
	Candidate responses have to be drawn from evidence presented in Figure 4.	
	One mark for identification of a suitable conclusion (AO2) One mark for justification of the conclusion (AO3).	
	For example: • Males were more likely to use shortcuts when completing the maze compared to females (1) which is shown by six more males (14 males) taking shortcuts compared to females (8 females) (1).	
	Look for other reasonable marking points.	
	Answers must relate to the scenario.	
	Generic answers score 0 marks.	

Question Number	Answer	Mark
2(d)	**AO2 (4 marks)** One mark for accurate completion of O-E column. One mark for accurate completion of $(O-E)^2$ column. One mark for accurate completion of $(O-E)^2/E$ column. One mark for correct answer 1.06.	**(4)**

		Observed	**Expected**	**O-E**	**$(O-E)^2$**	**$(O-E)^2$/E**
Males	Less than 1 minute to complete the maze task	14	12.27	**1.73**	**2.99**	**0.24**
	More than 1 minute to complete the maze task	9	10.73	**-1.73**	**2.99**	**0.28**
Females	Less than 1 minute to complete the maze task	10	11.73	**1.73**	**2.99**	**0.25**
	More than 1 minute to complete the maze task	12	10.27	**-1.73**	**2.99**	**0.29**
					Chi-squared =	**1.06**

Question Number	Answer	Mark
2(e)	**AO2 (2 marks), AO3 (2 marks)** **One** mark for each identification of each improvement in relation to the navigation study (AO2) **One** mark for justification of each improvement (AO3) For example: - The researchers could have used a real maze in a real life setting rather than a virtual reality (VR) maze (1) to increase the ecological validity of the study because the males and females may have behaved differently and used a different navigation strategy in a real maze (1). - They could have used males and females from a number of local towns rather than a single town (1) so that the results of the maze task would have been more representative of the navigation strategy and efficiency of all people than just those in that local town (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Section B: Review of studies

Question Number	Answer	Mark
3(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a weakness in terms of validity related to the study (AO2). One mark for justification of the weakness (AO3). For example: • The participants had to rate their own fear and disgust which may have not been their true feelings so lacks validity (1) because they could have been embarrassed to admit being fearful of certain creatures so may have reduced their fear rating so it was not an accurate reflection of their true fear (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
3(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of evolution and natural selection to the findings of the scary and nasty beasts study (AO2). Up to three marks for judgement/justification of research evidence in relation to the study (AO3). **Application of evolution and natural selection to the study (AO2)** For example: - People may have been evolved to be fearful of the bull as it is a large animal so a threat to survival compared to a pigeon which is shown by the 3.84 rating compared to 1.48 (1). - Some spiders are poisonous and have a very different anatomy to humans so humans may have evolved to be both fearful of them and disgusted by them shown by high ratings of 4.39 and 4.47 respectively (1). - Humans could have evolved to be more disgusted by the tapeworm which is invasive compared to the snake which is an external threat shown by the higher score with a mean difference of 2 for the tapeworm (1). **Judgement/justification of how far research evidence can account for the findings of the study (AO3)** For example: - Chester et al. (2015) found a low functioning MAOA genotype was linked to greater aggression for 277 participants over a year suggesting that traits like aggression can be inherited so fear responses to large animals like bulls may be inherited too (1). - An individual may have learned to imitate the fear reaction to creatures such as spiders from role models so research such as Bandura, Ross, and Ross (1961) can account for this as they found children would learn to imitate aggression from role models towards a bobo doll (1). - Mertins et al. (2011) found male participants with a high functioning MAOA genotype showed greater prosocial behaviour to males with low functioning MAOA which could account for inheritance of prosocial behaviour so disgust of invasive creatures like a tapeworm may be inherited too (1). **Look for other reasonable marking points**. **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(6)**

