

Psychology

for the IB Diploma Programme



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Sample Paper 1 and Paper 2 questions and answers

Example Excellent Answers are written according to 20 words per minute (wpm) writing speed.

Paper 1

Psychology
Higher and Standard Level

Specimen paper
1 hour 30 minutes

Instructions to candidates

Section A: answer both questions.

Section B: answer both questions.

Section C: answer one question.

The maximum mark for this examination paper is [35 marks].

Section A

Answer **both** questions from this section.

Biological approach to understanding human behaviour

1. Describe **one** example of how localization of function can explain **one** human behaviour.

[4]

SAMPLE ANSWER:

Localization of function refers to the idea that specific areas of the brain are responsible for specific behaviours. One example is the role of the hippocampus in spatial memory.

Eleanor Maguire et al. (2006) investigated London taxi drivers using MRI scans. Taxi drivers regularly rely on navigation and spatial memory, while bus drivers follow fixed routes. The study found that taxi drivers had greater grey matter volume in the posterior hippocampus compared to bus drivers.

This suggests that spatial navigation and memory are localized in the hippocampus because increased use of this behaviour was associated with structural changes in that specific brain region. This was because the longer the taxi drivers had worked, the larger this localized area tended to be.

Cognitive approach to understanding human behaviour

2. Explain the process of classical conditioning and its role in **one** human behaviour.

[4]

SAMPLE ANSWER:

The process I will explain is classical conditioning, and the behaviour is fear responses in PTSD. Classical conditioning is a learning process where a neutral stimulus becomes associated with an unconditioned stimulus, eventually producing a conditioned response.

In PTSD, a traumatic event acts as the unconditioned stimulus (US), producing fear as the unconditioned response (UR). Neutral stimuli present during the trauma, such as loud noises, can become conditioned stimuli (CS). Later, hearing similar loud noises may trigger fear and anxiety even in safe situations, producing a conditioned response (CR). This is because the brain has learned to associate the previously neutral stimulus with danger and fear through repeated pairing during the traumatic event. For example, a soldier who experienced a bomb explosion may later feel intense fear when hearing fireworks.

Therefore, classical conditioning explains how fear responses can become learned through association, helping psychologists understand behaviours such as hypervigilance and anxiety in PTSD.

Section B

Answer **both** questions from this section.

Context: Learning and cognition

3. A group of researchers wanted to investigate the impact of cognitive load on problem-solving. They designed an experiment where participants were divided into two groups:
- High cognitive load group: Participants had to memorize a long string of numbers while solving logic puzzles.
 - Low cognitive load group: Participants only had to solve the logic puzzles.

Results showed that the high cognitive load group made more errors and took longer to complete the puzzles.

With reference to this study, explain the role of cognitive load theory in understanding human cognition. [6]

SAMPLE ANSWER:

I will explain how Cognitive Load Theory (CLT) helps in understanding human cognition, specifically problem-solving. Cognitive Load Theory proposes that working memory has a limited capacity, and when too much information must be processed at the same time, cognitive performance decreases. Cognitive load refers to the amount of mental effort being used in working memory.

One role of CLT in understanding human cognition is that it explains why excessive mental demands reduce performance. In the study, participants in the high cognitive load group had to memorize a long string of numbers while solving logic puzzles. This increased the amount of information being processed in working memory, leaving fewer cognitive resources available for problem-solving. As a result, participants made more errors and took longer to complete the puzzles.

Another role of CLT is that it helps explain the limitations of working memory. In the study, the low cognitive load group only had to complete the logic puzzles and therefore had more available working memory capacity to focus on the task. This allowed them to process information more efficiently and solve problems more accurately. This demonstrates that cognition is affected by the limited capacity of working memory.

A third role of CLT is that it shows how multitasking can impair thinking and decision-making. In the study, participants in the high cognitive load group had to divide their attention between memorizing numbers and solving puzzles. This split attention reduced their ability to concentrate fully on problem-solving, demonstrating how competing cognitive demands negatively affect human cognition.

Therefore, CLT helps psychologists understand human cognition by explaining how limited working memory capacity affects problem-solving, attention, and performance under different levels of mental demand.

Context: Health and well-being

4. A school is concerned about the increasing rates of childhood obesity. To address this, they introduce a behavioral intervention program based on operant conditioning, where students earn rewards for making healthy food choices and engaging in physical activity.

Explain how operant conditioning can be used to encourage healthy behaviors.

[6]

SAMPLE ANSWER:

I will explain how operant conditioning can be used to encourage healthy behaviours, such as healthy eating and physical activity. Operant conditioning, proposed by B. F. Skinner, is a learning process where behaviour is shaped through consequences such as reinforcement and punishment. Healthy behaviours refer to actions that improve physical well-being, such as exercising regularly and making nutritious food choices.

