
GCSE
PSYCHOLOGY
8182/2

Paper 2 Social Context and Behaviour

Mark scheme

June 2024

Version: 1.0 Final



Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

No student should be disadvantaged on the basis of their gender identity and/or how they refer to the gender identity of others in their exam responses.

A consistent use of 'they/them' as a singular and pronouns beyond 'she/her' or 'he/him' will be credited in exam responses in line with existing mark scheme criteria.

Further copies of this mark scheme are available from [aqa.org.uk](https://www.aqa.org.uk)

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Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best-fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Possible content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the possible content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

Examiners are reminded that AO1 and AO2 are regarded as interdependent. When deciding on a mark in instances where there is an attempt at more than one assessment objective all attempts should be considered together using the best fit approach. In doing so, examiners should bear in mind the relative weightings of the assessment objectives.

When an answer only contains content related to one of the skills (AO1/AO2), then the levels descriptors for the award of marks for the skill attempted should be applied to the answer, up to the maximum mark available.

Section A**Social influence**

01	Which of the following best defines 'bystander behaviour'? Shade one box. [1 mark]
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Marks for this question: AO1 – 1 mark**Answer:****C** (The actions a person takes when they see someone needing help.)

02	What is meant by the psychological term 'collective behaviour'? [2 marks]
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Marks for this question: AO1 – 2 marksUp to **2 marks** for a definition of collective behaviour.**2 marks:** a clear and accurate definition.**1 mark:** a limited or muddled definition.**Possible content**

- Actions that happen/are carried out.

PLUS

- When people are part of a group.

Credit other relevant content.

NOTE: Where the words 'behaviour' or 'behave' are used as part of the answer and are **not** defined, (eg 'behaviour in a group'), this will reduce the clarity of the answer.**NOTE:** Where the answer is a definition of another term (such as 'deindividuation' or 'social loafing') but contains some sense of **both** of the required elements, it can be credited as a muddled definition.

03.1	Use the article to identify two examples where the social factor of authority affected obedience levels and two examples where the social factor of proximity affected obedience levels. Write your answers in the correct boxes. [4 marks]
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Marks for this question: AO2 – 4 marks

1 mark for each correct response for authority (MAX 2 marks).

1 mark for each correct response for proximity (MAX 2 marks).

Examples of authority	Examples of proximity
When a lab coat was worn (instead of everyday clothes). (What the person giving the orders was wearing)	When the participants could hear screams but not see who they were shocking. (Where the participant was in relation to the person 'receiving' the shock)
When it was carried out in a scientific lab (rather than an office). (Where the experiment was carried out)	When the instructions were given by telephone rather than in person. (Where the person giving the orders was in relation to the participant)

Credit other relevant wording.

NOTE: If the candidate has written more than one answer within a box, **only** mark the **first one**.

NOTE: Each variation of the experiment can only be credited once – e.g. splitting 'wearing a lab coat' and 'wearing everyday clothes' between two boxes = MAX 1 mark.

NOTE: Very brief wording still needs to be clearly recognisable as a specific answer in order to be credited.

03.2	Calculate the percentage of participants who gave the highest possible ‘electric shock’ when the researcher wore everyday clothes instead of a lab coat. State your answer using two significant figures and show your workings. [3 marks]
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Marks for this question: AO2 – 3 marks

3 marks for the correct number to two significant figures.

38

2 marks for the correct number but not rounded to two significant figures

37.5

OR

2 marks for the ‘correct’ percentage but rounded incorrectly.

37

1 mark for correct workings but incorrect/no answer.

$9/24 \times 100$

NOTE: Credit may be given for correct answers written in the workings box – not just on the answer line.

03.3	The experimental design used in all of the versions of the described obedience research was independent groups. Using your knowledge of how to plan and conduct psychological research, discuss the reliability and validity of using independent groups. [3 marks]
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Marks for this question: AO3 – 3 marks

Up to **3 marks** for a discussion of the reliability **and** validity of using independent groups to carry out psychological research.

3 marks: a clear and detailed discussion that addresses **both** reliability and validity with at least one elaborated point.

2 marks: a limited discussion of both reliability and validity OR a clear and elaborated point for either.

1 mark: a very limited/muddled discussion.

Possible content

- Participant variables:
 - Independent groups may be **less valid** (than repeated measures) as increased participant variables means differences in results may be due to these rather than the IV.
 - Independent groups may be **less reliable** (than repeated measures) because increased participant variables mean replicating the study with different participants could lead to different results being found.
- Order effects:
 - Independent groups may be **more valid** (than repeated measures) as there are no order effects. So, effects such as boredom or practice will not impact on results.
 - Independent groups may be **more reliable** (than repeated measures) as there are no order effects. So, effects such as boredom or practice will not impact on results meaning that if the study was repeated, it is more likely to get consistent results.
- Demand characteristics:
 - Independent groups may be **more valid** (than repeated measures) as taking part in just one condition makes it less likely that participants will work out the aim of the study and change their natural behaviour.
 - Independent groups may be **more reliable** (than repeated measures) as taking part in just one condition makes it less likely that participants will work out the aim, so if the study was repeated, it is more likely to get consistent results.

Credit other relevant content.

