



# Mark Scheme (Results)

October 2020

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

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Autumn 2020

Publications Code 9PS0\_03\_2010\_MS

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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: Research Methods

Question Number	Answer	Mark
1(a)	<p style="text-align: center;"><b>AO2 (2 marks), AO3 (2 marks)</b></p> <p>One mark for identification of the strength/weakness in the context of the study (AO2)</p> <p>One mark for justification of the strength/weakness (AO3)</p> <p>For example:</p> <p>Strength</p> <ul style="list-style-type: none"><li>• One strength of volunteer sampling would be that only Facebook or Twitter users who are willing to be involved would come forward (1) so it is more ethical as Facebook and Twitter users would not feel pressured by being in the study about personality types which may have been the case if they had been approached by a researcher through opportunity sampling (1).</li></ul> <p>Weakness</p> <ul style="list-style-type: none"><li>• Volunteer samples tend to attract participants who have more time and have similar characteristics so the Facebook and Twitter users who were more sociable may have volunteered (1) which means the study into personality types of Facebook and Twitter users may not be fully representative of users of those social media platforms (1).</li></ul> <p><b>Look for other reasonable marking points.</b></p> <p><b>Answers must relate to the scenario.</b></p> <p><b>Generic answers score 0 marks</b></p>	<b>(4)</b>

Question Number	Answer	Mark
<b>1(b)</b>	<p style="text-align: center;"><b>AO2 (2 marks), AO3 (2 marks)</b></p> <p>Candidate responses have to be drawn from evidence presented in Table 1.</p> <p>One mark for identification of each conclusion (AO2) One mark for justification of each conclusion (AO3).</p> <p>For example:</p> <ul style="list-style-type: none"> <li>• Facebook users tend to rate that they like the company of others more than Twitter users (1) because they had a mean score of 1.6 higher on the sociability questions than Twitter users (1).</li> <li>• Twitter enjoy thinking and like to do things like solve complex problems more than Facebook users (1) which is shown by a need for cognition score of 6.60 compared to 5.00 for Facebook users (1).</li> </ul> <p><b>Look for other reasonable marking points.</b></p> <p><b>Answers must relate to the scenario.</b></p> <p><b>Generic answers score 0 marks.</b></p>	<b>(4)</b>

Question Number	Answer	Mark
<b>1(c)</b>	<p style="text-align: center;"><b>AO2 (1 mark), AO3 (1 mark)</b></p> <p>One mark for identification of a strength of using primary data in the context of the study (AO2)</p> <p>One mark for justification of the strength (AO3)</p> <p>For example:</p> <ul style="list-style-type: none"> <li>• The data gathered about personality types of the users will have been collected for the purpose of the study so will be more valid (1) as the scores on personality types will have been operationalised by the researchers of the Twitter and Facebook study for the purposes that they intended so will reflect the users' personality (1).</li> </ul> <p><b>Look for other reasonable marking points.</b></p> <p><b>Answers must relate to the scenario.</b></p> <p><b>Generic answers score 0 marks</b></p>	<b>(2)</b>

Question Number	Answer	Mark
1(d)	<p style="text-align: center;"><b>AO2 (1 mark), AO3 (1 mark)</b></p> <p>One mark for identification of a weakness of using the mean score in the context of the study (AO2)</p> <p>One mark for justification of the weakness (AO3)</p> <p>For example:</p> <ul style="list-style-type: none"> <li>• The mean score given for personality type will be skewed by extreme scores (1) so the average personality type stated by the mean score may not represent the average personality type of a Twitter or Facebook user (1).</li> </ul> <p><b>Look for other reasonable marking points.</b></p> <p><b>Answers must relate to the scenario.</b></p> <p><b>Generic answers score 0 marks</b></p>	<b>(2)</b>

Question Number	Answer	Mark
2(a)	<p style="text-align: center;"><b>AO2 (2 marks), AO3 (2 marks)</b></p> <p>One mark for identification of each strength of the observation related to the study (AO2).</p> <p>One mark for justification of each strength (AO3).</p> <p>For example:</p> <ul style="list-style-type: none"> <li>• A naturalistic observation of the employee interactions will happen in the natural setting of the office so ecological validity will be high (1) because being in the office the employees will act more naturally and their behaviour will be more representative of their day-to-day human interaction (1).</li> <li>• A covert observation of the employee behaviour will mean they are less likely to show demand characteristics and change their interactions so validity will be higher (1) because the employees are unaware they are in a study about human interaction and so will act more like they would in the workplace than if they were aware (1).</li> </ul> <p><b>Look for other reasonable marking points.</b></p> <p><b>Answers must relate to the scenario.</b></p> <p><b>Generic answers score 0 marks.</b></p>	<b>(4)</b>

