

VCE Psychology Units 1&2

Written Examination

Suggested Solutions

SECTION A – MULTIPLE-CHOICE QUESTIONS

1	A	B	C	D
2	A	B	C	D
3	A	B	C	D
4	A	B	C	D
5	A	B	C	D
6	A	B	C	D
7	A	B	C	D
8	A	B	C	D
9	A	B	C	D
10	A	B	C	D
11	A	B	C	D
12	A	B	C	D
13	A	B	C	D
14	A	B	C	D
15	A	B	C	D
16	A	B	C	D
17	A	B	C	D
18	A	B	C	D
19	A	B	C	D
20	A	B	C	D
21	A	B	C	D
22	A	B	C	D
23	A	B	C	D
24	A	B	C	D
25	A	B	C	D
26	A	B	C	D
27	A	B	C	D
28	A	B	C	D
29	A	B	C	D
30	A	B	C	D
31	A	B	C	D
32	A	B	C	D
33	A	B	C	D
34	A	B	C	D
35	A	B	C	D
36	A	B	C	D
37	A	B	C	D
38	A	B	C	D
39	A	B	C	D
40	A	B	C	D

Question 1 D

D is correct. Developmental norms describe the average developmental trends for a large number of people. This helps to measure an individual's developmental progress.

A and **B** are incorrect. Developmental norms do not provide information about ideal development. They also do not explain development.

C is incorrect. Developmental norms do not always consider different cultures, especially cultures within minority groups.

Question 2 B

B is correct. Saya has been learning and memorising the alphabet, which is indicative of cognitive development.

A is incorrect. The scenario does not refer to progressive changes in Saya's interpersonal relationships.

C and **D** are incorrect. The scenario does not refer to biological and physiological changes, such as changes in height or weight.

Question 3 C

C is correct. The difference between the two groups was the material that the surrogate mother was made of. Therefore, the type of surrogate mother (wire or cloth) is the independent variable, as it was the variable that was manipulated by the researcher.

A, **B** and **D** are incorrect. These options state what was observed and measured as a consequence of changing the independent variable.

Question 4 B

B is correct. Fieldwork is a type of investigation methodology that involves collecting data through the observation and collection of information in a specific environment. Piaget's research used naturalistic and controlled observations.

A is incorrect. A controlled experiment involves testing a cause (independent variable) and effect (dependent variable) relationship while controlling all other variables.

C is incorrect. A correlational study involves investigating the relationship between variables of interest without any intervention or control of variables.

D is incorrect. A literature review involves collating and analysing secondary data from a range of different sources.

Question 5 C

C is correct and **D** is incorrect. A research sample should be representative of the population. If a sample size is small, like Piaget's was, it is unlikely that the sample will accurately represent all the characteristics of the target population.

A and **B** are incorrect. The data was collected first-hand by Piaget, thus making it primary data. However, in observational studies, such as the fieldwork conducted by Piaget, the variables are not controlled.

Question 6 B

B is correct. Non-maleficence refers to the prevention of physical or psychological harm to participants.

A is incorrect. Deception occurs when the true nature of the participant's role in an investigation is not disclosed to them until a debriefing is undertaken.

C is incorrect. This option refers to the ethical guideline of confidentiality.

D is incorrect. This option refers to a breach of the ethical guideline of withdrawal rights. Withdrawal rights refer to the right of all participants to freely leave an investigation at any time.

Question 7 B

B is correct. Netball is a team sport that requires social interactions with other individuals.

A, **C** and **D** are incorrect. These behaviours do not directly involve social interaction with other individuals.

Question 8 D

D is correct. Critical periods are narrow periods of time that have an abrupt start and finish. If development of a particular skill or function does not occur during this time, it will likely not occur or, if it does occur, it may be maladaptive.

A is incorrect. The time period of a critical period is rigid and fixed, not flexible.

B and **C** are incorrect. The window of opportunity during a sensitive period is broad, and it opens and closes slowly.

Question 9 A

A is correct. Shabbat is a religious and cultural tradition observed by people of the Jewish faith, meaning the behaviour is common practice for them. For individuals who are not Jewish, this practice is not common and, thus, would be considered atypical according to their cultural perspectives.

B is incorrect. The behaviours practiced during Shabbat do not cause excessive unpleasant feelings or emotional pain and suffering.