NOTE: Answers that are **only** strengths / weaknesses of independent groups (eg occurrence of order effects, participant variables), and do not specifically address reliability or validity (MAX 1 mark).

NOTE: Only credit discussion of repeated measures if it is used as a comparison to independent measures.

03.4	Briefly evaluate Milgram's Agency theory of social factors affecting obedience. [3 marks]
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Marks for this question: AO3 – 3 marks

Up to **3 marks** for an evaluation of Milgram's Agency theory of social factors affecting obedience.

3 marks: a clear and detailed evaluation.

2 marks: a limited evaluation.

1 mark: a very limited/muddled evaluation.

Possible content

- There is real-world evidence to support Milgram's theory – for example, the Nazi guards in concentration camps during the Second World War.
- There is research evidence to support Milgram's theory – for example, Milgram's 'electric shock' study and Thomas, Blass and Schmitt (2000).
- The theory doesn't fully explain why some people are not as obedient as others. In Milgram's study, only 65% of his participants were willing to give the fatal 'electric shock' to another person. This may mean that some people are more likely to enter the agentic state than others.
- Milgram only addresses social factors that may affect obedience, but other psychologists (eg Adorno) think dispositional factors such as personality are very important.
- The use of appropriate supporting or contradictory evidence/theories can be credited.

Credit other relevant content.

NOTE: Evaluation of Milgram's study (or the described study) without any reference to how that impacts on the theory, is not creditworthy.

04	Describe Asch's study of conformity and evaluate the research method used in his study. Refer to the conversation as part of your answer. [9 marks]
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Marks for this question: AO1 – 3 marks, AO2 – 3 marks and AO3 – 3 marks

Level	Marks	Description
3 Detailed	7–9	AO1: Relevant knowledge and understanding of Asch's study of conformity is accurate with detail. AO2: Clear application of knowledge and understanding of Asch's study of conformity and/or laboratory experiments to the conversation. AO3: Analysis and evaluation of laboratory experiments is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.
2 Clear	4–6	AO1: Relevant knowledge and understanding of Asch's study of conformity is present but there are occasional inaccuracies/omissions. AO2: Reasonable application of knowledge and understanding of Asch's study of conformity and/or laboratory experiments to the conversation. AO3: There may be some effective analysis and evaluation of laboratory experiments. There may be an attempt to draw conclusions. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning, and is clear, generally coherent and focused although structure may lack some logic.
1 Basic	1–3	AO1: Knowledge and understanding of Asch's study of conformity is present but limited. AO2: Limited application of knowledge and understanding of Asch's study of conformity and/or laboratory experiments to the conversation. AO3: Analysis and evaluation of laboratory experiments is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

AO1

- Asch's participants were all male college students in the USA. Participants were put into groups of 7 to 9 people and did not know that they were the only true participant in each group. The research method was a laboratory experiment.
- They were shown sets of 4 lines: a target line and 3 comparison lines. One at a time, the people in the group were asked which comparison line was the same length as the test line. The confederates had been instructed to give the same wrong response for 12 out of the 18 sets of lines. The true participant was always asked for an answer after they had heard many wrong answers given.
- In 36.8 percent of the trials, the participants gave the same wrong answer as the confederates. 76 percent of participants conformed at least once. Only 24 percent gave the correct answer every time.
- Asch concluded that when people experience perceived pressure to fit in with a group, they will conform and alter their behaviour.

AO2

- Myla wonders if the level of conformity had something to do with the situation not being like the participant's everyday life. Participants in laboratory experiments may change their natural behaviour because the situation is unusual to them. Myla is suggesting that this is why so many people in Asch's experiment conformed.
- In laboratory experiments the task (for example, comparing the length of lines) is often not something people typically do. Aneeta said the task was not like anything she had ever been asked to do before.

AO3

- Laboratory experiments give researchers a high level of control over extraneous variables. This makes it easier to measure how the independent variable affects the dependent variable.
- It is easier to standardise procedures. This makes it easier for other researchers to replicate research using different participants.
- Laboratory experiments often use artificial tasks that are not like the tasks people do in everyday life. This decreases the ecological validity of the research.
- A laboratory setting is not very similar to an everyday environment. This means participants may not behave as they normally would when taking part. This affects the reliability of the results.

Credit other relevant content.

NOTE: The AO2 may be embedded in the AO1 and/or AO3 or separate; all of these are equally acceptable.

Section B**Language, thought and communication**

05	The body language we use communicates a non-verbal message to other people. Which of the following types of body language is least likely to communicate a message of friendliness? Shade one box. [1 mark]
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Marks for this question: AO1 – 1 mark**Answer:****A** (Closed posture)

06	Which of the following is not a function of eye contact? [1 mark]
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Marks for this question: AO1 – 1 mark**Answer:****C** (Perception of depth cues in our surroundings)

07	Name one factor that affects personal space. Explain how the factor you have named affects personal space. [3 marks]
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Marks for this question: AO1 – 3 marks

1 mark for naming any of the following factors (MAX 1 mark):

- gender or sex
- status
- culture
- age
- personality type
- relationship/familiarity
- temperament
- disorders (e.g. PTSD, autism, schizophrenia)
- longer term environmental factors (e.g. living in a crowded city, covid-19 pandemic)

Credit other relevant factors.

