



Mark Scheme (Results)

June 2022

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

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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)	<p style="text-align: center;">AO2 (2 marks), AO3 (2 marks)</p> <p>One mark for identification of a strength/weakness in the junior to senior Pinocchio study (AO2)</p> <p>One mark for justification of each strength/weakness (AO3)</p> <p>For example:</p> <p>Strength</p> <ul style="list-style-type: none">Using a cross-sectional design allowed the researchers to gather information about lying ability and frequency quicker than using a longitudinal design (1) because they could ask participants from the age categories to lie at a single moment in time, rather than having to take years to follow the same participants throughout their life, so it is faster to gain results (1). <p>Weakness</p> <ul style="list-style-type: none">The participants in the age categories are all different people so individual (participant) differences may have affected the frequency of their lying (1) because some participants may have been compulsive liars and so this could have skewed the results in some age categories which would have affected the validity of the findings about lying frequency (1). <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks</p>	(4)

Question Number	Answer	Mark
1(b)	<p style="text-align: center;">AO2 (2 marks), AO3 (2 marks)</p> <p>Candidate responses have to be drawn from evidence presented in Table 2.</p> <p>One mark for identification of each conclusion related to the lying skill (AO2). One mark for justification of each conclusion (AO3).</p> <p>For example:</p> <ul style="list-style-type: none"> • Young adults were the most able liars (1) which is shown by the lowest error rate of 8.55% and took the least time when telling a lie to a simple question (1). • Children aged 6-8 were the least able liars (1) as they had the highest error rate of over 20% and took the longest time to tell a lie to a simple question (1) <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks.</p>	(4)

Question Number	Answer	Mark
1(c)	<p style="text-align: center;">AO2 (1 mark), AO3 (1 mark)</p> <p>One mark for identification of a weakness in terms of validity in the junior to senior Pinocchio study (AO2)</p> <p>One mark for justification of the weakness (AO3)</p> <p>For example:</p> <ul style="list-style-type: none"> Participants were told when to lie in the study so they may not have acted naturally so it lacks validity (1) because people choose whether and when to lie in real life situations for various reasons and are not told when to lie so the findings may not represent how people would lie in daily life (1). <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks</p>	(2)

Question Number	Answer	Mark
1(d)	<p style="text-align: center;">AO2 (1 mark), AO3 (1 mark)</p> <p>One mark for identification of a strength in terms of reliability in the junior to senior Pinocchio study (AO2)</p> <p>One mark for justification of the strength (AO3)</p> <p>For example:</p> <ul style="list-style-type: none"> The participants in all age categories were given the same 15 questions so the study can be tested for reliability (1) because every participant was given identical simple questions so the study could be repeated and responses compared to assess consistency (1). <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks</p>	(2)

Question Number	Answer	Mark
1(e)	<p style="text-align: center;">A03 (1 mark)</p> <p>Candidate responses have to be drawn from evidence presented in Figure 1.</p> <p>One mark for a conclusion with relation to the type of skew (A03).</p> <p>For example:</p> <ul style="list-style-type: none"> The majority of participants lied very infrequently in the past 24 hours which is shown by the positive skew in Figure 1 (1). <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks.</p>	(1)

Question Number	Answer	Mark
1(f)	<p style="text-align: center;">A02 (1 mark)</p> <p>One mark for mean score to one decimal place.</p> <ul style="list-style-type: none"> 2.1 	(1)

Question Number	Answer	Mark
1(g)	<p style="text-align: center;">AO2 (1 mark), AO3 (1 mark)</p> <p>One mark for identification of a weakness of using a volunteer sampling technique in the junior to senior Pinocchio study (AO2)</p> <p>One mark for justification of the weakness (AO3)</p> <p>For example:</p> <ul style="list-style-type: none"> • Volunteer samples tend to attract participants who are more motivated and have similar characteristics so the participants who volunteered may all have been infrequent liars (1) which means the study into lying ability and frequency may not be fully representative of the lying ability or frequency of people in the age categories used in the study (1). <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks</p>	(2)

Question Number	Answer	Mark
2(a)	<p style="text-align: center;">A02 (4 marks)</p> <p>One mark for squaring the values of the vocabulary score minus the mean (100) for each score, $(x-\bar{x})^2$ $0^2, -13^2, 5^2, -8^2, -2^2, 7^2, 1^2, -4^2, 14^2$</p> <p>One mark for calculating the sum of these values = 524</p> <p>One mark for dividing this by 8 (n-1) = 65.5</p> <p>One mark for calculating the square root = 8.093207028 / 8.09 to two decimal places</p>	(4)