Question Number	Answer	Mark
2(b)	<p style="text-align: center;"><b>AO2 (2 marks), AO3 (2 marks)</b></p> <p>One mark for identification of the strength/weakness in the context of the study (AO2)</p> <p>One mark for justification of the strength/weakness (AO3)</p> <p>For example:</p> <p>Strength</p> <ul style="list-style-type: none"> <li>• Quantitative data in terms of the number of emails and instant messages will be more objective than qualitative data (1) because it is difficult to interpret the number of emails differently whereas a conversation could be interpreted another way by other researchers (1).</li> </ul> <p>Weakness</p> <ul style="list-style-type: none"> <li>• A weakness with counting the number of emails is that the researchers cannot gain further information so it lacks validity (1) because they are unable to gain an insight into why emails were sent which could have revealed important underlying reasons that were not related to the open plan setting (1).</li> </ul> <p><b>Look for other reasonable marking points.</b></p> <p><b>Answers must relate to the scenario.</b></p> <p><b>Generic answers score 0 marks</b></p>	(4)



Question Number	Answer	Mark
2(c)	<p style="text-align: center;"><b>AO2 (2 marks), AO3 (2 marks)</b></p> <p>One mark for identification of a weakness in terms of generalisability related to the study (AO2).</p> <p>One mark for justification of the weakness (AO3).</p> <p>For example:</p> <ul style="list-style-type: none"> <li>The researchers only did the study with one company so it may not represent all offices with an open plan layout (1) which means the findings do not represent offices in different industries and in different parts of the world (1).</li> </ul> <p><b>Look for other reasonable marking points.</b></p> <p><b>Answers must relate to the scenario.</b></p> <p><b>Generic answers score 0 marks.</b></p>	(2)

Question Number	Answer	Mark
2(d)	<p style="text-align: center;"><b>AO2 (1 mark), AO3 (1 mark)</b></p> <p>Candidate responses have to be drawn from evidence presented in Table 2.</p> <p>One mark for identification of a suitable conclusion (AO2)</p> <p>One mark for justification of the conclusion (AO3).</p> <p>For example:</p> <ul style="list-style-type: none"> <li>The open plan office lead to a decrease in face-to-face communication, rather than the expected increase (1) which is shown by an average decrease of 3,770 minutes over the course of the study in face-to-face conversations from before the open plan office was introduced (1).</li> </ul> <p><b>Look for other reasonable marking points.</b></p> <p><b>Answers must relate to the scenario.</b></p> <p><b>Generic answers score 0 marks.</b></p>	(2)

## Section B: Review of studies

Question Number	Answer	Mark
<b>3(a)</b>	<p style="text-align: center;"><b>AO2 (1 mark), AO3 (1 mark)</b></p> <p>One mark for comparing the observed/calculated value with a relevant critical value (AO2)</p> <p>One mark for justification of what this means for the findings of the study (AO3)</p> <p>For example:</p> <ul style="list-style-type: none"><li>• The calculated value (0.411) is greater than the critical value (0.362) at the 5% level of significance (1). This means that there was a significant positive relationship between the number of in-game purchases and amount of time playing the computer video games (1).</li></ul> <p><b>Look for other reasonable marking points.</b></p>	<b>(2)</b>

Question Number	Answer	Mark
3(b)	<p style="text-align: center;"><b>A02 (3 marks), A03 (3 marks)</b></p> <p>Up to three marks for application of biological psychology to the purchase of in-game rewards in computer video games (AO2). Up to three marks for judgement/justification of research evidence in relation to the study (AO3).</p> <p><b>Application of biological psychology to the study (AO2)</b></p> <p>For example:</p> <ul style="list-style-type: none"> <li>• The purchase of in-game rewards may provide stimulation to the dopamine reward pathway as they complete more objectives using the resources gained (1).</li> <li>• Males have greater testosterone which has been linked to increased competitive behaviour so could lead to more in-game purchases due to wanting to win more in the games compared to players who have less testosterone (1).</li> <li>• Purchasing the rewards may increase chances of success in the game and the individual may be seen as more desirable in terms of evolution, so it encourages them to purchase more (1).</li> </ul> <p><b>Judgement/justification of how far research evidence can account for the purchase of in-game rewards in relation to the study (AO3)</b></p> <p>For example:</p> <ul style="list-style-type: none"> <li>• Olds and Milner (1954) found rats who were stimulated on the reward pathway continued to press a lever for further stimulation, which could support the rewarding aspect of completing more objectives in the game (1).</li> <li>• Boys testosterone increases during early teens which is when aggressive behaviour and inter-male fighting increases (Mazur, 1983) which can support the link between players with higher testosterone and the purchase of more in-game rewards (1).</li> <li>• Bandura (1965) who showed children would be more likely to imitate a TV character who was rewarded compared to where behaviour was punished or with no consequence which shows vicarious reinforcement could equally explain the purchase of in-game rewards (1).</li> </ul> <p><b>Look for other reasonable marking points.</b></p> <p><b>Answers must relate to the scenario.</b></p> <p><b>Generic answers score 0 marks.</b></p>	(6)