NOTE: If the candidate has written more than one factor, **only** mark the **first one**.

NOTE: Do not credit answers that just affect the amount of space available without altering the personal preference for space between self and another.

Up to **2 marks** for an appropriate explanation of how the **named factor** affects personal space.

2 marks: a clear and accurate explanation.

1 mark: a limited or muddled explanation.

Possible content

Gender

- Both males and females tend to stand closer to a female than to a male (e.g. Horowitz, Duff and Stratton, 1970)
- Some research suggests that males tend to have a bigger personal space than females (e.g. Aiello and Jones 1971)
- Some research has found that two females standing together will have a smaller distance between them than a male and female. Two males will be the most distant from one another (e.g. Aliakbari, Faraji, and Pourshakibae 2011)
- Recent research has found that women prefer to maintain a greater distance with strangers (Sorokowska et al, 2017).

Status

- People stand closer to each other if they are of equal status rather than different status (Lott and Sommer 1967).
- People of lower status stand closer to people who are of equal status to them, and further away from people who are of a higher status (Zahn 1991).

Culture

- Mediterranean and Latin America cultures tend to be more comfortable with touch in casual social situations (contact cultures), while Asian and North American cultures (non-contact cultures) tend to avoid touch in these situations. Contact cultures tend to prefer a smaller amount of personal space than non-contact cultures (Beaulieu 2004).
- Researchers found that the comfortable conversation distance for white English people is 1–1.5 metres. For people from Arab cultures, the distance is much less (Sommer 1967).
- People from Saudi Arabia need more personal space than English people (Sorokowska et al, 2017).

Age

- Childrens' personal space increases as they get older (Aiello and Aiello 1974)
- Older adults tend to prefer to have a greater amount of personal space (Sorokowska et al, 2017).

Personality type

- Anxious people tend to have a larger personal space compared to people who are confident (Altman and Vinsel 1977).
- People who are higher in extroversion, openness or agreeableness sit closer together than those who are lower in these traits (Hebel and Rentzsch 2022).

Relationship/Familiarity

- Research generally suggests that liking the other person leads to smaller amount of personal space (e.g. Mehrabian 1968)
- People who are more familiar with one another will stand closer together (Little 1965)

Temperature

- Research has found that the higher the annual temperature of a country, the closer the preferred distance to strangers (Sorokowska et al, 2017).

Longer term environmental factors

- Recent research has found that personal space increased during the COVID-19 pandemic (Holt et al 2022)

Credit other relevant content.

NOTE: There is some variation in the research findings in this area. All relevant answers that are in line with published psychological research can be credited. Answers DO NOT need to identify the researcher or date to be considered clear and accurate.

NOTE: Explanations that **only** refer to level of 'comfort' and not 'space' are not creditworthy.

NOTE: The named factor may be embedded in the explanation or separate; both are equally acceptable.

08	Describe the Sapir-Whorf hypothesis.	[4 marks]
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Marks for this question: AO1 – 4 marks

Level	Marks	Description
2 Clear	3–4	Clear and accurate knowledge of the Sapir-Whorf hypothesis that thinking depends on language with some detail. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.
1 Basic	1–2	Limited or muddled knowledge of the Sapir-Whorf hypothesis that thinking depends on language is present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

- Sapir and Whorf believed that language comes first and thought follows. This means that our language affects our memory, perception and thinking.
- The weak version of the Sapir-Whorf hypothesis says that language influences thought. Both Sapir and Whorf agreed more with this version.
- The strong version of the Sapir-Whorf hypothesis says that language determines thought. This means that it is not possible to think about things unless someone already knows the words for it.
- Sapir and Whorf's hypothesis was based on research of indigenous (native) languages. Whorf contrasted Native American languages with English. He claimed that the Eskimos' use of many different words for snow supports his ideas.

Credit other relevant content.

09.1	Identify the independent variable in the described study.	[1 mark]
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Marks for this question: AO2 – 1 mark

1 mark for identifying the independent variable in the described study.

Possible content

- Being an English speaker or a non-English speaker.
- Whether or not the participants spoke English.
- The language spoken by participants.

NOTE: Only identifying the IV from one condition (eg ‘English speakers’) is not creditworthy.

09.2	Briefly evaluate the described study carried out by the psychologist.	[3 marks]
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Marks for this question: AO3 – 3 marks

Up to **3 marks** for evaluation of the described study carried out by the psychologist.

3 marks: a clear and detailed evaluation.

2 marks: a limited evaluation.

1 mark: a very limited and/or muddled evaluation.

Possible content

- The sampling method used in the described study was opportunity sampling. Researcher bias is likely to occur with opportunity sampling because the researcher has influence over who is selected so might use participants they know. However, opportunity sampling is quick and easy compared to other sampling methods.
- The sampling method used in the described study was opportunity sampling. Opportunity sampling may not collect a sample that represents the target population as well as other sampling methods.
- Watching video clips is not the same as being there in real life. Therefore, the ecological validity of the described study is reduced. However, the behaviour being watched was probably one that most people could relate to given that windows are commonplace and known to be breakable.
- Some of the participants could have spoken many different languages, which introduces a large number of potential participant variables that could affect the results.
- The described study used video clips. These could easily be used to replicate the study with other participants / researchers. If the same or similar results were found, this would increase the reliability.