One way operant conditioning can encourage healthy behaviours is through positive reinforcement. In the scenario, students earn rewards for making healthy food choices and engaging in exercise. Rewards such as praise, stickers, or privileges increase the likelihood that students will repeat these healthy behaviours because they associate them with positive outcomes.

Another way operant conditioning can encourage healthy behaviours is through shaping. In the school program, students may initially receive rewards for small improvements, such as choosing fruit instead of unhealthy snacks or participating in short periods of exercise. Gradually reinforcing these smaller steps helps students develop long-term healthy habits over time.

A third way operant conditioning can encourage healthy behaviours is through consistent reinforcement in the school environment. Because students repeatedly receive rewards for healthy actions, behaviours such as exercising and eating nutritious foods become more frequent and habitual. This repeated reinforcement strengthens the association between healthy behaviour and positive consequences.

Therefore, operant conditioning can be used to encourage healthy behaviours through positive reinforcement, shaping, and repeated reinforcement of behaviours such as healthy eating and physical activity.

Section C

Answer **one** question from this section.

Context: Learning and cognition

5. In the context of **human relationships**, discuss the application of social learning theory to change group behaviour.

[15]

SAMPLE ANSWER:

In the context of human relationships, Social Learning Theory (SLT) explains how individuals learn behaviours through observation, imitation, modelling, and reinforcement. Group behaviour refers to how individuals act within social groups and how these behaviours are influenced by interactions with others. The concept of change is important because SLT focuses on how behaviour can be modified through environmental influences, role models, and reinforcement strategies. This answer will discuss the application of SLT to changing group behaviour by examining modelling, reinforcement, and the barriers that may limit behavioural change.

One way SLT can be applied to change group behaviour is through modelling prosocial behaviour. According to Albert Bandura, individuals observe and imitate behaviours displayed by influential role models. For example, teachers, parents, or group leaders can demonstrate cooperation, empathy, and respect within group settings. If group members observe these behaviours being rewarded socially, they may imitate them. This applies to change because SLT assumes that behaviour is not fixed and can be altered through exposure to positive role models. For example, anti-bullying programs in schools often encourage older students or teachers to model inclusive behaviour to influence peer interactions positively. However, there are barriers to change because individuals may continue imitating aggressive or antisocial behaviours if these behaviours are reinforced within peer groups or at home. Therefore, modelling can promote positive group behaviour, although environmental influences may limit long-term change.

Another way SLT can change group behaviour is through reinforcement and vicarious learning. Reinforcement occurs when behaviours are strengthened through rewards or positive consequences. Vicarious reinforcement occurs when individuals observe others being rewarded for specific behaviours. For example, if students observe classmates receiving praise for cooperation and kindness during group activities, they may be more likely to repeat these behaviours themselves. This applies to change because reinforcement strategies can gradually alter group norms and encourage more prosocial interactions over time. Repeated exposure to rewards for positive behaviour may help establish long-term behavioural patterns within groups. However, there are areas of uncertainty regarding how lasting these changes are. Some individuals may only behave positively when rewards are present, meaning behavioural change could be temporary rather than permanent. Therefore, reinforcement can effectively change group behaviour, although the long-term effectiveness of these strategies may depend on whether behaviours become internally motivated.

A further application of SLT is in reducing aggression and antisocial group behaviour. Research by Albert Bandura in the Bobo doll experiment demonstrated that children imitate aggressive behaviour observed in adult role models, especially when the behaviour is rewarded. This suggests that group aggression may develop through observational learning. This applies to change because if aggressive behaviours can be learned socially, they can also potentially be unlearned or replaced through positive modelling and intervention strategies. Schools and community programs may therefore attempt to reduce aggression by exposing individuals to non-aggressive conflict resolution strategies and cooperative group activities. However, SLT may be too environmentally deterministic because it can underestimate agency and individual choice. Not all individuals who observe aggression imitate it, suggesting that cognitive factors and personal motivation also influence behaviour. Therefore, while SLT provides a useful framework for changing group behaviour, it may not fully explain why some individuals resist negative social influences.

In conclusion, SLT provides a useful explanation for how group behaviour can be changed through modelling, reinforcement, and observational learning. The concept of change is central because SLT assumes that behaviours are learned from the social environment and can therefore be modified through interventions promoting positive role models and reinforcement strategies. However, barriers to change such as peer pressure, environmental influences, and the temporary nature of reinforcement may limit the effectiveness of these approaches. Additionally, SLT may overemphasize environmental determinism while underestimating individual agency and motivation. Overall, SLT is valuable for understanding and changing group behaviour, particularly in education.