C is incorrect. The behaviours practiced during Shabbat do not deviate significantly from what is statistically average.

D is incorrect. The behaviours practiced during Shabbat do not interfere with the ability to function effectively within society.

Question 10 D

D is correct. Enzo's inability to regulate his anger is maladaptive as it can inhibit his ability to appropriately adjust to his environment and to function at optimal levels.

A is incorrect. The emotion of anger can help to protect Enzo against an attack or a threat, but regular incidences of excessive amounts of anger are not helpful or adaptive.

B is incorrect. Anger and aggression do not equate with being assertive, and Enzo's behaviour is not adaptive.

C is incorrect. Although Enzo's anger can place him and others at risk, this is not the reason the behaviour is maladaptive. The behaviour is maladaptive because it does not assist Enzo to function effectively.

Question 11 B

B is correct. During early development, the nervous systems of certain individuals develop differently from those of the general population. The variations in brain structure produce differences in the cognitive development and associated behaviours of these individuals.

A is incorrect. There are not always significant differences in the brains of neurodiverse individuals. The differences may be quite minor. Certain cognitive functions of neurodiverse individuals can enhance cognition rather than impair cognition and associated behaviours.

C is incorrect. These conditions are not neurodevelopmental conditions. Schizophrenia, for example, is a psychotic mental health disorder. Types of neurodevelopmental conditions include autism, attention deficit hyperactivity disorder (ADHD) and dyslexia.

D is incorrect. Neurodiversity does not always result in thinking patterns and behaviours that interfere with productive, effective functioning.

Question 12 C

C is correct. The psychologist would use the *Diagnostic and Statistical Manual of Mental Disorders* (5th edition) (DSM-5) to determine which type of mental illness Xavier may have, thus providing a diagnosis.

A is incorrect. The DSM-5 does not provide information regarding the best course of treatment for mental disorders.

B is incorrect. The DSM-5 is not a directory of practitioners who provide alternative forms of therapy.

D is incorrect. The psychologist would have made their own assessment of Xavier's behaviour to categorise it as atypical or maladaptive.

Question 13 C

C is correct. A fieldwork study would involve Mira carefully watching and recording the children's behaviours as they play within the pre-school centres.

A is incorrect. A controlled experiment involves testing a cause and effect relationship, while controlling all other variables. This could not be achieved in this context. Mira's intention is not to deliberately manipulate any single variable; her intention is to observe.

B is incorrect. A literature review would not be suitable as Mira is seeking to collect primary data, not evaluate existing secondary data from existing studies.

D is incorrect. A correlational study investigates a relationship that exists between variables. Mira is not investigating any relationship between two set variables.

Question 14 B

B is correct. The cerebellum is located in the hindbrain; it controls fine muscle movements and coordinates muscle action to enable smooth movement of the body.

A is incorrect. The reticular activating system, located in the midbrain, regulates arousal by either increasing or decreasing arousal.

C is incorrect. The hypothalamus, located in the forebrain, regulates and maintains homeostasis, which is the body's internal steady state.

D is incorrect. Higher order thinking processes, such as learning and memory, occur in the forebrain.

Question 15 C

C is correct. The area of cortical atrophy is calculated mathematically; therefore, as the results of the MRI analysis provide a numerical value, the data is quantitative.

A is incorrect. The digital images themselves are not a form of quantitative data.

B and **D** are incorrect. The data obtained from an MRI is not qualitative, which is descriptive data.

Question 16 B

B is correct, and **A** and **C** are incorrect. Vitamin D3 was the independent variable as it was deliberately manipulated by the researcher. The level of alertness, which was measured by the online game, was the dependent variable, as it was dependent on the outcome of taking the vitamin D3. The supply of meals and snacks was a controlled variable as it controlled for the influence of diet and nutrition. Another controlled variable was the amount of sleep each night; the participants were instructed to sleep for eight hours each night to control for the effects of sleep deprivation.

D is incorrect. A change in score was calculated but this was a means of measuring alertness. Therefore, this was a measurement, not a variable.

Question 17 D

D is correct. It is ethical to allow participants to withdraw from a research study at any time and for any reason.

A is incorrect. In a research study, participants are not entering into a binding agreement.

B is incorrect. In a research study, the welfare of the participants and their right to withdraw are more important than the integrity of the results.

C is incorrect. Participants are not required to obtain a medical certificate to leave a research study.

