

External Assessment 2024

# PSYCHOLOGY

BHP315116

Pages: 20

Questions: 7

Answer Booklets: 3

**Preparation time for this exam:** 15 minutes

**Suggested working time:** 3 hours

## Instructions:

- There are **three (3)** sections to this exam paper.
- You must answer **one (1)** question from each section:
  - **Section A** – answer **one (1)** question
  - **Section B** – answer **one (1)** question
  - **Section C** – answer **one (1)** question.
- Answer each section in a **separate answer booklet** and write the question number you are answering on the front cover of each answer booklet.
- The exam is **three (3) hours** in length. The suggested working time for each section is **approximately 60 minutes**.
- All answers must be written in **English**.
- You **must** make sure your answers address the listed criteria.

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# Guide to Exam Structure

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		Questions available	Questions to answer	Suggested working time	Marks available
Section	<b>A</b>	3	1	60 minutes	Assessed using extended ratings of A+ to z
Section	<b>B</b>	2	1	60 minutes	
Section	<b>C</b>	2	1	60 minutes	
<b>Totals</b>		<b>7</b>	<b>3</b>	<b>180 minutes (3 hours)</b>	

## Criteria

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You **must** make sure your answers address:

- Criterion 1 analyse theories about individual differences
- Criterion 2 analyse perspectives about psychobiological processes
- Criterion 3 analyse theories about human learning
- Criterion 7 use evidence to support a psychological point of view.

# Section A – Individual Differences

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- Answer **one (1)** question in this section in response to the stimuli provided.
  - Attempt **all** items of the chosen question.
  - Use a **separate answer booklet** for this section.
  - It is suggested that you spend **approximately 60 minutes** on this section.
  - This section assesses **Criteria 1 and 7**.
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## Question 1: Gender

Examine the following stimulus items:

### Stimulus 1: Gender Differences in Spatial Ability

Existing research has suggested that gender differences in spatial ability are related to biological differences. A variety of biological variables, notably differences in hormones and differences in regional brain maturation have been implicated in early emergence of sex differences in cognition (Levy and Heller, 1992).

University researchers studied 288 children, using mental-rotation tests. Researchers presented the children with pictures of two pieces of a complex geometric shape. They then asked the children to show which one of four shapes could be created by the two pictured pieces. To do this, the children had to mentally rotate the two pieces. The university researchers found that boys began to outperform girls at 4 years of age. However, the origins of the differences in spatial skills between boys and girls are unclear. “They could be related to the way they are reared or if their brains have evolved to process spatial information differently, caused by biological factors, or both...We think quite a bit can be done to enrich the learning environment so that girls develop high levels of spatial skills,” Levine explained. “Parents and teachers need to recognise the differences, however, and realise that if a girl is having trouble working on a task that requires spatial thinking, she may need extra encouragement and help.”

*Source:* Adapted from Study shows early sex differences in spatial-learning skills. (2024). Uchicago.edu.  
<https://chronicle.uchicago.edu/991118/spatial.shtml>

## Stimulus 2: The Gender Associations of Jobs

The answer to whether professions are typically female, male or gender-neutral, isn't always yes according to 1022 people surveyed. Some professions are associated with women, others with men, while many don't evoke gender stereotypes. Survey findings are presented in the table below.

	<b>Female</b>	<b>Male</b>	<b>Gender-neutral</b>
Teacher	44%	20%	36%
Police officer	19%	45%	36%
Lawyer	23%	29%	48%
Babysitter	55%	19%	27%
Firefighter	22%	55%	23%
Manager	21%	27%	52%
Truckdriver	20%	58%	22%
Doctor	24%	22%	55%
Receptionist	52%	20%	28%
Engineer	21%	38%	40%
Nurse/Medical assistant	49%	19%	32%
Construction worker	20%	52%	28%
Politician	17%	34%	49%
Hairdresser	40%	24%	36%

*Table 1*

*Source:* Adapted from Paczka, N. (2023, March 3). Gendered Jobs: Exploring Career Stereotypes [2023 Study]. MyPerfectResume.  
<https://www.mypertresume.com/career-center/careers/basics/gendered-jobs>

**Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information, to:**

- a) Explain the following concepts used in relation to individual differences in gender:
  - biological influences
  - gender roles
  - environmental factors.
- b) Critically evaluate both biological and environmental influences on gender.