Question Number	Indicative content	Mark
4	**AO1 (6 marks), AO3 (10 marks)**	**(16)**
	AO1	
	- Nature is the internal influences on an individual such as their brain which can affect traits such as aggression via the ventromedial prefrontal cortex (vmPFC). - Raine et al. (1997) examined the brain activity of 41 murderers and controls found NGRIs had less activity in their parietal regions and more activity in the occipital areas. - Raine et al. (1997) concluded that violent behaviour could not be attributed to a single brain region and that brain function does not directly cause violent behaviour. - Nurture is the external influences on an individual such as people, places, and things which can affect traits such as phobias through fear reactions being associated with stimuli such as cotton wool. - Watson and Rayner (1920) found that Little Albert showed crying and avoidance behaviour to a rat after it had been paired with a loud noise repeatedly over time. - Little Albert initially showed no fear response to objects such as cotton or human masks but did show fear when a long steel bar was unexpectedly struck with a claw hammer behind his back.	
	AO3	
	- Raine et al. (1997) showed differences in brain functioning between the controls and murderers which contributes to the nature argument that traits such as aggression could be at least partly internally caused. - Raine conducted further research in 2002 and found an 11% reduction in the volume of gray matter in the PFC of people with antisocial personality disorder which in combination with the 1997 study further supports the role of nature in traits such as aggression. - Real life environments are excluded when doing research using brain scanning such as PET scans so the brain may show different activity in the real world which limits the validity of the findings in contributing to the nature-nurture debate. - The findings from Raine et al.'s (1997) study support both the role of nature and nurture in aggression as the brain function was only said to predispose the individual to aggression but needed specific social and environmental settings to trigger the violent behaviour.	

- Montoya et al. (2011) suggested aggressive behaviour was linked with imbalances of testosterone and cortisol in the region of the brain near the amygdala and low levels of serotonin in the PFC which supports the brain being involved in aggression and strengthens the nature argument.

- Research into the role of hormones and neurotransmitters in behaviour such as aggression can be correlational so other factors could affect the reason for increased aggressive behaviour such as imitation of role models.

- Watson and Rayner's (1920) findings appear to support the nurture argument as Little Albert learned to fear the rat and other inanimate objects through associating the loud noise to the objects and animals.

- The change in behaviour shown by Little Albert throughout the study with no fear to the rat but strong fear after some time shows the clear influence of nurture factors in causing phobic type reactions in humans.

- The fear shown by Little Albert to the noise made by the long steel bar could be an evolved trait as unexpected loud noises could be a threat to survival so could contribute to the nature explanation for fear responses.

- Pavlov's (1927) research with dogs showed salivation could be elicited through association with food which is similar to the findings from Watson and Rayner (1920) so also supports both nature and nurture playing a role in human behaviour.

- Little Albert was described as 'healthy' by Watson and Rayner (1920) but recently there have been some researchers such as Beck et al. (2009), who have suggested the child was actually 'developmentally delayed' and had hydrocephalus so this could have been the true cause for his behaviour in the study which questions the findings reported.

- Watson and Rayner (1920) said they intended to attempt to remove the conditioned emotional responses through techniques such as reconditioning by providing incentives such as sweets when the animal was presented which could have supported the nurture argument for associative learning but Little Albert was removed before this could take place.

Look for other reasonable marking points.

Level	Mark	Descriptor
		AO1 (6 marks), AO3 (10 marks) **Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.**
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Section C: Issues and Debates

Question Number	Indicative content	Mark
5	**AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)** **AO1** • Conformity is where an individual changes their behaviour to go along with the majority in a group. • Social impact theory suggests the number of individuals acting on a target source can influence how likely a behaviour is to be carried out. • Agency theory states that individuals are more likely to obey people they see as authority when in an agentic state. • Social identification is part of social identity theory and is when individuals carry out behaviours consistent with others they see as part of their in-group. **AO2** • Rhianna showed she conformed to the behaviour of her friends when at the festival as she danced and sang to music she would not have done when on her own. • At the festival Rhianna was with her three best friends so they would have had a large influence on her with lots of other people around too, but having a less proportional influence as the numbers increased. • Rhianna and her friends may have shifted into an agentic state when the artists encouraged behaviours and clapped their hands when the artist did so and therefore obeying a command. • The friends at the festival may see other people at the festival as part of their in-group of music lovers compared to people who do not like music festivals as their out-group so behaved as they felt people in their in-group would in dancing and singing along to the songs. **AO3** • Asch (1951) found in his line experiment that the real participants conformed and gave the obvious incorrect response in 33% of trials which could support Rhianna changing her behaviour whilst at the festival. • Milgram, Bickman, Berkowitz (1969) showed as the number of individuals gawking at a window increased from 1 to 15 the percentage of passers-by imitating increased, with less proportional impact as the number of confederates increased. • Milgram's research supports the influence of legitimate authority figures on behaviour when he showed that	**(12)**

| | people were willing to inflict lethal electric shocks on strangers when told to do so by a man in a uniform. | |
| | • Bandura's research showed the influence of role models on learning to imitate behaviours from others so could be an explanation for Rhianna's behaviour as she may have observed and imitated her role models singing and dancing so is displaying this behaviour at the festival.