6. One claim in the psychology of **human development** is that childhood experiences may cause the development of self. Discuss this claim with reference to social learning theory.

[15]

SAMPLE ANSWER:

In the context of human development, the development of self refers to how individuals form an understanding of their identity, behaviours, attitudes, and social roles over time. One claim in developmental psychology is that childhood experiences may cause the development of self through interaction with the environment and other people. Social Learning Theory (SLT), proposed by Albert Bandura, suggests that children learn behaviours, attitudes, and social norms through observation, imitation, modelling, and reinforcement. This answer will discuss the claim that childhood experiences may cause the development of self by examining observational learning, reinforcement, and the limitations of causal explanations within SLT. The concept of causality will be used throughout the discussion.

One way childhood experiences may cause the development of self is through observational learning. According to SLT, children observe role models such as parents, peers, and teachers and imitate behaviours that appear socially successful or rewarded. For example, children who observe caring and cooperative behaviours may develop a self-concept based around empathy and prosocial interaction. Albert Bandura's Bobo doll study demonstrated that children imitated aggressive behaviours displayed by adult role models, particularly when the models were rewarded. This applies to causality because the study suggests that environmental experiences in childhood may directly influence later behaviour and aspects of self-development. However, causality is difficult to establish fully because children may not simply imitate behaviour automatically. Individual differences such as temperament or personality may influence whether observed behaviours are copied. This creates complexity because development of self is likely influenced by multiple interacting variables rather than a single childhood experience. Therefore, observational learning provides evidence that childhood experiences may contribute to the development of self, although causation is not entirely straightforward.

Another way childhood experiences may influence the development of self is through reinforcement and social feedback. Children receive praise, rewards, criticism, or punishment from parents, teachers, and peers, which shapes their understanding of themselves and acceptable behaviour. For example, a child repeatedly praised for academic achievement may develop a self-concept centred around competence and success. This applies to causality because reinforcement may strengthen certain behaviours and attitudes over time, influencing how children perceive themselves socially and emotionally. SLT suggests that repeated environmental reinforcement contributes to the gradual formation of identity and behavioural patterns. However, there is bidirectional ambiguity because children's existing behaviours may also influence how others respond to them. For example, confident children may receive more praise from teachers, meaning the environment may not solely cause the behaviour. This makes it difficult to separate cause and effect clearly in human development. Therefore, reinforcement experiences may shape self-development, although the relationship between childhood experiences and identity formation is likely reciprocal rather than entirely one-directional.

A further factor to consider is that SLT may be too environmentally deterministic when explaining the development of self. SLT assumes that environmental experiences strongly influence behaviour through modelling and reinforcement. However, this may underestimate agency, which refers to the individual's capacity to make choices and exert control over behaviour. For example, not all children exposed to aggressive role models develop aggressive identities or behaviours. Some children may reject behaviours they observe due to personal beliefs, cognitive reflection, or alternative influences from peers and wider society. This applies to causality because the development of self cannot always be explained through direct cause-and-effect relationships between childhood experiences and later identity. Human behaviour is highly complex and influenced by biological, cognitive, and sociocultural factors interacting together. Additionally, much of the evidence supporting SLT comes from controlled experiments such as the Bobo doll study, which may lack ecological validity because behaviour observed in laboratory settings may not reflect long-term identity development in real life. Therefore, while SLT provides important insight into how childhood experiences may influence the development of self, it may oversimplify the complexity of causation in human development.

In conclusion, SLT supports the claim that childhood experiences may cause the development of self because children learn behaviours, attitudes, and social roles through observational learning and reinforcement. Environmental experiences such as role models and social feedback can shape identity and behaviour over time. However, the concept of causality highlights important limitations because the development of self is influenced by complex interactions between environmental experiences, individual agency, and other psychological factors. Bidirectional ambiguity also makes it difficult to determine whether childhood experiences directly cause identity development or whether children actively shape their environments in return. Overall, childhood experiences appear to play an important role in the development of self, although causation is more complex than SLT alone may suggest.

Paper 2

Psychology Higher and Standard Level

Specimen paper

1 hour 30 minutes

Instructions to candidates

Section A: answer all the questions.

Section B: answer the question.

The maximum mark for this examination paper is [35 marks].

Section A

The following questions refer to your participation in a class practical. Answer **all** the questions in this section.

1. Describe how you used an interview or focus group in your class practical and its aim and procedure. [4]

SAMPLE ANSWER:

A semi-structured interview is a qualitative research method that uses predetermined questions while allowing flexibility to ask follow-up probing questions to explore participants' thoughts and experiences in greater depth.