## Question 2: Intelligence

Examine the following stimulus items:

### Stimulus 1: Reaction Range

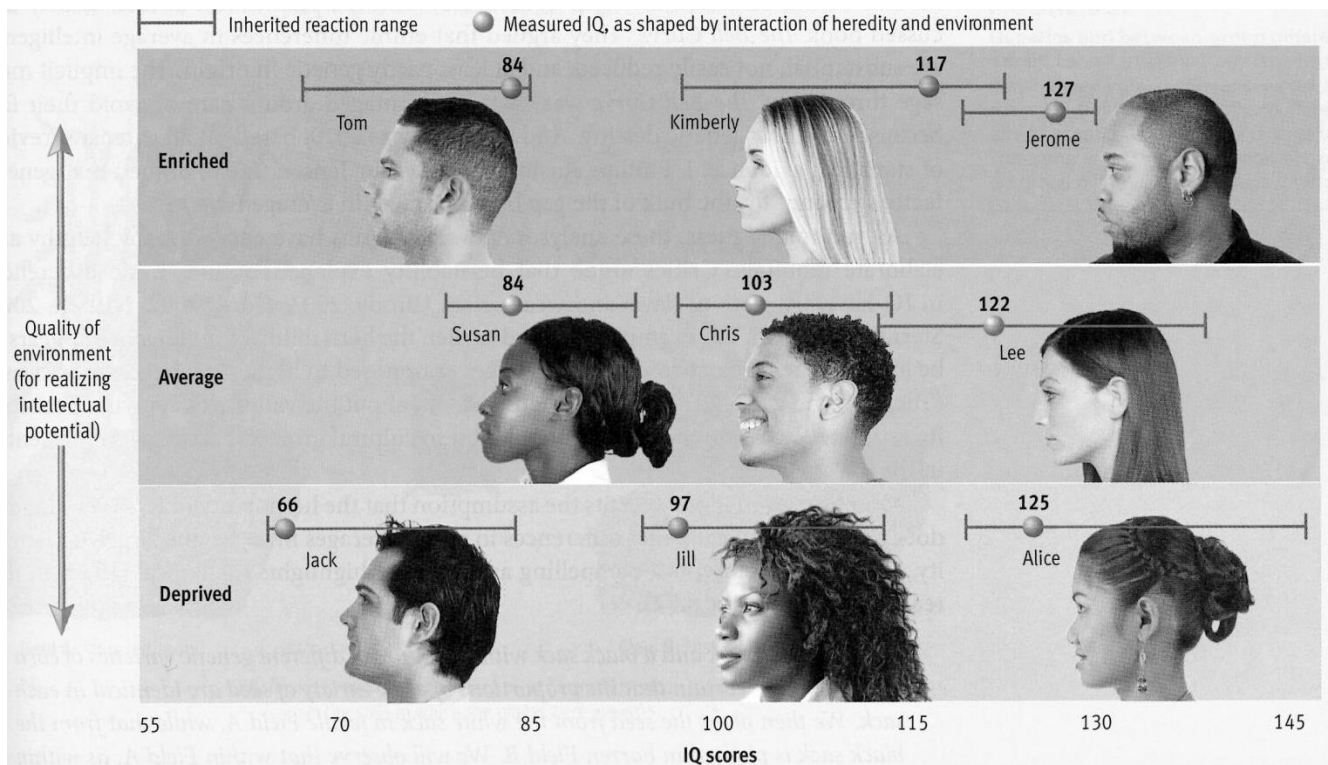


Figure 1: Diagram of people from different environments and their IQ score.