Question 18 C

C is correct. In random sampling, every member of a population has, through using a random number generator, an equal chance of being selected.

A is incorrect. Random sampling does not ensure that the groups that exist within a population are all represented in the sample.

B is incorrect. A small sample size limits the external validity of a study.

D is incorrect. Stratified sampling is more time consuming and often more difficult than random sampling as the different groups within the population need to be identified first.

Question 19 D

D is correct. An inability to manage emotions is associated with psychological functioning.

A and **B** are incorrect. Loss of friends and employment are social impacts.

C is incorrect. Sleep difficulty is a biological impact.

Question 20 D

Herbert's behaviour during his recovery demonstrates that the impacts of his stroke were biological, such as his slowed speech; psychological, such as his irritability; and social, such as his difficulty talking to others.

Question 21 D

Social cognition enables an individual to use their cognitive processes to make sense of the social world in which they live, including their own social behaviours and the behaviours of others. The process refers to how an individual thinks about and uses information so that they may best understand themselves and others in different social situations.

Question 22 B

B is correct. Deciding that another individual is lazy is based on an evaluation or a judgement of that individual using information from past interactions, which is an example of a social cognition process.

A, **C** and **D** are incorrect. These options describe social interactions where a judgement is not evident.

Question 23 B

B is correct. Andre believes that Lee's lateness is caused by a situational external factor in Lee's environment, where the railway system and Lee taking public transport are the causes of his delay. On the other hand, Joel thinks that Lee's lateness is due to a personal internal factor. He believes that poor time management is an aspect of Lee's character which results in Lee being late.

A, **C** and **D** are incorrect. Andre does not view Lee's lateness as an internal personal factor. Joel does not believe that Lee's lateness is caused by Lee's situation and/or external environment.

Question 24 A

A is correct. Fundamental attribution error occurs when an individual attributes behaviours to internal personal factors rather than the existing situation. Joel believes that Lee is late because he is a disorganised individual, which is a personal characteristic (whereas Andre believes that Lee is late due to train delays, which is a situational factor).

B is incorrect. Joel is not comparing his own behaviours to Lee's behaviours (actor-observe bias).

C is incorrect. Joel is not providing a rationale for his own behaviour (self-serving bias).

D is incorrect. Joel is not demonstrating a negative attitude towards Lee that was formed prior to him meeting Lee (prejudice).

Question 25 D

D is correct and **C** is incorrect. Attitudes are evaluations or judgements about situations and are long-lasting and consistent.

A and **B** are incorrect. Attitudes can arise from or be influenced by social media, indirect experience and direct experience.

Question 26 C

C is correct. The number that occurs most frequently in a set of data is referred to as the mode.

A is incorrect. The median is the middle number in a set of data arranged in ascending order.

B is incorrect. The mean is the average of a set of data.

D is incorrect. The standard deviation measures the spread of data around the mean.

Question 27 D

D is correct. Stereotypes are generally negative perceptions about people.

A is incorrect. As group size increases, it is probable that stereotypes of that group will grow increasingly inaccurate.

B is incorrect. Stereotypes are formed with little or no accurate information or research.

C is incorrect. Stereotypes ignore the many unique characteristics of individuals and instead focus on groups whose members share the same essential characteristics.

Question 28 B

B is correct. Stereotyping helps to simplify our social world. When people have had a similar experience before, stereotypes help them to respond quickly, and this helps to maintain order in their social world.

A is incorrect. Stereotyping reduces the amount of thinking or processing required for person perception.

C is incorrect. Having rigid, inflexible ideas (fixed categories) of different types people is not an advantage.

D is incorrect. Generalisations about groups of people do not always result in straightforward interactions.

Question 29 A

A is correct. Lola is demonstrating confirmation bias as she only reads and believes information that supports her point of view (articles that discuss the benefits of eating a vegan diet), while dismissing claims that contradict her beliefs (articles that discuss the benefits of eating meat).

B is incorrect. Actor-observer bias refers to the tendency of an individual to attribute their own behaviour to situational factors whilst attributing the behaviours of others to internal factors. Lola is not attributing her behaviours to external factors whilst explaining the behaviours of others in this scenario.

C is incorrect. Anchoring bias refers to when an individual relies too heavily on the first piece of information they learn when they make a decision. This is not indicated in the scenario, as Lola continues to gather research to validate her beliefs on veganism.