Question Number	Answer	Mark
2(b)	<p style="text-align: center;">A01 (1 mark), A03 (1 mark)</p> <p>One mark for identification of a suitable reason (A01)</p> <p>One mark for justification of the reason (A03)</p> <p>For example:</p> <ul style="list-style-type: none"> The standard deviation is more sensitive than the range as a measure of dispersion (1) because the standard deviation takes into account all of the scores in a dataset whereas the range only takes the highest and lowest scores into account (1). <p>Look for other reasonable marking points.</p>	(2)

Question Number	Answer	Mark
2(c)	<p style="text-align: center;">AO2 (1 mark), AO3 (1 mark)</p> <p>One mark for identification of an improvement in relation to the 'textisms' and literacy study (AO2) One mark for justification of the improvement (AO3)</p> <p>For example:</p> <ul style="list-style-type: none"> • They could have measured the number of 'textisms' used in real texts rather than in made up scenarios (1) which would have given a more realistic measure of the number of 'textisms' each child would normally use which would increase the validity of the study (1). <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks.</p>	(2)

Section B: Review of studies

Question Number	Answer	Mark
3(a)	<p style="text-align: center;">A02 (1 mark), A03 (1 mark)</p> <p>One mark for comparing the observed/calculated value with a relevant critical value (A02)</p> <p>One mark for justification of what this means for the findings of the study (A03)</p> <p>For example:</p> <ul style="list-style-type: none">• The calculated value (110) is less than the critical value (112) at the 5% level of significance for a two-tailed test (1). This means that there was a significant difference between the male and female perceived effectiveness of using crying as a reconciliation act (1). <p>Look for other reasonable marking points.</p>	(2)

Question Number	Answer	Mark
3(b)	<p style="text-align: center;">A02 (3 marks), A03 (3 marks)</p> <p>Up to three marks for application of social learning theory to the findings of the reconciliation after romantic conflict study (A02). Up to three marks for judgement/justification of research evidence in relation to the study (A03).</p> <p>Application of social learning theory to the study (A02)</p> <p>For example:</p> <ul style="list-style-type: none"> • Vicarious reinforcement could account for the mean of 5.12 for 'making your partner laugh' for males as they may have observed their father, who they consider a role model, making their mother laugh and reconciling after an argument so could have thought this would help after romantic conflict. • Females may have observed their role model on films crying after an argument and could have led to the male reconciling through guilt so this could account for their higher score of 3.25 whereas males may not see their role models cry on films to reconcile which accounts for their lower score of 2.32. • Kissing or affection could be a motivational factor to reconciliation as it would be pleasurable with a partner so this could account for males and females perceiving this to be an effective strategy for reconciliation in the study. <p>Judgement/justification of how far research evidence can account for the findings of the study (A03)</p> <p>For example:</p> <ul style="list-style-type: none"> • Bandura (1965) showed that children would vicariously copy the behaviour of an adult male who were rewarded for acting aggressively to a Bobo doll so this could support males feeling laughter was an effective strategy as they could have seen this work successfully for their father after an argument with their mother. • Bandura (1963) showed children would model aggressive behaviour shown on TV by both a human and a cartoon cat so could support how role models being observed and imitated could account for females thinking crying would be more effective than males with males less likely to see this behaviour in films than females. • Research from biological psychology, such as Olds and Milner (1954), could equally account for kissing or affection as a strategy as pleasurable behaviours would activate the dopamine reward pathway and also emotional centres such as the amygdala which would strengthen the desire to reconcile. <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks.</p>	(6)

Question Number	Indicative content	Mark
4	<p style="text-align: center;">AO1 (6 marks), AO3 (10 marks)</p> <p>AO1</p> <ul style="list-style-type: none"> • Informed consent is when a researcher gives information to the participant or guardian if children are recruited and permission is given for their role in the research. • Deception is where a participant is lied to about their involvement in a study. • During Sherif's (1954/1961) study there was name calling and the groups raided each other's huts and burned their flags. • Researchers need to offer participants the right to withdraw from the study at any time with any record of their participation being destroyed. • Little Albert was exposed to unexpected noises using a steel bar and claw hammer behind his head causing fear responses. • Risk management must be considered when conducting research which is the consideration of any potential physical or psychological harm that might be caused by the study being done. • Competence is when a researcher must practice within the boundaries and extent of their abilities with an awareness of ethical issues and seek supervision where necessary. <p>AO3</p> <ul style="list-style-type: none"> • Principals and teachers of local schools gave permission for observation of potential participants in Sherif (1954/1961) and the purpose of the visit was explained to them which shows informed consent was given during participant selection. • Parents were contacted in Sherif (1954/1961) who were interviewed and were told the purpose and aim of the study before gaining their permission and that of a doctor on health grounds which shows they were not deceived and full informed consent was provided. • It could be argued that protection of participants was not fully followed in Sherif (1954/1961) as the boys could have suffered emotional or physical harm due to the events during the study. • The 'camp counsellors' were asked intervene when the Rattlers or Eagles proposals ran counter to health, safety and well being of them as participants so it could be argued that protection of participants was adhered to. • Sherif (1954/1961) aimed to investigate prejudice using experimental methods in a natural setting and they were able to do this with minimal ethical issues but repeating 	(16)