Source: Adapted from Weiten, W. (2014), *Psychology: Themes and Variations*, 10th Edition. Cengage Learning: Boston MA, p.289

The concept of reaction suggests that heredity sets limits on one's intellectual potential (represented by the horizontal bars), while the quality of one's environment influences where one scores within this range (represented by the dots on the bars). People raised in enriched environments should score near the top of their reaction range, whereas people raised in poor-quality environments should score near the bottom of their range. Genetic limits on IQ can be inferred only indirectly, so theorists aren't sure whether reaction ranges are narrow (like Jerome's) or wide (like Lee's). The concept of reaction range can explain how two people with similar genetic potential can be quite different in intelligence (compare Tom and Jack) and how two people reared in environments of similar quality can score quite differently (compare Alice and Jack).

Source: Adapted from Weiten, W. (2014), *Psychology: Themes and Variations*, (10th Edition), Cengage Learning: Boston MA, p.289

Question 2 continues

## Question 2 continued

### Stimulus 2: Evidence of Genetic Influences on Intelligence

All traits are heritable, with intelligence being one of the most researched. If genetics were the only factor to consider when predicting intelligence, we would expect identical twins to have identical IQ scores. The research shows:

- IQ scores of identical twins are strongly correlated and are more similar than those of fraternal twins.
- Identical twins' test scores also correlate highly when given assessments that measure reading, mathematics, and language skills.

Source: Adapted from Plomin, R., & von Stumm, S. (2018). The new genetics of intelligence. *Nature Reviews Genetics*, 19(3), 148–159. <https://doi.org/10.1038/nrg.2017.104>

**Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information, to:**

- a) Explain the following concepts used in relation to individual differences in intelligence:
  - biological influences
  - reaction range
  - environmental factors.
- b) Critically evaluate both genetic and environmental influences on intelligence.

### Question 3: Personality

Examine the following stimulus items:

#### Stimulus 1: Twin Studies of Personality

Loehlin (1992) has summarised the results of twin studies (identical and fraternal) that have examined the Big Five personality traits.

The Big Five personality traits are a psychological model developed by Costa and McCrae (2009) that describes five broad dimensions of personality: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Each trait represents a continuum. Individuals can fall anywhere on the continuum for each trait.