Look for other reasonable marking points. | |

Level	Mark	Descriptor
	AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)	
	Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.	
Level 0	0	No rewardable material.
Level 1	1–3 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4–6 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	7–9 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning. Leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	10–12 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Question Number	Indicative content	Mark
6	**AO1 (8 marks), AO3 (12 marks)**	**(20)**
	AO1	
	• Ethnocentric implications are those that can apply to only one culture/set of people.	
	• Eurocentric implications are those that can apply to European / Western concepts.	
	• Cross-cultural research can be etic, emic, or have an imposed etic.	
	• Ainsworth studied children using her strange situation procedure (SSP) in the USA and also Uganda.	
	• Alpha bias is a tendency to exaggerate any differences between men and women which can then lead to stereotypical differences between the sexes being over-emphasised.	
	• Beta bias is where the differences between men and women are minimised and male behaviour or thinking applied to females.	
	• Androcentrism is considering male behaviour as normal and regarding female behaviour as abnormal when it is not the same as males.	
	• Gender bias can occur during all stages of the research process from what is being studied through to the conclusions made.	
	• Sherif (1954/1961) used the findings from a group of boys in an American summer camp and made generalised assertions about prejudice.	
	AO3	
	• Rosenhan's (1973) choice of hospitals would have been representative of American hospitals in the 1970s but may have been very different to those in collectivist cultures so could be considered ethnocentric.	
	• Sebastian and Hernandez-Gil (2012) showed differences between Spanish children and Anglo Saxons in digit span supporting differences within Europe so the differences beyond Europe are likely to be more pronounced.	
	• Milgram's procedure has been replicated across the world and can be viewed as an etic form of research which has been used to suggest obedience is a universal trait.	
	• Measurement of traits such as intelligence can be an imposed etic with not all cultures viewing quick thinking	

- as a sign of high intelligence, such as the Baganda people of Uganda who value slow, careful, deliberate thought.

- Viewing certain behaviours, such as hearing voices that are not there, as abnormal in one culture, such as the USA or UK and imposing this on other cultures who believe this is 'normal', such as Costa Rica, could be considered ethnocentric.

- Sherif experienced both Turkish and American cultures so may have interpreted the findings with a more varied understanding of cultural differences.

- Ainsworth's research using the SSP could be viewed as etic where the study was used in different cultures to determine attachment types and were compared to the 'normal' 'secure' type found most common in Baltimore.

- The work of David Buss in evolutionary psychology may be considered an example of alpha bias where male and female roles are clearly defined with women said to focus on children and prefer males who can provide resources with little scientific evidence to support the conclusions made can reinforce gender stereotypes in society.

- Research emphasising the differences between males and females in terms of aggression being due to hormones like testosterone (e.g. Dolan et al., 1991) can exaggerate stereotypical differences between males and females but other research shows testosterone is important for female aggression too (e.g. Dabbs and Hargrove, 1997).

- Rippon (2019) and Fine (2010) both highlight incidences where researchers are keen to report on sex differences in neuroscience whilst ignoring or minimising findings of any similarities, such as that of Ingalhaliker et al. (2014).

- Milgram's original baseline experiment into obedience (1963) had a male-only sample and applied the findings to women but when he did a female-only sample the same percentage of women went to 450V so there does appear to be similarity in gender and obedience levels and could justify use of his original sample.

- Bandura's research in the 1960's found differences in male and female aggression to the bobo doll with males showing greater imitative aggression but Bandura did account for the cultural context with females being socialised as less aggressive at the time.

- The focus of researchers, such as Bandura, Ross and Ross (1961), Bastian et al. (2011), Huesmann et al. (2003) on the role of TV or video games in aggression could be said to be more relevant to white males rather than research focussing on those relevant to females or

	more marginalised communities.	
	• Sherif's research may be considered a form of beta bias where the assertions made regarding prejudice and discrimination concerning the role of competition and cooperation were gained from male-only samples and applied to women without additional validation.	
	Look for other reasonable marking points.	

Level	Mark	Descriptor
	AO1 (8 marks), AO3 (12 marks) **Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.**	
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	5–8 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	9–12 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this will be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a logical assessment, containing logical chains of reasoning throughout which consider a range of factors. Demonstrates an understanding of competing arguments/factors but does not fully consider the significance of each which in turn leads to an imbalanced judgement being presented. (AO3)
Level 5	17–20 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates a full understanding and awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)