Credit other relevant content.

NOTE: If an answer would be relevant to the described study but it is **only** a generic evaluation of psychological research and does not refer in any way to the described study award MAX 1 mark. (Examples of references can include ‘the psychologist’, ‘the study used’ and ‘in the study’).

10	Research has been carried out with different cultures to see whether or not non-verbal behaviour is innate. The results show that the facial expressions of anger and happiness are commonly recognised by most cultural groups around the world. Outline how you would design a study to investigate whether or not the facial expression of surprise is also commonly recognised. In your answer: • identify who your participants would be and explain why you would choose these participants • describe what you would ask your participants to do and what data you would collect • identify whether the data you collect would be qualitative or quantitative and explain your answer. [6 marks]
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Marks for this question: AO2 – 6 marks

Up to **2 marks** for identifying appropriate participants **and** for explaining why they are appropriate.

2 marks: a clear and accurate identification **and** explanation.

1 mark: a limited or muddled identification **and/or** explanation.

NOTE: To be considered appropriate participants from more than one cultural group must be identified.

NOTE: Reference to different cultures being the IV can be considered as an explanation.

PLUS

Up to **2 marks** for an appropriate description of what the participants would do **and** the data that would be collected.

2 marks: a clear and accurate description of an appropriate task **and** data.

1 mark: a limited or muddled description of an appropriate task **and** data OR a clear and accurate description of **just** an appropriate task **or just** the data.

NOTE: To be considered appropriate it must clearly be investigating the facial expression of surprise.

PLUS

Up to **2 marks** for identifying whether the data described previously as being collected is qualitative or quantitative **and** for an explanation as to why.

2 marks: a clear and accurate identification **and** explanation.

1 mark: a limited or muddled identification **and/or** explanation.

NOTE: There are ways in which quantitative data can include data with words, such as when questions only have a very limited number of answers – e.g. asking ‘is this surprise?’ (i.e. answers = yes/no), or

having a number of emotions that need to be identified by name, but with the intention that these answers are then counted.

NOTE: If it is not clear what data is being collected, it is unlikely that the final 2 marks can be awarded.

NOTE: The final 2 marks **can be** credited even if the rest of the answer does not address surprise or include more than one cultural group.

11	Describe and evaluate Von Frisch's bee study.	[6 marks]
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Marks for this question: AO1 – 3 marks and AO3 – 3 marks

Level	Marks	Description
3 Detailed	5–6	AO1: Relevant knowledge and understanding of Von Frisch's bee study is accurate with detail. AO3: Analysis and evaluation of Von Frisch's bee study is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.
2 Clear	3–4	AO1: Relevant knowledge and understanding of Von Frisch's bee study is present but there are occasional inaccuracies/omissions. AO3: There may be some effective analysis and evaluation of Von Frisch's bee study. There may be an attempt to draw conclusions. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
1 Basic	1–2	AO1: Knowledge and understanding of Von Frisch's bee study is present but limited. AO3: Analysis and evaluation of Von Frisch's bee study is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present. Relevant terminology may not be used at all or may be muddled.
0	0	No relevant content.

Possible content

AO1

- The bees were kept in a glass hive so that they could be observed and their movements could be recorded.
- When bees fed from containers of sugar water in different locations, they were marked with a tiny dot of paint so that they could be identified when they returned to their hive.
- Von Frisch noticed that when the bees returned to the hive, they made different movements depending on how far away from the hive the sugar water was. When it was less than 100 metres from the hive, the bees turned rapidly in circles to the right and then the left (a round dance).

- When the sugar water was further away, the bees moved forward in a straight line, wagging their abdomen from side to side before turning in a circle towards the left. This was followed by the bees moving straight forward again before turning in a circle towards the right (a tail-wagging or waggle dance).
- Von Frisch concluded that bees use movements to communicate to each other about the whereabouts of food sources.

AO3

- Bees do not collect sugar water from glass containers every day. Therefore, this is not a test of natural behaviour which means it can be argued that the study lacks ecological validity. However, when sugar solution was put onto flowers instead of in glass containers, the bees still behaved in the same way.
- Bee hives are not usually glass and this could have changed the bees' natural behaviour. However, when research has been done using wooden hives and a video camera, the same results have been found.
- Von Frisch's conclusions may be too simplistic. Researchers have also found that the noise bees make while doing the dances is important and other researchers have suggested that bees also use cognitive maps, based on their memory of landmarks, to find food.
- Other researchers have replicated Von Frisch's study and found the same results. This suggests that the results are trustworthy and that the original study is reliable.

Credit other relevant content.

Section C**Brain and neuropsychology**

12.1	What is the median for the total anxiety scores for 30 days? [1 mark]
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Marks for this question: AO2 – 1 mark

119.5

This is the **only** accepted response.

12.2	Identify the correct locations on the scatter diagram for the results of participant 002 and participant 010. Shade two boxes. [2 marks]
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Marks for this question: AO2 – 2 marks**A and D**

12.3	Name the type of correlation the neuroscientist has found between language difficulties and anxiety levels. [1 mark]
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Marks for this question: AO2 – 1 mark

Positive (correlation)

This is the **only** accepted response.