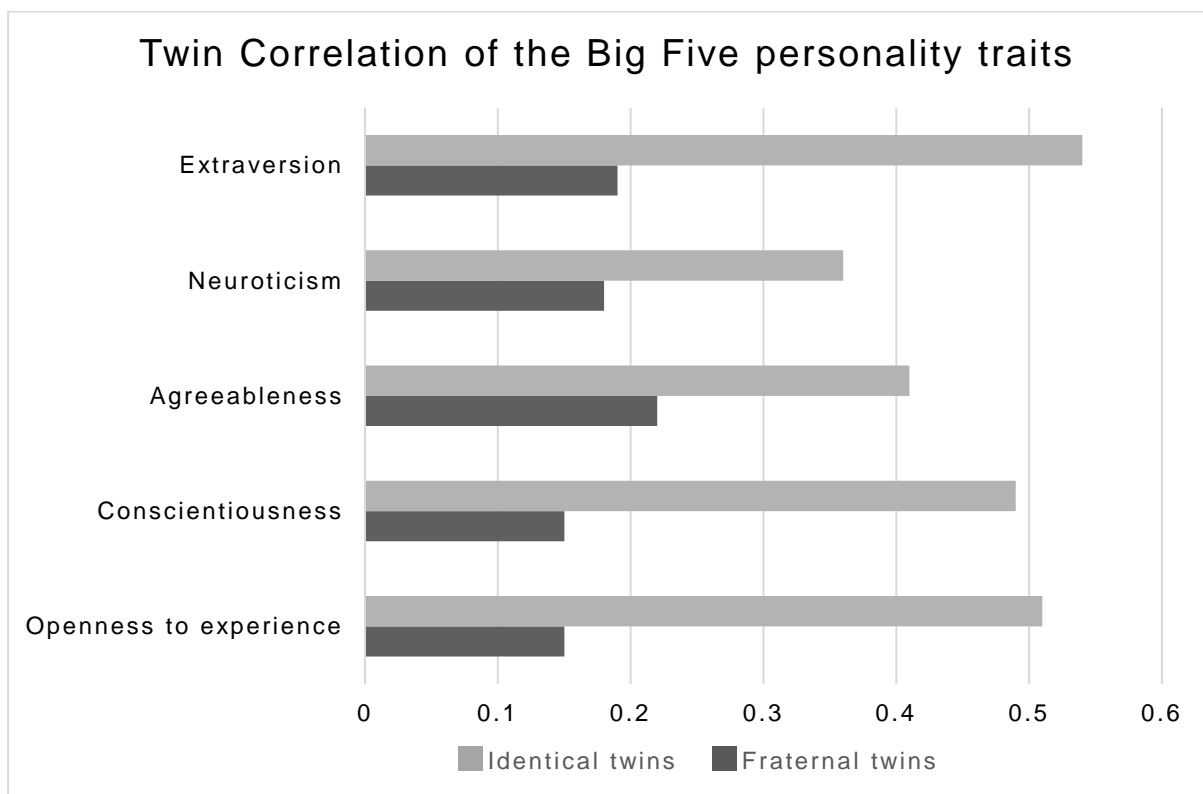


Figure 2: Graph of Twin Correlation of the Big Five personality traits.

Source: Adapted from Weiten, W. (1998). *Psychology: Themes and Variations* (4<sup>th</sup> Edition). Cengage Learning: Boston MA, p.496

**Correlation** measures the extent to which two variables are related.

**0.00** Represents **no association**

**1.00** Indicates a **strong correlation**

Question 3 continues

### Question 3 continued

#### Stimulus 2: Social Influences and Learning

Overall, environmental factors have a profound impact on our personalities. Cultural factors, socialisation, family dynamics, peer pressure, socioeconomic status, and parenting styles all contribute to shaping who we are and how we interact with the world.

- Cultural factors shape personality through values, beliefs, and social norms.
- Socialisation involves acquiring cultural values and behaviours.
- Family dynamics influence personality through the observation and modelling of parental behaviour.
- Peer pressure leads to the adoption of behaviours and attitudes to fit in with peers.
- Socioeconomic status affects personality by determining access to resources, opportunities, and experiences.
- Parenting styles play a crucial role in shaping behaviour and values.

*Source:* Adapted from How Environment Shapes Your Personality Traits. (2023, December 19).  
<https://esoftskills.com/environmental-influences-on-personality/>

**Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information, to:**

- a) Explain the following concepts used in relation to individual differences in personality:
- genetic influences
  - measures of personality
  - environmental factors.
- b) Critically evaluate both genetic and environmental influences on personality.

# Section B – Psychobiological Processes

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- Answer **one (1)** question in this section in response to the stimuli provided.
  - Attempt **all** items of the chosen question.
  - Use a **separate answer booklet** for this section.
  - It is suggested that you spend **approximately 60 minutes** on this section.
  - This section assesses **Criteria 2 and 7**.
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## Question 4: Visual Perception

Examine the following stimulus items:

### Stimulus 1: Depth and Distance Cues

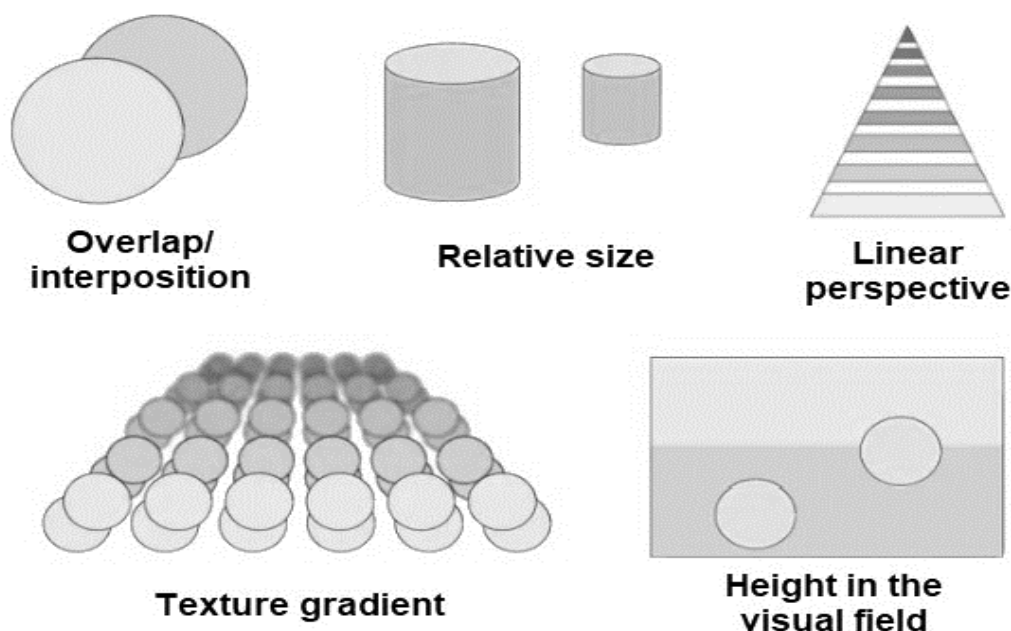


Figure 3: Diagram of different depth and distance perceptions.

Source: Adapted from *Perceptual Organization - Perception - MCAT Content*. (2020, March 24). Jack Westin. <https://jackwestin.com/resources/mcat-content/perception/perceptual-organization>

Depth perception makes it possible to judge depth and distance. There are two kinds of depth cues: monocular and binocular depth cues. Monocular depth cues include pictorial depth cues. Pictorial depth cues are any information conveyed to the observer of a 2-dimensional image that gives the impression of a 3-dimensional image, as illustrated above.

Source: Adapted from Bogdanova, R., Boulanger, P., & Zheng, B. (2016). Depth Perception of Surgeons in Minimally Invasive Surgery. *Surgical Innovation*, 23(5), 515–524. <https://doi.org/10.1177/1553350616639141>

**Question 4 continues**

## Question 4 continued

### Stimulus 2: Psychological Factors that Influence our Perception

Perception involves both bottom-up and top-down processing. Bottom-up processing refers to the fact that perceptions are built from sensory input. On the other hand, how we interpret those sensations is influenced by our available knowledge, our experiences, and our thoughts. This is called top-down processing.

Unfortunately, perception rarely provides an 'instant replay' of events. Even in broad daylight different people perceive the same event differently. For example, after a DC-10 airliner crash in Chicago in 1979, 84 pilots who saw the accident were interviewed. Forty-two said the DC-10's landing gear was up and 42 said it was down! Half said the plane was on fire. Flight recorders showed there was no fire. As one investigator commented, the best witness may be a 'kid under 12 years old who doesn't have his parents around' (McKean, 1982). Adults, it seems, are easily swayed by their expectations and past experience.

Perception is not simply a matter of seeing what is in the world around us. A variety of psychological factors (perceptual set) can influence how we take in information and how we interpret it.

*Source:* Adapted from Coon, D. (1992). *Introduction to Psychology*. Wadsworth Publishing Company.

### Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information, to:

- a) Explain the following concepts used in relation to visual perception:
  - depth and distance cues
  - top-down and bottom-up processing
  - perceptual set.
- b) Critically evaluate different psychological perspectives used to explain visual perception.