In our class practical, we used a semi-structured interview to investigate how nutrition impacts students' sense of health and well-being throughout the school day. The aim was to explore how school food environments, peer influence, and motivation affect healthy eating habits. The procedure involved interviewing one participant who was an expert in nutrition. We asked standardised open-ended questions about healthy eating, energy levels, school food choices, and peer influence. Follow-up probing questions were used to explore ideas in more depth, such as why students may struggle to maintain healthy diets at school. The responses were recorded and analysed for common themes related to nutrition and wellbeing.

Our class practical matches the definition of a semi-structured interview because it used predetermined questions alongside flexible probing to gain detailed qualitative insight into nutrition and health behaviour.

2. Explain the concept of responsibility in relation to the interview or focus group in your class practical. [15]

SAMPLE ANSWER:

Responsibility refers to the ethical obligation researchers have to protect participants' wellbeing, dignity, and rights during and after research. This includes informed consent, confidentiality, protection from harm, and responsible use of findings.

In our semi-structured interview class practical, responsibility was important because the discussion focused on health, well-being, and eating behaviours. Informed consent was obtained before the interview began, ensuring the participant understood the aim of the research and their right to withdraw at any time. Confidentiality was maintained by not including identifying details in the write-up. Protection from harm was also important because discussions about unhealthy eating habits or lack of discipline could potentially create discomfort or reinforce negative stereotypes about students. Therefore, questions were kept appropriate and non-judgemental. Responsibility also involved presenting the findings carefully so they were used to promote healthier school environments rather than stigmatise students' behaviour.

Therefore, responsibility in our class practical involved protecting participant wellbeing and ensuring the findings were used ethically and respectfully.

3. Compare and contrast the research methodology of an interview or focus group used in your class practical with the research methodology of an observation.

[6]

SAMPLE ANSWER:

An observation is a research method where behaviour is recorded as it naturally occurs without manipulating variables. Observations can be naturalistic or controlled and may involve participant or non-participant observation.

One similarity between the semi-structured interview and an observation is that both methods could investigate nutrition and well-being in a school environment. In our interview, we explored how students manage healthy eating and the influence of peer pressure, while an observation could investigate students' actual food choices and social interactions in the cafeteria. Therefore, both methods investigate the same behaviour related to nutrition and well-being.

Another similarity is that both methods can collect qualitative data. In our interview, the nutrition expert gave detailed explanations about unhealthy school environments and peer norms, while an observation could record descriptive behaviours such as students choosing sugary snacks or encouraging peers to buy unhealthy food. Therefore, both methods provide rich insight into behaviour.

One difference is that interviews rely on self-reported data, whereas observations record actual behaviour directly. In our interview, the participant described how students behave around unhealthy food, but these responses may have been influenced by memory bias or social desirability bias. In contrast, an observation would record what students actually do in the cafeteria, potentially increasing ecological validity.

Another difference is that interviews allow researchers to investigate internal thoughts and motivations, whereas observations are limited to visible behaviour. For example, our interview explored ideas such as motivation, discipline, and temptation, while an observation could only record external behaviours such as food choices or peer interactions. Therefore, interviews provide greater insight into subjective experiences, while observations focus on observable behaviour.

4. Design an experiment to investigate the same topic you investigated in your class practical.

[6]

SAMPLE ANSWER:

The topic investigated in our class practical was how nutrition and school food environments influence students' health and well-being throughout the school day.

A true experiment is a research method used to establish cause-and-effect relationships by manipulating an independent variable (IV) and measuring its effect on a dependent variable (DV) using standardised procedures and random allocation.

One characteristic of an experiment is the manipulation of an IV. To investigate the same topic, I would manipulate the type of food environment students are exposed to. For example, in one condition students would be offered healthier food options in the cafeteria, while in another condition the cafeteria would provide the usual mix of unhealthy foods. The IV would therefore be the cafeteria food environment.

Another characteristic is the measurement of a DV using standardised procedures. The DV would be students' food choices and energy levels during the school day. Food choices could be operationalised by recording the number of healthy vs unhealthy items selected, while energy levels could be measured using a short self-report scale completed after lunch. This would allow researchers to compare behaviour across conditions systematically.

A third characteristic is control over extraneous variables through random allocation and standardisation. Students would be randomly assigned to different lunch conditions, and both groups would complete the study during the same school period to reduce differences caused by time of day or academic workload. This would increase internal validity and strengthen conclusions about whether the school food environment affects behaviour and well-being.