Question Number	Indicative content	Mark
4	<p style="text-align: center;"><b>AO1 (6 marks), AO3 (10 marks)</b></p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• Sherif et al. (1954/1961) used a summer camp in Robber's cave state park to investigate the formation and reduction of prejudice.</li> <li>• Sherif et al. (1954/1961) used an experimental situation where competitive tasks were used to see the effect on prejudice in the boys.</li> <li>• Replication is an important aspect of science with consistency enabling predictions about future actions to be made.</li> <li>• To be considered scientific a concept should be able to be falsified in terms of whether it could be supported or refuted.</li> <li>• Raine et al. (1997) used the same continuous performance task (CPT) that was based around target recognition for 32 minutes.</li> <li>• Raine et al. (1997) made sure participants were not receiving medication and were the same sex and a similar age.</li> </ul> <p><b>AO3</b></p> <ul style="list-style-type: none"> <li>• The use of a real life setting with a lack of controls in Sherif et al. (1954/1961) means the study could be considered less scientific.</li> <li>• The experimental aspect of the study in trying to establish some level of cause and effect with the tasks and prejudice could be considered scientific to an extent.</li> <li>• By breaking prejudice down into finite resources and competition could be considered reductionist and therefore more scientific.</li> <li>• Sherif et al. (1954/1961) did aim to study the behaviour of the boys in the whole situation and conducted it using a field experiment so it is holistic to an extent and less scientific.</li> <li>• Sherif's studies have been replicated and showed consistent findings regarding prejudice so this is scientific.</li> <li>• Raine et al. (1997) used PET scanning and found that brain functioning did differ between murderers and controls so is scientific in this respect.</li> <li>• The controlled task used in Raine's study means that</li> </ul>	(16)

	<p>comparisons could be made between participants so is more scientific.</p> <ul style="list-style-type: none"> <li>• By ensuring participants were medication free and the same sex and similar age controls were used the study reduced participant variables so has increased internal validity and is more scientific.</li> <li>• The finding that a single brain region was not responsible for violent behaviour and that social, psychological and environmental factors are required is holistic and less scientific to some extent.</li> <li>• The use of PET scanning in Raine et al. (1997) is a valid way of measuring brain activity in murderers and controls so is more scientific.</li> </ul> <p><b>Look for other reasonable marking points.</b></p>	
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Level	Mark	Descriptor
<b>AO1 (6 marks), AO3 (10 marks)</b>		
<b>Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge &amp; understanding is capped at maximum 6 marks.</b>		
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
<b>5</b>	<p style="text-align: center;"><b>AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)</b></p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• Social impact theory suggests that social influence would be greater when the source is more immediate and there are fewer or no barriers.</li> <li>• The theory proposes that social influence would be greater when there are more people affecting the target individual, but the proportional impact lessens as the total number of sources increases.</li> <li>• It is predicted that there would be greater social influence when a source is high status and has a close relationship with the target individual.</li> <li>• Social impact theory predicts that people do not try as hard or invest as much effort individually when in a group compared to being alone – this is called social loafing.</li> <li>• Research conducted by Latané and Darley (1970) highlighted diffusion of responsibility, which involves a person being less motivated to act when others are present compared to being alone.</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• The Olympic athlete is at the school and is accessible so the immediacy would be high, predicting more exercise behaviour from staff and students.</li> <li>• There is only one source having an influence on the students and staff so this could account for exercise not increasing for all those at the school.</li> <li>• An Olympic athlete would have high status and salience with most people so could account for the greater impact on exercise participation than when the head teacher was communicating the message to staff and students.</li> <li>• When given the talk as a whole school the social impact of the message regarding exercise may have been diluted but strengthened when in smaller groups as there could be less scope for social loafing.</li> <li>• Those who did not participate more could be accounted for as they may have observed only the original talk in from of the whole school and so diffused responsibility for their participation compared to if they had been involved in the smaller group talks or competitions.</li> </ul>	<b>(12)</b>