## Question 5: Consciousness

Examine the following stimulus items:

### Stimulus 1: Levels of Consciousness

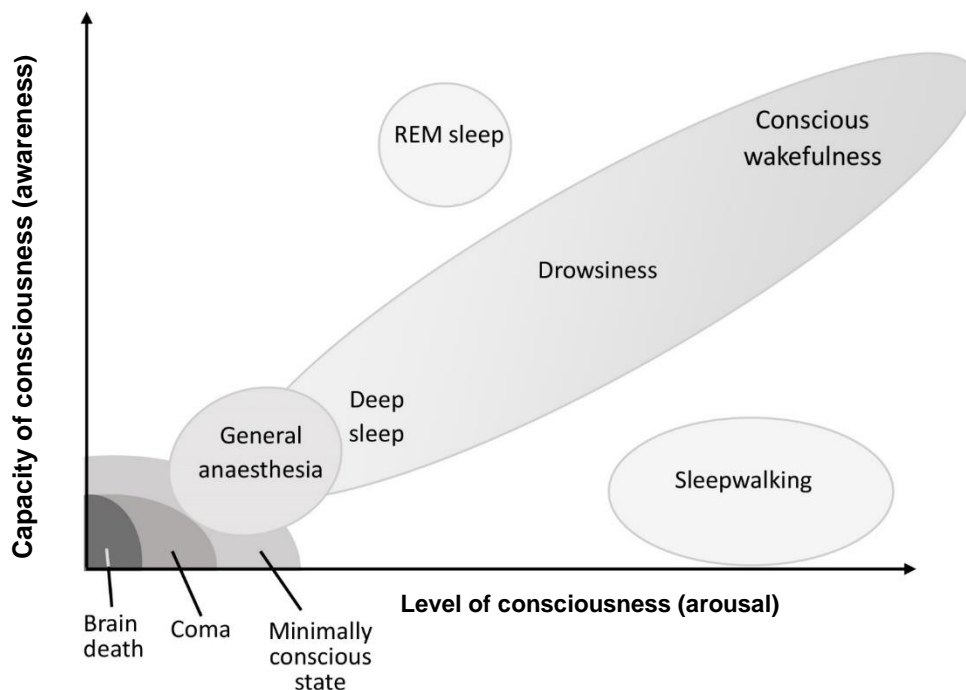


Figure 4: Diagram showing different levels of consciousness.

Figure 4 illustrates how different states vary in terms of arousal and awareness. Increasing levels of arousal are plotted on the horizontal axis and the capacity of consciousness or awareness is plotted on the vertical axis.

Most people cycle during a 24-hour period from deep sleep, with low arousal and minimal awareness, to wakefulness with increasing levels of arousal and awareness. In REM sleep, low levels of behavioural arousal go hand-in-hand with high awareness (vivid dreams). Other states are associated with little or no conscious content.

Establishing the level of awareness and arousal in consciousness can be measured by various physiological methods: brain activity (EEG), eye movements (EOG), as well as subjective measures such as self-reported questionnaires.

Source: Adapted from Mormann, F., & Koch, C. (2007). Neural correlates of consciousness. *Scholarpedia*, 2(12), 1740. <https://doi.org/10.4249/scholarpedia.1740>

Question 5 continues

## Question 5 continued

### Stimulus 2: Measuring Ideal Bedtime with a Sleep Calculator

REM sleep occupies 20-25 percent of the total time spent sleeping, and NREM occupies 75-80 percent. However, NREM and REM are equally important for your physical and cognitive health.

Most sleep cycles last about 90-110 minutes. Remember that as you rest, you move through four stages which make up a full cycle of sleep. Adults should complete five or six cycles, equating to roughly seven to nine hours of rest. If you wake up before the end of a sleep cycle, you will cut off your amount of deep sleep or REM sleep. If you don't get enough REM sleep, your sleep quality will decrease because REM is vital for proper cognitive function. A lack of NREM sleep will also result in decreased sleep quality because NREM is restorative for good physical health. Therefore, you should focus on completing both the REM and NREM phases for quality sleep.