D is incorrect. If Lola were to have demonstrated false-consensus bias, she would have overestimated the extent to which other people also believe that veganism is better than a diet that includes meat.

Question 30 B

B is correct. Dr Phao is demonstrating non-maleficence by ensuring that harm to the participants is avoided during the investigation. If harm does occur, it should be minimal and proportionate to the benefits that come from the research.

A is incorrect. Justice refers to the moral obligation to ensure fair consideration; this includes treatment of study participants and distribution of benefits resulting from a study.

C is incorrect. Respect refers to the consideration of the intrinsic and/or instrumental value of living things.

D is incorrect. Integrity refers to the commitment to honesty and truthfulness when reporting research.

Question 31 C

C is correct. Stipulating that the employee must be available after hours is an unreasonable requirement. This would disadvantage groups such as parents, carers or those who have family responsibilities.

A, B and D are incorrect. These scenarios are all examples of direct discrimination. William and Pasha were both overtly and openly discriminated against because of their ages. Jina was subjected to sexism because her ineligibility for a job was based on her sex.

Question 32 A

A is correct and **D** is incorrect. Bottom-up processing begins with raw sensory data that is sent to the brain, with progressive analysis along the way. Top-down processing, on the other hand, begins in the brain where higher order, cognitive processing occurs.

B is incorrect. Bottom-up processing is an objective process based on the physical nature of incoming sensory stimulus. Top-down processing is subjective as it is dependent on personal experiences.

C is incorrect. Bottom-up processing begins at the sensory receptor level and is driven by physical data. Interpretation according to expectations indicates that processing begins at the level of the brain, which occurs in top-down processing.

Question 33 D

D is correct. In an individualist culture, people are encouraged to be independent and their rights as individuals are of paramount importance.

A, B and C are incorrect. In collectivist cultures, there is a strong sense of connectedness within the community and the goal and needs of the group take priority over individual needs. In an individualist culture, individuals' rights and needs are prioritised over those of the group. Individuals and their own goals take precedence over those of the group, and the rights and needs of families and communities are secondary to those of the individual.

Question 34 D

D is correct. Sensation is a physiological or biological process where visual or gustatory stimulus is detected. Perception involves interpretation of incoming information for the eyes and mouth, which is a psychological process.

A and B are incorrect. Sensation is always a passive process where the organism involved does not play an active role. On the other hand, perception requires the brain to take an active role in interpretation.

C is incorrect. The incoming raw data in sensation is objective but the interpretation of the information (perception) can be different for people according to their cognitions and memories.

Question 35 A

The processes involved in vision and gustation begin with stimuli being received by receptors (reception), the form of the physical signal is then changed (transduction) before travelling through neurons (transmission) to the brain.

Question 36 B

B is correct. Heejin values the social cohesiveness of the group and so her loyalty to the group overrides her personal dislike of the chosen idea.

A is incorrect. There was no authority figure present to ensure that Heejin agreed with the group.

C is incorrect. Whether Heejin is lazy or not is irrelevant to the scenario. The scenario is concerned with Heejin adopting the shared opinion of the group.

D is incorrect. As Heejin greatly values the group, it is unlikely that she would be willing to damage the social cohesiveness of the group.

Question 37 D

D is correct. Vigilance is a state of alertness and it enables a high level of attention to be maintained over a prolonged period of time.

A is incorrect. Sustained attention requires controlled, not automatic, cognitive processing.

B is incorrect. Sustained attention requires high levels of mental effort.

C is incorrect. Sustained attention cannot be successfully divided between more than one task at a time.

Question 38 C

C is correct. The black numbers form the foreground figure, which stands out clearly from the white background, allowing drivers to easily read the speed limits.

A is incorrect. Closure refers to the ability to fill in the gaps present in visual stimuli and perceive it as a whole. There are no gaps on the speed signs.

B is incorrect. Similarity refers to when a group of objects that are alike in shape, colour and other features, are perceived to be a whole.

D is incorrect. Proximity is the tendency to perceive objects that are very close together to be part of one group. Speed signs are not grouped together but are distinct and spaced apart.

Question 39 B

B is correct. Although the shape on her retina changes, Patrice's brain interprets the world as remaining stable and unchanging, and therefore understands that the door is not actually changing shape.