12.4	When the neuroscientist saw the results, she claimed to have found the cause of anxiety in people who have had a stroke. Explain why the results do not show that language difficulties cause anxiety. [2 marks]
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Marks for this question: AO2 – 2 marks

Up to **2 marks** for explaining why the results **do not** show that language difficulties cause anxiety.

2 marks: a clear and accurate explanation.

1 mark: a limited or muddled explanation.

Possible content

- The results do not show which of the two variables (language difficulties or anxiety) actually caused the positive correlation that has been found.
- Finding the positive correlation may show that language difficulties and anxiety are related, but it does not explain why the relationship exists.
- A third factor / variable may be the actual cause, such as another health condition.

Accept other creditworthy answers, such as suggesting that other (confounding) variables may have affected the results (e.g. the difficulty that the participants have with understanding what others say may have affected their answers).

NOTE: If answers do not address the described scenario but simply explain the issue with correlations and cause and effect (MAX 1 mark).

NOTE: Answers based on the rankings / apparent anomalies in the table are highly unlikely to be creditworthy (e.g. saying something like 'participant no. 8 only has a language difficulty of '1' but still has anxiety'. This is not correct because the participants were ranked on the level of language difficulty they were having, so '1' represents this participant having less difficulties than the other participants – and not very little difficulty).

12.5	Outline how neurological damage from a stroke or injury can affect motor abilities and behaviour. Refer to localisation of function in the brain in your answer. [6 marks]
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Marks for this question: AO1 – 6 marks

Level	Marks	Description
3 Detailed	5–6	Relevant knowledge and understanding of how neurological damage from a stroke or injury can affect motor abilities and behaviour and localisation of function are accurate with detail. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.
2 Clear	3–4	Relevant knowledge and understanding of how neurological damage from a stroke or injury can affect motor abilities and/or behaviour and localisation of functions are present but there are occasional inaccuracies/omissions. OR Relevant knowledge and understanding of how neurological damage from a stroke or injury can affect motor abilities and behaviour and/or localisation of functions are present but there are occasional inaccuracies/omissions. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
1 Basic	1–2	Knowledge and understanding of how neurological damage from a stroke or injury can affect motor abilities and/or behaviour and/or localisation of function is present but limited. Relevant terminology may not be used at all or may be muddled.
0	0	No relevant content.

Possible content

- During a stroke, the blood supply to the brain is affected. This is caused by blocked blood vessels or a bleed in the brain. The lack of blood supply can cause nerve cells to be damaged or die.
- Injuries that result in neurological damage include those that affect the spinal cord.

Motor abilities

- Damage to the motor cortex will cause a loss of coordination and affect fine motor skills.
- Damage to the cerebellum can cause loss of balance and coordination, difficulty in judging distance, tremors and staggering when walking.

- The two cerebral hemispheres control the opposite sides of the body. So, damage to the right hemisphere affects the left side of the body and vice versa.
- Damage to the spinal cord can result in paralysis or loss of muscle control. If motor nerve fibres are badly damaged, the brain can no longer send messages to the muscles to move. If the sensory nerves are damaged, there is a loss of sensation to affected areas.

Behaviour

- People who have had a stroke may become forgetful, easily angered or confused. They may experience anxiety or depression.
- A stroke may also result in people having difficulties with language.
- People with damage to Broca's area (frontal lobe) can understand what is said to them, but have difficulty saying things (motor or Broca's aphasia).
- People with damage to Wernicke's area (temporal lobe) can speak but have difficulty understanding what other people are saying to them (Wernicke's aphasia).
- Damage to the somatosensory area can affect the ability to feel pain and temperature. This may result in not taking measures to address these situations.
- Damage to the somatosensory area can cause numbness and pins and needles. This may affect the desire to do daily activities such as walking.
- Damage to the somatosensory area can affect emotional awareness. Issues with identifying and regulating emotions have an effect on people's behaviour towards others.
- Damage to the visual cortex causes a variety of sight related issues and damage to the auditory cortex causes hearing loss. These types of impairments are likely to have a significant effect on the behaviours an individual can continue to carry out.

Localisation of function

- Because brain function is localised (carried out in a particular area), the way in which neurological damage affects motor abilities and behaviour depends on which areas of the brain are damaged.
- The location of the damage to the spinal cord is the determining factor in which parts of the body are affected.

Credit other relevant content

NOTE: All three required elements do not need to be addressed in equal measure for an answer to be considered as 'detailed – level 3'

NOTE: Answers that **only** use the information in stem before Q12.1 (MAX 1 mark).

NOTE: Affects to motor abilities and behaviour can be addressed in the same statement. (e.g. Damage to the cerebellum can cause balance issues so people would probably need to give up riding a bike.)

NOTE: Localisation of function can be 'referred to' by showing understanding of the concept and does not have to be specifically named.