**AO3**

- Bassett and Latané (1976) found participants would assign nearby fictitious events in a newspaper more column inches than faraway events, which supports immediacy and shows that if promotion of exercise is close by then people maybe more willing to participate.
- Milgram, Bickman and Berkowitz (1969) showed passers-by would crane their neck and gawk as more confederates looked up to a sixth floor window, showing that number of sources could affect levels of exercise.
- The theory ignores the role of personality factors, such as the authoritarian personality, which has been linked to higher levels of obedience so personality could be a critical factor in whether someone chooses to exercise.
- Social impact theory does not attempt to explain why social influence occurs but simply outlines the factors involved, so may not be able to fully explain *why* someone may choose to exercise.
- Latané and Darley (1968) found only 31% of people reported an epileptic attack and took an average of 166 seconds to respond when in a six-person group compared to 85% reporting the attack in 52 seconds in a two-person group with the victim, which supports diffusion of responsibility and suggests someone may exercise less when in groups than when alone.

**Look for other reasonable marking points.**

Level	Mark	Descriptor
<b>AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)</b>		
<b>Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.</b>		
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	<p style="text-align: center;"><b>AO1 (8 marks), AO3 (12 marks)</b></p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• Reductionism is a way of explaining complex phenomenon (e.g. society) in terms of smaller units which make it up.</li> <li>• The opposite of reductionism is holism – this is the view that the smaller units of a phenomenon (e.g. society) never add up to the whole due to the relationship between the units (as this is more than the smaller units alone)</li> <li>• Baddeley (1966b) tested acoustic and semantic coding in the LTM by asking participants to remember the order of a list of words</li> <li>• Watson and Rayner (1920) used a laboratory experiment to isolate the stimulus and response pairings</li> <li>• Social Learning Theory assumes learning is due to observation and imitation of role models</li> <li>• Bartlett’s reconstructive memory assumes schemas are used to fill in the gaps in memory</li> <li>• The Working Memory Model breaks memory down into components such as the visuo-spatial sketchpad and phonological loop</li> <li>• Biological psychology attempts to reduce complex human behaviour such as aggression to a single gene or set of genes</li> <li>• Social psychology considers how individuals, groups, society, and culture affect human behaviour</li> </ul> <p><b>AO3</b></p> <ul style="list-style-type: none"> <li>• The use of a laboratory experiment to isolate acoustic and semantic coding by Baddeley (1966b) is a reductionist way to assess memory</li> <li>• Simplifying memory to STM and LTM and concluding it is coded differently is reductionist</li> <li>• The use of a controlled, standardised setting to isolate the stimulus and response pairings by Watson and Rayner (1920) is a reductionist way to assess learning</li> <li>• As Social Learning Theory considers cognitive and social aspects of learning it could be considered a more holistic explanation of the learning process</li> <li>• Studying learning in a holistic way would be seen as less scientific and more difficult to falsify as the isolation of the</li> </ul>	<b>(20)</b>

causes of learning would be harder to to identify

- Bartlett's theory of memory could be considered more holistic as it involves real life experiences and the socialisation process in how schemas are formed
- A holistic explanation for memory may be more useful as it would take into account an individual's social world and their past and present experiences and the relationship between all the units
- Whilst a single gene causing behaviour could be considered reductionist, epigenetics suggests that genes only predispose individuals and that social factors are needed too which is less reductionist
- Raine et al. (1997) concluded that violent behaviour could not be caused by a single brain region and that multiple areas are involved and predispose the individual to violent behaviour when combined with other social, psychological, and environmental factors so could actually be considered fairly holistic.
- Consideration of why humans obey through evolution and socialisation in agency theory is a more holistic approach to studying obedience
- Social impact theory attempts to reduce social influence to an equation which predicts when people are likely to obey so is more reductionist
- Reductionism is seen as more scientific and analytical than holism as it can be more easily tested and falsified so is a valuable approach to studying human behaviour
- An interactionist approach can combine different levels of an explanation of human behaviour to give a more complete, realistic understanding than either extreme reductionist or holistic explanations

**Look for other reasonable marking points.**

Level	Mark	Descriptor
<b>AO1 (8 marks), AO3 (12 marks)</b>		
<b>Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge &amp; understanding is capped at maximum 8 marks.</b>		
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)