A and **D** are incorrect. Similarity is a Gestalt principle and height in the visual field is a depth cue, neither of which are applicable to this scenario.

C is incorrect. The door does not appear to change size on the retina or to Patrice, only shape.

Question 40 C

C is correct. Miracle berries contain the protein miraculin, which binds to sweet taste receptors so that the presence of acids in sour foods activates the receptors, resulting in sour foods tasting sweet.

A and **B** are incorrect. It is the protein miraculin, not carbohydrates or high levels of sugars, that causes the chemical change.

D is incorrect. Miraculin does not block taste receptors, it activates them.

SECTION B**Question 1** (2 marks)

Yan has experienced a developmental change. She has been learning to play chess consistently for an extended period.

1 mark

Her improvement demonstrates that she has undergone long-term cognitive changes.

1 mark

Question 2 (4 marks)**a. Hereditary factor**

For example:

- the genes that Suki inherited from her parents, who are academics

1 mark

Environmental factor

For example, any one of:

- the positive learning culture fostered by Suki's school
- support from Suki's friends who are also academically enthusiastic
- support and encouragement from Suki's family members
- engaging in activities such as chess that develop strategic thinking and problem-solving skills

1 mark

Note: Accept other appropriate responses.

b. For example:

The positive learning culture of Suki's school would encourage her to strive for excellence.

1 mark

Her teachers would expect a student awarded a scholarship to work diligently and would offer many opportunities for extra curricula activities. Suki would also be encouraged to develop by peers who are motivated academically.

1 mark

*Note: Consequential on answer to **Question 2a**.*

Question 3 (10 marks)

- a. Emotional development is a gradual process during which individuals learn to understand, experience, express and manage their feelings while learning to recognise and respond to the emotions of other people. 1 mark
- b. *For example:*
- Two-year-old person:** A two-year-old person has difficulty understanding, regulating and expressing their own emotions. This may result in them having temper tantrums. 1 mark
- 16-year-old person:** A 16-year-old person is less emotionally dependent on their family and they begin to become more emotionally dependent on their friends. They can experience intense emotions as they struggle to develop a stronger sense of their identity. 1 mark
- 70-year-old person:** A 70-year-old person tends to be able to manage their emotions, which allows them to show greater empathy for and understanding of others. 1 mark
- Note: Accept other appropriate responses.*
- c. fieldwork 1 mark
- d. The data was primary 1 mark
because Julie collected the data herself. 1 mark
- e. When Julie received informed consent, she would have asked permission from the parents for the children to participate, as the children are under the legal age of 18 years. 1 mark
- Julie would have provided a letter of consent, which included the procedures and possible risks of the research, to the parents. 1 mark
- The parents would have signed the letter and provided this to Julie. 1 mark

Question 4 (4 marks)

- a. Emma's behaviour is maladaptive 1 mark
because it is preventing her from completing everyday tasks, maintaining social relationships and functioning as a student and in the workplace. 1 mark
- b. Emma's behaviour can be categorised as atypical according to social norms 1 mark
as her behaviour deviates from general social expectations. 1 mark

Question 5 (4 marks)

- a. Sakura's behaviour would be categorised as typical according to cultural perspectives. 1 mark
This is because her behaviour of not making direct contact with Peter's parents is typical of Japanese cultural norms. 1 mark
- b. *For example:*
- Using cultural perspectives to categorise atypical behaviour may be limited because cultural perspectives vary between countries and even different parts of countries.
 - Traditions and customs can change over time. Therefore, using previously documented cultural perspectives to categorise behaviour may not accurately reflect the contemporary expectations for behaviour within that culture.

2 marks

*1 mark for each limitation identified.**Note: Accept other appropriate responses.*

Question 6 (2 marks)

The concept of neurodiversity asserts that all human brains are different and will vary in structure and function, leading to a variety of thinking patterns and behaviours.

1 mark

This promotes the idea that brain differences between individuals are normal, rather than problems or deficits. As a result, the concept of neurodiversity can help to reduce stigma towards certain neurological disorders such as autism spectrum disorder (ASD).