Therefore, an experiment could investigate how school food environments influence nutrition and well-being by manipulating food availability and measuring its effect on students' eating behaviour and energy levels.

Section B

Answer the following question.

5. Discuss the following study with reference to two or more of the following concepts: bias, causality, measurement, and/or responsibility. [15]

Robbins et al. (1996) investigated the role of working memory in chess expertise using Baddeley and Hitch's Working Memory Model (WMM). Twenty male chess players of varying skill levels viewed a chessboard for 10 seconds and then attempted to recreate it while subjected to different types of cognitive interference. In one condition, participants repeatedly said "the" to a metronome, engaging the phonological loop. In another, they typed a sequence on a hidden keyboard with one hand while arranging chess pieces with the other, engaging the visuospatial sketchpad. Results showed that visuospatial interference significantly impaired chessboard recall, with accuracy dropping to 4 out of 25 correct positions, while phonological interference had a much smaller effect (16 out of 25 correct). This suggests that chess memory relies on the visuospatial sketchpad rather than the phonological loop, supporting the WMM's assumption of distinct components for different types of cognitive processing. The study highlights how visuospatial working memory is critical for complex cognitive tasks like chess, demonstrating that different aspects of working memory can be selectively disrupted, further validating Baddeley and Hitch's model of working memory.

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References:

Robbins, T. W., Anderson, S. A., Barker, D. R., Bradley, A. C., Fear, S. A., Henson, R. N., Hudson, S. R., & Baddeley, A. D. (1996). Working memory in chess. *Memory & Cognition*, 24(1), 83–93.

SAMPLE ANSWER:

This study can be analysed using the concepts of causality, measurement, and bias. Causality refers to whether one variable directly causes changes in another. Measurement refers to how psychological constructs are operationalised and assessed. Bias refers to limitations in objective thinking caused by participant expectations, researcher beliefs, or sampling issues. This essay will argue that although the study supports the Working Memory Model (WMM), conclusions are limited by measurement issues, sampling bias, and difficulties fully establishing causality.

Causality is partially supported because the study manipulated different types of cognitive interference. This applies to causality because the researchers used experimental conditions targeting the phonological loop and visuospatial sketchpad. For example, participants either repeated "the" or completed a hidden keyboard task while recalling chess positions. This has implications for causality because manipulating variables increases internal validity. However, this also applies to causality because behaviour is complex and influenced by multiple interacting variables. For example, motivation, anxiety, or chess strategy knowledge may also affect recall performance. This creates alternative explanations because poor recall may not only result from visuospatial

interference. Furthermore, this applies to causality because the study may be reductionist. For example, chess expertise was explained mainly through working memory processes while ignoring wider cognitive or environmental influences. Overall, the study suggests a causal relationship between visuospatial working memory and chess recall, but causality cannot be fully established.

Measurement is important because the study operationalised working memory through chess recall tasks. This applies to measurement because the constructs of phonological and visuospatial processing were operationalised using different interference tasks. For example, repeating “the” was designed to disrupt the phonological loop, while the keyboard task disrupted the visuospatial sketchpad. This has implications for measurement because clear operationalisation increases construct validity. This also applies to measurement because the study used empirical and quantitative data. For example, recall accuracy was measured out of 25 chess positions, allowing direct comparison across conditions. This increases reliability because performance could be objectively measured. Furthermore, this applies to measurement because ecological validity may be limited. For example, recalling chessboards in a laboratory may not fully reflect real competitive chess situations. This has implications for measurement because performance in artificial conditions may differ from behaviour in real life. Overall, the study used controlled and measurable procedures, although ecological validity remains limited.

Bias is present because sampling bias and participant bias may have influenced the findings. This applies to bias because the sample only included 20 male chess players. This has implications for bias because the findings may not generalise to females or non-expert players. This also applies to bias because of possible participant bias. For example, participants may have guessed that the study investigated memory and therefore changed their effort levels or strategies. This could influence recall performance. Furthermore, this applies to bias because the study reflects a positivist approach focused mainly on measurable cognitive processes. For example, the study reduced chess expertise to working memory systems while overlooking emotional or sociocultural influences on performance. This has implications for bias because reductionism may oversimplify complex human cognition. Overall, bias reduces the generalisability and completeness of the findings.

In conclusion, causality is partially supported through experimental manipulation but limited by the complexity of cognition and alternative explanations. Measurement is strengthened through operationalisation and quantitative data, although ecological validity is limited. Bias is evident through sampling bias, participant bias, and reductionism. Areas of uncertainty remain regarding whether the findings apply outside laboratory conditions and whether other cognitive or environmental factors also contribute to chess expertise.