13	Outline Hebb's theory of learning and neuronal growth.	[4 marks]
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Marks for this question: AO1 – 4 marks

Level	Marks	Description
2 Clear	3–4	Clear and accurate knowledge of Hebb's theory of learning and neuronal growth with some detail. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.
1 Basic	1–2	Limited or muddled knowledge of Hebb's theory of learning and neuronal growth is present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

- Hebb referred to the plasticity of the brain. His theory of learning and neuronal growth suggests that when we learn, new connections are created in our brains.
- Hebb suggested that learning leaves a trace or engram in the brain. The engram can become permanent if the learning is reinforced with rehearsing and practise.
- When a neuron repeatedly excites another neuron, neuronal growth occurs and the synaptic knob becomes larger.
- During learning, groups of neurons (cell assemblies) fire/act together and if this happens frequently, neural pathways are developed.
- Hebb said that our brain is like a muscle. The more we use the neural pathways/synaptic connections, the stronger and more efficient they become.

Credit other relevant content.

NOTE: Reference to 'learning' and/or 'neuronal growth' are not enough by themselves for 'relevant content' because it is part of the question stem.

14	You have been asked to investigate possible gender differences in the fight or flight response to a highly stressful social situation. Describe how you would design a study to do this. You need to include the following information in your answer: • what you would ask your participants to do • what data you would collect and a justification for why this should be collected. [4 marks]
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Marks for this question: AO2 – 4 marks

Up to 2 marks for a description of what participants would be asked to do.

2 marks: a clear description that includes all **THREE** of the following elements:

- conditions for at least 2 different genders;
- a social situation;
- a potentially highly stressful situation.

1 mark: a clear description that includes **TWO** of the required elements **OR** a limited or muddled description including **ALL THREE** elements

PLUS

2 marks for a description of the data that would be collected **and** an appropriate justification for why this should be collected.

2 marks: a clear and accurate description.

1 mark: a limited or muddled description.

NOTE: The data marks can still be awarded without the description of what participants would be asked to do being credited.

15	Tulving used PET scans to study possible connections between types of memory and brain activity. He concluded that different areas of the brain are active when we have semantic or episodic memories. Evaluate Tulving's 'gold' memory study. [5 marks]
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Marks for this question: AO3 – 5 marks

Level	Marks	Description
3 Detailed	4–5	Analysis and evaluation of Tulving's 'gold' memory study is effective. Conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
2 Clear	2–3	There may be some effective analysis and evaluation of Tulving's 'gold' memory study. Any attempt to draw conclusions may be limited. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning and is clear, generally coherent and focused although structure may lack some logic.
1 Basic	1	Analysis and evaluation of Tulving's 'gold' memory study is of limited effectiveness. Any attempts to draw conclusions are very limited or muddled. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

- The study was one of the first to use brain scans to study cognitive processes in the living brain.
- Tulving's study used scientific methods and produced objective, unbiased findings.
- Even though the gold was a radioactive isotope, it only had a half-life of 30 seconds so risk to the participants was very small.
- Tulving only carried out his study on 6 participants (which included him and his wife). This means that the results are unlikely to be representative of all brains.
- Only three participants had consistent results, so the sample size is very small and the findings might not apply to everyone.
- It is not possible to make sure that the participants only thought about what they were asked to, so we can't be sure the scan was really measuring a specific type of memory.
- The study was ethical as all the participants were volunteers and had given their informed consent.
- In thinking about a personal experience, there is likely to be a mixture of episodic and semantic memories. This means that more parts of the brain might have been activated than the researcher actually intended.

Credit other relevant content.

Section D

Psychological problems

16.1	The following behaviours are all referred to in the conversation. Which one is not a symptom of addiction (dependence syndrome) according to the International Classification of Diseases (ICD)? Shade one box. [1 mark]
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Marks for this question: AO2 – 1 mark

Answer:

D (Using the painkillers for something other than the prescribed use)

16.2	Significant mental health problems, such as addiction, have an effect on both individuals and society. Identify one individual effect that Corrine is experiencing. [1 mark]
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Marks for this question: AO2 – 1 mark

1 mark for any of the following (MAX 1 mark):

- damage to relationships
- difficulties coping with day-to-day life (eg going to work)
- negative impact on physical wellbeing.

Accept other creditworthy answers such as financial issues/difficulties in maintaining regular employment **BUT** do not accept answers that are social effects rather than individual effects (eg need for more social care, increased crime rates, implications for the economy).

NOTE: If the candidate has written more than one effect, **only** mark the **first one**.

16.3	Self-management programmes are a type of intervention used for addiction. Using your knowledge of the strengths and/or weaknesses of self-management programmes, briefly discuss why this would be an appropriate intervention for Corrine. Refer to the conversation to support your answer. [3 marks]
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Marks for this question: AO2 – 1 mark and AO3 – 2 marks

AO2

1 mark for an appropriate reference to the conversation.

AO3

Up to **2 marks** for a discussion of the strengths **and/or** weaknesses of self-management programmes.

2 marks: a clear and accurate discussion.

1 mark: a limited or muddled discussion.

Possible content

AO2 and AO3

- Self-management programmes can be viewed as holistic because they help people to deal with the urge to use a substance as well as addressing other factors that are often linked to addiction, such as trauma or loss. Corrine was prescribed the painkillers for injuries from an accident. She may have experienced both trauma and loss in the accident.
- Self-management programmes work best when attended regularly and for a long time. Corrine is having difficulties coping with day-to-day life without painkillers. She may find it difficult to regularly attend a programme.
- Self-management programmes work best when the person is motivated / ready to make changes. Corrine has gone to the doctor to talk about her painkiller use so she appears to be motivated to do something to change things.