1 mark

Question 7 (2 marks)

For example, any two of:

- Mental health workers can show respect for an individual's religious faith and ask them questions about their faith if needed to ensure their treatment is administered in accordance with their beliefs.
- Mental health workers can show respect for and learn about an individual's language, culture, customs or traditions to suggest methods to overcome language and cultural barriers and ensure treatment does not misunderstand or transgress the traditions of the individual.
- Mental health workers can provide services that are accessible, by offering alternative means of consultation and care such as online or over the phone.

2 marks

1 mark for each practice outlined.

Note: Accept other appropriate responses.

Question 8 (5 marks)

a. anxiety

1 mark

b. Carla's anxiety is maladaptive because it impedes her daily functioning by causing her to avoid going to school.

1 mark

c. The doctor has made an appropriate suggestion. A psychiatrist may be able to determine if there are any biological causes for Carla's anxiety, such as an imbalance of hormones or low levels of other important chemicals required for healthy nervous system functioning.

1 mark

A psychiatrist would also be able to prescribe Carla medication for her anxiety if required.

1 mark

Like a psychiatrist, a counsellor can discuss means to change thinking patterns and behaviours to improve Carla's mental wellbeing but, unlike a psychiatrist, they cannot provide a diagnosis or prescribe medication.

1 mark

Question 9 (3 marks)

For example, any one of the following biological changes:

- headaches
- tiredness/fatigue
- loss of motor movements
- reduced speech function

1 mark

For example, any one of the following psychological changes:

- reduced problem-solving or reasoning skills
- slowed cognitive function
- reduced emotional regulation
- altered personality
- increased impulsive behaviour
- confusion
- reduced concentration

1 mark

For example, any one of the following social changes:

- socially inappropriate behaviour
- loss of support networks
- increased risk of unemployment
- increased risk of homelessness

1 mark

Note: Accept other appropriate responses. Students must refer to changes relevant to damage to the left frontal lobe in order to obtain full marks.

Question 10 (4 marks)

Sprouting

1 mark

would have occurred when the undamaged neurons formed new neural connections in Sally's brain, allowing mental processes to occur.

1 mark

Rerouting

1 mark

would have occurred when Sally's neurons made new connections with other neurons to form alternative pathways around the damaged areas in her brain.

1 mark

Question 11 (5 marks)

a. *Any two of the following:*

- reduce the mental effort required to make decisions
- help to simplify difficult and challenging questions
- assist in making a quick decision
- assist with solving problems quickly

2 marks

1 mark for each advantage identified.

b. The affect heuristic is a mental shortcut or decision-making process that stems from the emotions that an individual is experiencing.

1 mark

When an individual is in a positive mood, they are more likely to evaluate a new situation or opportunity as being less risky and having more positive outcomes, which makes them more likely to engage with that opportunity.

1 mark

When an individual is in a low mood, they are more likely to evaluate a situation as being high-risk with minimal benefits, which makes them less likely to engage with that opportunity.

1 mark

Question 12 (6 marks)

a. Stereotyping of the refugees meant that the existing residents had fixed, over-generalised beliefs about people of that culture, which are not necessarily true.

1 mark

This led to the residents evaluating the refugees in a negative manner and forming a social stigma.

1 mark

Due to a lack of acceptance by the existing residents, the refugees could feel devalued, leading to feelings of shame, low self-confidence, low self-esteem and low mood.

1 mark

b. The members of both groups must be in close contact with each other for an extended period of time. For example, they could be required to train, attend club meetings and functions, and play matches together.

1 mark

The members of both groups must understand that they need each other to achieve their superordinate goal of winning.

1 mark

The members of both groups must see that all players are equally important; that is, they all have equal status on the team.

1 mark

Question 13 (6 marks)

- a.** Top-down processing takes context into account. In Vena's case, she used the knowledge that she shares her bedroom with her brother to assume that he is probably coming into the room. 1 mark
- In bottom-up processing, raw data is sent to the visual cortex in the brain where it is processed. In Vena's case, the raw data is the image of the woman's shoe and leg. 1 mark
- Using other cognitive processes helped to conclude that it is her mother. 1 mark
- b.** In accommodation, the shape of the eye lens automatically adjusts to focus on objects – flattening to focus on objects in the distance and bulging to focus on objects held in the hands. 1 mark
- The brain monitors the change in tension of the ciliary muscles around the lens, which enables the brain to interpret distance. 1 mark
- c.** Perceptual set is the predisposition to perceive something in a predetermined way due to the influence of various psychological and social factors. 1 mark
- Jane perceived the men walking on the footpath as a potential threat to her safety and called the police based on her previous experience of being attacked on the street when travelling home from work. That is, Jane had an expectation (predisposition) that the group of men would attack her. 1 mark

Question 14 (9 marks)**a. Biological factor***Any one of:*

- Age: Taste weakens as people age due to the decreasing numbers of taste buds.
- Genetics: People can inherit different taste sensitivities and preferences or dislikes.
- Sense of smell: People with a poor sense of smell often have a poor sense of taste.
- Smoking: Nicotine negatively affects the ability of taste buds to sense flavour.
- Pregnancy: Changes in hormones can affect taste perception.