	<p>the study today would be difficult due to more strict ethical guidelines.</p> <ul style="list-style-type: none"> • Little Albert withdrew from the study and his mother notified Watson and Rayer (1920) of this at least one month prior to the end of testing. • Watson and Rayner (1920) knew at least one month prior to Little Albert not being available for the research any longer but still chose not to try and extinguish his conditioned fears which raises ethical questions of the researchers. • Imposing unexpected noises to try and create fear in a child could have harmed Little Albert psychologically and he may have gone on to be fearful in the long term which violates protection of participants. • Watson and Rayner (1920) was conducted with few controls and in a haphazard fashion with inconsistent presentation of stimuli and unexpected outcomes such as when the dog barked three times and scared not only Little Albert but the adults too. • Watson and Rayner (1920) claimed Little Albert was healthy from birth and stolid and unemotional with relatively little harm expected but some researchers have claimed he was far from 'healthy' and died at age 6 of hydrocephalus (Beck et al. (2009) although this has been disputed (Powell et al., 2012). <p>Look for other reasonable marking points.</p>	
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Level	Mark	Descriptor
<p style="text-align: center;">AO1 (6 marks), AO3 (10 marks)</p> <p>Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.</p>		
Level 0	0	No rewardable material.
Level 1	1–4 marks	<p>Demonstrates isolated elements of knowledge and understanding. (AO1)</p> <p>A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)</p>
Level 2	5–8 marks	<p>Demonstrates mostly accurate knowledge and understanding. (AO1)</p> <p>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)</p>
Level 3	9–12 marks	<p>Demonstrates accurate knowledge and understanding. (AO1)</p> <p>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)</p>
Level 4	13–16 marks	<p>Demonstrates accurate and thorough knowledge and understanding. (AO1)</p> <p>Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)</p>

Section C: Issues and Debates

Question Number	Indicative content	Mark
5	<p>A01 (4 marks), A02 (4 marks), A03 (4 marks)</p> <p>A01</p> <ul style="list-style-type: none"> • The temporal lobe is involved in storing memories, such as the hippocampus which transfers information from the short term to the long term memory. • Hormones such as testosterone are involved in aggression with higher levels of testosterone being associated with increased aggression. • A genotype is inherited from parents and then is combined with the environmental influences in an individual's life to give their phenotype. • The dopamine reward pathway is activated when an individual does an activity they enjoy and they experience pleasure due to the release of the dopamine in their brain. <p>A02</p> <ul style="list-style-type: none"> • Oscar may be struggling to remember the stopping distances and what the road signs mean which has meant he has failed his theory test twice. • Jay may have experienced increased testosterone which has meant he is an aggressive driver which has helped him win Go Karting races but also meant he drove too fast on his driving test which led to him failing. • Nishka may have inherited a genotype which gave her a genetic predisposition for higher level visuospatial skills and then had driving experiences which helped her to hone these skills and led to her passing her practical test first time. • Jay was encouraged by his father and enjoys watching F1 and going Go Karting so his dopamine reward pathway will be activated releasing dopamine which he will find pleasurable and will encourage him to drive again. <p>A03</p> <ul style="list-style-type: none"> • The case study by H.M. gave evidence for the role of the hippocampus as he was unable to transfer certain types of new information from the STM to LTM but his STM and LTM were largely intact, so Oscar may have a damaged hippocampus. • Research into hormones on human behaviour, such as testosterone on aggression, is correlational and there are other factors which could account for the aggression, such as role models, so cannot be a complete explanation of human behaviour such as driving. • Genetic research has indicated specific genes being involved in human behaviour such as the OPRM1 gene in addiction to drugs so this supports the link between 	(12)

	<p>inheritance and human behaviour so there could be gene(s) for enhanced visuospatial ability needed for superior driving.</p> <ul style="list-style-type: none">• Learning theories could also account for Jay's driving behaviour as he likes to watch F1 and they drive incredibly fast and his role model may be his favourite driver who won the championship so his fast driving could be due to him imitating his role model and not biological. <p>Look for other reasonable marking points.</p>	
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Level	Mark	Descriptor
<p align="center">AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)</p> <p>Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.</p>		
Level 0	0	No rewardable material.
Level 1	1–3 marks	<p>Demonstrates isolated elements of knowledge and understanding. (AO1)</p> <p>Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2)</p> <p>A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)</p>
Level 2	4–6 marks	<p>Demonstrates mostly accurate knowledge and understanding. (AO1)</p> <p>Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2)</p> <p>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)</p>
Level 3	7–9 marks	<p>Demonstrates accurate knowledge and understanding. (AO1)</p> <p>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)</p> <p>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)</p>
Level 4	10–12 marks	<p>Demonstrates accurate and thorough knowledge and understanding. (AO1)</p> <p>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)</p> <p>Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)</p>