Credit other relevant content.

NOTE: AO2 may be embedded within the answer for AO3 or vice versa. Both are equally acceptable.

17	One biological explanation for addiction is genetic vulnerability. What is meant by the term 'genetic vulnerability'? [2 marks]
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Marks for this question: AO1 – 2 marks

Genetic vulnerability is defined as 'A biological predisposition/susceptibility towards developing conditions/disorders that can be hereditary'

1 mark for an accurate reference to the inherited nature of the condition/disorder.

- hereditary/inherited/passed down in genes/DNA

Credit other relevant wording.

PLUS

1 mark for an accurate reference to the increased risk of getting a condition/disorder

- predisposition/susceptibility/higher risk/more likely to develop

Credit other relevant wording.

NOTE: If there is no biological element (e.g. biological predisposition, hereditary/inherited etc) anywhere in the answer, NO credit can be given.

NOTE: Where the words 'genetic' or 'vulnerability' are used as part of the answer and are **not** defined, this will reduce the clarity of the answer.

NOTE: Wording such as 'it is something that you get from / is passed down from your parents' is not enough for the heredity element.

18	Briefly evaluate Kaij's twin study of alcohol abuse.	[3 marks]
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Marks for this question: AO3 – 3 marks

Up to **3 marks** for evaluation of Kaij's twin study of alcohol abuse.

3 marks: a clear and detailed evaluation.

2 marks: a limited evaluation.

1 mark: a very limited and/or muddled evaluation.

Possible content

- In Kaij's twin study, the information on alcohol use came from the participant and other family members. This type of self-report method is subjective and there are many reasons why the information provided may not be correct. These include lying about the amount of alcohol consumed in order to give a socially desirable answer.
- Kaij's sample is limited because all of the participants were male, twins, and Swedish. This means that the findings are not representative of people who are female or who are not twins or Swedish.
- The sample is also limited because the participants were twins where at least one of them was publicly known to abuse alcohol. Therefore, the results are not representative of those who abused alcohol but did so in private.
- Findings from twin studies such as Kaij's may be limited because identical twins are often brought up in the same way, so it may be the environment (nurture) and not genetics (nature) that was the cause of the comparable rates of alcohol use.
- Although Kaij found that 54% of the identical twins were in the same category as their co-twin for alcohol use, that also means that 46% were not in the same category and that suggests there are not just genetic factors involved in alcohol use.
- One strength is that his results are supported by findings from later studies – eg Kendler et al (1997) and Prescott et al (2005).

Credit other relevant content.

19	The recorded rates of significant mental health problems have changed over time. A number of reasons have been suggested for these changes. Two possible reasons are increased awareness of mental health problems and a decrease of the social stigma around them. Using your psychological knowledge, discuss both of these possible reasons for changes in the recorded rates of mental health problems. Refer to the article in your answer. [6 marks]
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Marks for this question: AO1 – 2 marks, AO2 – 2 marks and AO3 – 2 marks

Level	Marks	Description
3 Detailed	5–6	AO1: Relevant knowledge and understanding of the possible reasons for changes in the recorded rates of mental health problems is accurate with detail. AO2: Clear application of knowledge and understanding of the possible reasons for changes in the recorded rates of mental health problems. AO3: Analysis and evaluation of the possible reasons for changes in the recorded rates of mental health problems is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.
2 Clear	3–4	AO1: Relevant knowledge and understanding of the possible reasons for changes in the recorded rates of mental health problems is present but there are occasional inaccuracies/omissions. AO2: Reasonable application of knowledge and understanding of the possible reasons for changes in the recorded rates of mental health problems. AO3: There may be some effective analysis and evaluation of the possible reasons for changes in the recorded rates of mental health problems. There may be an attempt to draw conclusions. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning, and is clear, generally coherent and focused although structure may lack some logic.

1 Basic	1–2	AO1: Knowledge and understanding of the possible reasons for changes in the recorded rates of mental health problems is present but limited. AO2: Limited application of knowledge and understanding of the possible reasons for changes in the recorded rates of mental health problems. AO3: Analysis and evaluation of the possible reasons for changes in the recorded rates of mental health problems is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

Increased awareness of mental health problems

AO1

- Understanding of mental health problems as having biological and psychological causes has only been developing since the nineteenth century when psychiatry became a specific area of medicine and the development of classification systems such as the ICD and DSM began.
- The twentieth century saw the development of talking therapies and medication become a common and more widely available treatments for mental health problems.
- More people than ever are aware of the causes and symptoms of mental health problems.

AO2

- Mental health campaigns like Time to Change can increase awareness of the symptoms of mental health problems and how to access support.

AO3

- A higher diagnosis rate does not necessarily mean that more people have a mental health problem. The diagnosis rate may be increasing because more people are recognising that what they are experiencing is a mental health problem, and are seeking medical and psychiatric treatment.

Decrease of the social stigma around mental health problems

AO1

- Being diagnosed can be hugely stigmatising. People may experience difficulties with family, friends and in the workplace if they are open about a diagnosis for a mental health problem.