A sleep calculator is a device that measures your total sleep duration, time taken to fall asleep, time in light sleep, sleep cycles and the number and duration of your awakenings during each night. It is used to calculate your ideal bedtime and wake up. If you wake up in the middle of a cycle, you could feel groggier than usual. The sleep calculator provides you with a wake-up time that should coincide with completing a full cycle.

*Source:* Adapted from Sleep Calculator - What's the Best Time to Go to Bed? (2021, December 16). Sleep Advisor: <https://www.sleepadvisor.org/sleep-calculator/>

**Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information, to:**

- a) Explain the following concepts used in relation to states of consciousness:
  - normal waking consciousness
  - NREM and REM stages of sleep
  - methods used to measure consciousness.
  
- b) Critically evaluate theories used to explain the purpose of sleep **or** why we dream.

# Section C – Human Learning

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- Answer **one (1)** question in this section in response to the stimuli provided.
  - Attempt **all** items of the chosen question.
  - Use a **separate answer booklet** for this section.
  - It is suggested that you spend **approximately 60 minutes** on this section.
  - This section assesses **Criteria 3 and 7**.
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## Question 6: Conditioning

Examine the following stimulus items:

### Stimulus 1 – The Conditioning of Alex

“It all started when my dentist told me that I needed a lot of work on my teeth and gums. I spent many mornings in the dentist’s chair, and even though he gave me a local anaesthetic, it was painful and very uncomfortable,” said Alex.

“I had recently bought my boyfriend a new aftershave, and as the dentist worked on my teeth, I noticed that he was using the same one. You’ll think this is silly, but now when I smell my boyfriend’s aftershave, I start to feel tense and anxious.

“Finally, I told my boyfriend that he would have to stop using the aftershave I had bought him because it was the same as my dentist’s and the smell made me anxious. We got into a big argument because he said that he was nothing like my dentist and I was just being silly.”

*Source:* Adapted from Plotnik, R. (2005). *Introduction to psychology*. Wadsworth Thomson Learning.