Question Number	Indicative content	Mark
6	<p style="text-align: center;">AO1 (8 marks), AO3 (12 marks)</p> <p>AO1</p> <ul style="list-style-type: none"> • Studies investigating obedience can help investigate the reasons for blind obedience which have been blamed for atrocities such as the Nazis in WW2. • Research investigating prison behaviour can investigate human rights abuses whilst a prisoner. • Raine et al. (1997) found differences in brain activity between murderers and non-murderers such as lower activity in the prefrontal region in the murderers. • Caspi et al. (2002) reported those with the MAOA-L genotype combined with severe childhood maltreatment had greater levels of antisocial behaviour. • Research in classical conditioning has led to treatments such as aversion therapy which has been used as a form of so-called 'therapy' for homosexuality. • Rosenhan (1973) sent pseudopatients into hospitals in America and reported that mental health patients were being ignored and abused whilst in the care of the hospitals. • Drugs are commonly used for mental health issues, such as OCD, Autism or Schizophrenia, and change the neurotransmitter levels and can lead to reductions in symptoms. • Bradbury and Williams (2013) investigated juror decision-making and found black defendants are more likely to be judged as guilty by mostly a white or Hispanic jury. • Belsky and Rovine (1988) found that children who spent more than 20 hours in day care developed an insecure attachment to their mother, showing that day care can have a negative effect on the development of a child. <p>AO3</p> <ul style="list-style-type: none"> • Milgram's research found the presence of the authority figure increases blind obedience so removal of an authority figure could reduce the possibility of blind obedience and possible atrocities from occurring. • Haney et al. (1973) conducted the Stanford Prison Experiment and claimed guards and prisoners deindividuated to their expected roles where the guards were authoritarian and abusive and the prisoners submissive so may help explain abuse of prisoners in the real world. • Reicher and Haslam (2006) reported on the BBC prison experiment where they found that guards were overcome by the prisoners which led to the proposed 	(20)

	<p>introduction of a tyrannical regime and shows how people accept tyranny when their group fails to help them realise their own beliefs.</p> <ul style="list-style-type: none"> • Research discovering brain differences in murderers and non-murderers can lead to those convicted of murder attempting to absolve blame for their crimes and sometimes successfully reducing their sentence. • Studies that show genetic predispositions to aggressive behaviour can help identify vulnerable people and help them avoid maltreatment that could lead to violent actions and possible crimes. • Research into genetic causes of aggression could lead to those with the gene(s) blaming their genotype and gain reductions in their sentence such as Abdelmalek Bayout in Italy. • Smith and Bartlett (2004) interviewed those who had undergone 'treatments' for homosexuality and stated that it is harmful to apply medical diagnoses to human conditions that may be disapproved of morally or socially. • Research into mental health hospitals can help reduce the likelihood of misdiagnosis which could lead to inappropriate treatment for the patients and hopefully help them recover quicker and more effectively. • The location of research in the real world can have harmful effects on the institutions after the research is published which could lead to them closing down and impacting the local community negatively. • Drugs for mental health issues could be seen as a 'chemical straightjacket' where symptoms are removed but may prevent clear thinking and decision-making with sedative properties certain drugs. • Research into jury compositions and trials show that there is potential bias in the courts, which can lead to a lack of faith in the criminal justice system and may prevent people from reporting crimes as they could fear a miscarriage of justice. • Psychological research into jury decision-making should be used to prevent miscarriages of justice from happening so all defendants receive a fair trial by ensuring the composition of the jury enables this to happen. • Studies into the effects of day care that suggest negative results can damage career aspirations of parents, hinder productivity in society and can lead to negative outcomes for families who cannot afford to not work. <p>Look for other reasonable marking points.</p>	
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Level	Mark	Descriptor
<p style="text-align: center;">AO1 (8 marks), AO3 (12 marks)</p> <p>Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.</p>		
Level 0	0	No rewardable material.
Level 1	1–4 marks	<p>Demonstrates isolated elements of knowledge and understanding. (AO1)</p> <p>Generic assertions may be presented. Limited attempt to address the question. (AO3)</p>
Level 2	5–8 marks	<p>Demonstrates mostly accurate knowledge and understanding. (AO1)</p> <p>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)</p>
Level 3	9–12 marks	<p>Demonstrates accurate knowledge and understanding. (AO1)</p> <p>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)</p>
Level 4	13–16 marks	<p>Demonstrates accurate and thorough knowledge and understanding. (AO1)</p> <p>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)</p>
Level 5	17–20 marks	<p>Demonstrates accurate and thorough knowledge and understanding. (AO1)</p> <p>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)</p>