1 mark

Social factor*Any one of:*

- Culture: People tend to like and prefer foods that they grow up with and are familiar with, which are often specific to cultures.
- Family background: Taste preferences are often influenced by the foods eaten by the family as a person is growing up.
- Religion: Various religions specify the types of food to be consumed or the manner by which the food should be prepared, and this can influence taste perception.

1 mark

- b. i.** A supertaster is a person who has a heightened sensitivity to certain flavours compared to other people. 1 mark
- ii.** A supertaster has inherited an increased number of taste buds (*contained within the papillae*). 1 mark
- iii.** Supertasters avoid bitter flavours, which are often found in vegetables and some fruits, meaning that their diets may be lacking in these foods, leading to increased risk of colon cancer. 1 mark
- Supertasters may also avoid fatty, creamy foods and so tend to be thinner and have fewer problems with weight gain. 1 mark
- c.** Flavour refers to the holistic sensation produced by taste, other senses (such as smell) and other sensations (such as crunchiness or creaminess). 1 mark
- Colours are often associated with certain flavours. For example, red is perceived as berry and green as lime. 1 mark
- When a food's colour is more intense or brighter, the food is perceived to be more flavoursome. 1 mark

Question 15 (4 marks)

- a.** *For example, any two of:*
- Joseph eating from the right side of his plate only
 - Joseph shaving the right side of his face only
 - Joseph combing the hair on the right side of his head only
 - Joseph drawing only the right side of an image when copying a picture
- 2 marks
- 1 mark for each example described.*
- Note: Only accept responses that identify an absence of attention to the left side of Joseph's world.*
- b.** In synaesthesia, the perceptual response is involuntary, automatic and consistent. This means that Adam would always see red when he sees the number 4. 1 mark
- Adam's experience of seeing the number 4 in red would be very vivid; however, he would not see the number 4 when he sees the colour red. 1 mark

Question 16 (10 marks)**Introduction**

Obedience refers to when people change their behaviour in response to the commands of an authority figure. A number of factors affect obedience. One factor includes social proximity, or how physically close one or more people are to each other. If the authority figure is close to the person receiving orders, the person receiving orders is more likely to obey. The closer a relationship is, the more likely it is that obedience also occurs. Another factor is group pressure. If there is little or no group support to resist the commands of the authority figure, then the person receiving orders is more likely to be obedient. With support from others in a group, disobedience is likely to increase. Legitimacy of the authority figure also has a great influence on obedience. If the authority figure wears clothes such as a uniform or a badge that makes their authority and power highly visible, obedience is more likely to follow. Studies in the past, such as those by Stanley Milgram, demonstrated these factors.

Aim: to determine if the legitimacy of the authority figure affects obedience

Hypothesis: Australian adults will be more obedient to authority figures who, through their dress, appear as legitimate authority figures, compared to those figures who do not appear to be legitimate authority figures.

Discussion

The data indicates that more people were obedient to the authority figure wearing a laboratory coat that had the university logo and an identifying badge, than to the authority figures in the suit and casual clothing. A mean of 36 people were obedient to the person in the laboratory coat, a mean of 24 people were obedient to the person in the suit, and a mean of 8 people were obedient to the person in casual clothing.

The standard deviation of participants who left Room A was low (1), with very little variation around the mean. As the perceived legitimacy of the authority figure decreased, the standard deviations around the means increased. That is, there was greater variation in the scores for participants in Room B and Room C. For the authority figure wearing casual clothing, there was greatest variation in the number of people that showed obedience.