**Question 6 continues**

## Question 6 continued

### Stimulus 2: Food Refusal of a Small Child

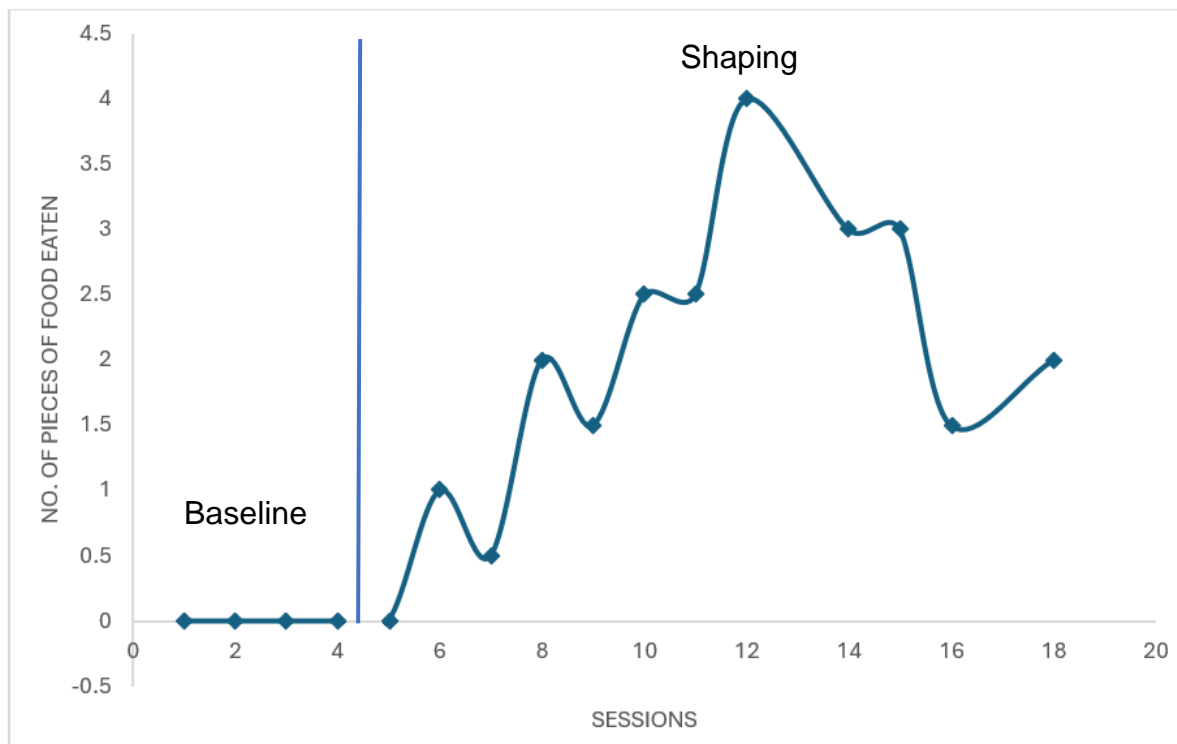


Figure 5: Graph showing food refusal of a small child.

**Baseline:** During the four sessions, the mother offered non-preferred food (fruit and vegetables) to her child, who refused the food each time.

**Shaping:** During these sessions when the mother offered non-preferred food, she gave the child praise, attention, and smiles each time her child made a response that was similar to or approximated the target behaviour (chewing and swallowing food).

Source: Adapted from Plotnik, R. (2005). *Introduction to psychology*. Wadsworth Thomson Learning, p.216

**Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information, to:**

a) Explain the following concepts as they relate to human learning:

- classical and operant conditioning
- generalisation and discrimination
- shaping.

b) Critically evaluate the role that conditioning plays in human learning processes.

## Question 7: Observational and Social Cognitive Learning

Examine the following stimulus items:

### Stimulus 1: Learning from Observation

In observational learning, people learn by watching others perform (either directly or through another medium, such as video) and then imitating or modelling what they have seen or heard. There are four processes that Bandura's research (1977) identified as influencing observational learning.

In the following photos, taken in sequence, a 14-month-old infant in Andrew Meltzoff's observation laboratory is imitating behaviour they have seen in a video.




1.		In the top photo the infant leans forward and carefully watches the adult pull apart a toy.
2.		In the middle photo the infant has been given the toy.
3.		In the bottom photo the infant pulls the toy apart, imitating what they have seen the adult do.

Figure 6: Photos of an infant imitating behaviour they have seen.

Source: Adapted from Myers, D. (2008). *Exploring Psychology*. Worth Publishers, p.246

## Question 7 continued

### Stimulus 2: Latent and Observational Learning

Latent learning is a form of cognitive learning. It involves no immediate reward or punishment after a learner is exposed to new information. One of the main differences between latent and observational learning is the presence of reinforcement in observational learning.

The concept of observational learning is a part of social learning theory pioneered by Albert Bandura, who suggested one way people learn behaviours, attitudes, and thought processes is through observing and imitating others.

Latent learning, on the other hand, can occur in the absence of others and without reinforcement – positive or negative. With latent learning, people may not even realise they have acquired knowledge in the moment. They may observe something but not realise they could use that information later on. When they do, they may not realise when or where they learned it. This leads learners to build cognitive maps about their environments. The core concept of cognitive mapping has been recognised by psychologists as being the ability to use latent learning as a way of creating large-scale environmental awareness.

*Source:* Adapted from Gillette, H. Latent Learning: Examples and Benefits. (2022, June 20). Psych Central.  
<https://psychcentral.com/health/latent-learning>

**Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information, to:**

- a) Explain the following concepts as they relate to human learning:
  - observational learning
  - models
  - latent learning.
- b) Critically evaluate how humans learn through observational and social cognitive learning.

End of Exam

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