AO2

- Mental health campaigns like Time to Change can decrease social stigma.
- The article says that research found that the amount of discrimination reported by people who use various mental health services had significantly decreased.
- Previous research had shown a lack of improvement in the levels of stigma and discrimination over the previous 10–15 years. This suggests that the Time to Change campaign had positively affected attitudes.

AO3

- Where there have been efforts to reduce the stigma, measurable change has been found. This means it is more likely that people will ask for help and the recorded rates will increase.
- There are also other reasons for the changes in the recorded rates of mental health problems. Other variables such as the increased challenges of modern living may be a factor. Some medical professions also view alterations to the classifications systems as resulting in more people meeting the criteria for diagnosis.

Credit other relevant content.

NOTE: To be considered 'detailed-level 3, an answer **MUST** discuss increased awareness of mental health problems **AND** a decrease of the social stigma around them, as well as referring to the article.

NOTE: AO2 may be embedded in AO1, AO3, or may be separate. All are equally acceptable.

20	Describe and evaluate one intervention or therapy for depression. Refer to the conversation in your answer.	[9 marks]
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Marks for this question: AO1 – 3 marks, AO2 – 3 marks and AO3 – 3 marks

Level	Marks	Description
3 Detailed	7–9	AO1: Relevant knowledge and understanding of one intervention or therapy for depression is accurate with detail. AO2: Clear application of knowledge and understanding of one intervention or therapy for depression. AO3: Analysis and evaluation of one intervention or therapy for depression is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.
2 Clear	4–6	AO1: Relevant knowledge and understanding of one intervention or therapy for depression is present but there are occasional inaccuracies/omissions. AO2: Reasonable application of knowledge and understanding of one intervention or therapy for depression. AO3: There may be some effective analysis and evaluation of one intervention or therapy for depression. There may be an attempt to draw conclusions. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning, and is clear, generally coherent and focused although structure may lack some logic.
1 Basic	1–3	AO1: Knowledge and understanding of one intervention or therapy for depression is present but limited. AO2: Limited application of knowledge and understanding of one intervention or therapy for depression. AO3: Analysis and evaluation of one intervention or therapy for depression is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

Antidepressants/medication

AO1

- Antidepressants are medication that increase the level of certain neurotransmitters (eg serotonin and noradrenaline).
- A commonly prescribed type of antidepressants is Selective Serotonin Reuptake Inhibitors (SSRIs). These work by preventing the reuptake of serotonin molecules.
- Preventing reuptake means you have more serotonin in the synaptic cleft. Instead of the existing serotonin being taken back into the presynaptic neuron to be broken down and reused, new serotonin is released.

AO2

- In the conversation, Vinesh says that he found some things suggested by his doctor helped more than others. He may have tried different antidepressants because these do not work in an identical way for everyone, and some people experience more of the possible side effects.
- The benefits of medication can take several weeks to be felt. This might be why Vinesh nearly gave up taking them.

AO3

- The research suggests that antidepressants seem to be more effective in reducing symptoms of moderate, severe and chronic depression than they do for symptoms of mild depression.
- Around 50–65% of people will experience some reduction of their depressive symptoms.
- Antidepressants also have side effects, for example insomnia, dizziness and having more frequent suicidal thoughts. One reason for antidepressants not working is that people stop taking them because of such side effects.
- Levels of serotonin rise immediately but the beneficial effects take several weeks to be reported. Some people may give up taking them before then.
- Medication is a reductionist approach as it only deals with the symptoms and not the cause of depression.

Cognitive Behaviour Therapy (CBT)

AO1

- The theory behind Cognitive Behaviour Therapy (CBT) is that our thought processes affect our emotions and this in turn affects our behaviour.
- CBT is a talking therapy that focuses on helping people to change their unhelpful/faulty thinking patterns (eg negative schemas, cognitive distortions).
- CBT sessions can be one-to-one or in group sessions.
- 'Homework' that encourages working on thinking patterns between sessions is often given.

AO2

- In the conversation, Vinesh says that he found some things suggested by his doctor helped more than others. He may have tried CBT and found it helpful if he was happy to talk about what he was thinking and feeling.
- He may also have tried CBT but not found it helpful because he was not able to attend for long enough or he did not want to talk about what he was thinking and feeling.
- The benefits of CBT take some time to be felt. This might be why Vinesh nearly gave up on going.

AO3

- To be successful, CBT sessions may need to be attended for some time. It is not always possible for people to commit the time (and finances) required and so they may stop attending before any significant benefit is experienced.
- Wiles' study into the effectiveness of CBT found that using CBT and antidepressants together was more effective in treating depression than when antidepressants were used on their own.
- CBT limits treatment to dealing with 'here and now' issues rather than those from the past and it does not address biological causes. This limits its long-term effectiveness for some causes of depression.
- CBT is less reductionist than medication as it does deal with more than just the symptoms of depression.

Accept other creditworthy answers such as:

- talking therapies/counselling/psychotherapy
- social support/support groups
- lifestyle changes/exercise/healthy nutrition/diet/regular sleep/stress reduction/mindfulness
- electroconvulsive therapy (ECT)
- psychosurgery.

Credit other relevant content.

NOTE: AO2 may be embedded in AO1, AO3 or separate. All are equally acceptable.

NOTE: If the candidate has written about more than one intervention or therapy for depression, award marks to the **one** that is clearest and most effective.