Issues

There were a few issues with the methods and methodology used. The sampling method was not the most appropriate as the sample was not representative of the characteristics of the population. Random or stratified sampling would have been more appropriate and reduced bias. Having a representative sample would have enabled Liza to draw conclusions and make generalisations about the larger target population of Australian adults. Liza randomly allocated participants to three different groups. The benefit of this method would have helped to minimise bias in each group. Participant-related variables that may have affected the results would have been distributed evenly among all three groups.

The between-subjects design used was appropriate. This experimental design is relatively time-efficient, easy to run and ensures that order effects do not occur. If Liza wanted to further control for participant-related variables, she could have used a within-subjects design. However, this method takes more time and if participants were to leave the investigation, results could be compromised. Order effects are also likely to occur.

Liza repeated her investigation using the same method and conditions but different participants over a relatively short period of time. This would have ensured repeatability, enabling the results to be verified and confirmed as true findings.

As the investigation was a controlled experiment, there should have been better identification and control of extraneous variables. This would have reduced the likelihood of any extraneous variables becoming confounding variables. As these were not identified and controlled, Liza could not be confident that the independent variable was responsible for the changes in behaviour.

The investigation may not have complied with some ethical guidelines and concepts. It is unclear whether the students participated in the investigation of their own free will (voluntary participation), or if they felt pressured to participate because the lead researcher was their lecturer, or because they knew she was a university lecturer.

It is also unclear whether the students were given letters of informed consent before the investigation commenced. Participants should have received the details of the nature of the study, its methods of data collection and any potential risks that may be involved. This should have been presented to participants in written form so that written consent could be obtained.

Additionally, as deception was used in the experiment, participants should have been thoroughly debriefed. In a debriefing, the true nature of the study is explained and any questions are answered. Support should have also been provided to ensure that no lasting harm occurs. Contact details for counselling services should have been provided, should any ongoing support be required.

Conclusion

It can be concluded that the hypothesis is supported and that Australian adults are more obedient to authority figures who appear to be legitimate based on their appearance.

10 marks

Note: As the question asks for a report to be written, responses should be written in prose style. The inclusion of subheadings is acceptable. The response shown here is more detailed than a student would be expected to write. This is so that teachers may advise their students of the range of information that could be included.

Marking guide*Very high (9–10 marks)*

The student has provided the following:

- Introduction:
 - a sophisticated definition of obedience
 - identification and detailed description of all three factors that can influence obedience
 - a succinct and accurate aim
 - an accurate hypothesis that includes the population, independent variable, dependent variable and a predicted outcome
- Discussion:
 - a detailed analysis of the means
 - a detailed analysis of the standard deviations
 - a detailed evaluation of the methods and methodology
 - a detailed evaluation of ethical issues
- Conclusion: a clear conclusion that is related to the hypothesis

High (7–8 marks)

The student has provided the following:

- Introduction:
 - a clear definition of obedience
 - identification and description of at least two factors that can influence obedience
 - an accurate aim
 - a hypothesis that includes the population, independent variable, dependent variable and a predicted outcome
- Discussion:
 - an analysis of the means
 - an analysis of the standard deviations
 - an evaluation of the methods and methodology
 - an evaluation of ethical issues
- Conclusion: a conclusion that is related to the hypothesis

Medium (5–6 marks)

The student has provided the following:

- Introduction:
 - an adequate definition of obedience
 - identification and description of at least two factors that can influence obedience
 - an aim
 - a hypothesis that includes at least two of the population, independent variable, dependent variable and a predicted outcome
- Discussion:
 - an outline of the means
 - an outline of the standard deviations
 - a description of the methods and methodology with minimal evaluation
 - identification of ethical issues
- Conclusion: a conclusion that is related to the hypothesis

Low (3–4 marks)

The student has provided the following:

- Introduction:
 - an attempt at defining obedience
 - identification and description of at least one factor that can influence obedience
 - an aim
 - a hypothesis that includes at least two of the population, independent variable, dependent variable and a predicted outcome
- Discussion:
 - an outline of the means
 - an outline of the standard deviations
 - a description of the methods and methodology
 - identification of at least one ethical issue
- Conclusion: a conclusion that is related to the hypothesis

Very low (0–2 marks)

The student provided the following:

- Introduction:
 - an attempt at defining obedience
 - an aim
 - an attempt at writing a hypothesis
- Discussion:
 - stated the means
 - reference to standard deviations
 - a description of at least one method
 - identification of at least one ethical issue
- Conclusion: a conclusion