



INSIGHT

Trial Exam Paper

2011

PSYCHOLOGY

Written examination 2

Solutions book

This book presents:

- correct answers
- explanatory notes
- mark allocations
- tips

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SECTION A – Multiple-choice questions

Question 1

Operant conditioning is best described as

- A. the continual pairing of a conditioned and unconditioned stimulus.
- B. the impact of consequences on behaviour.**
- C. the effect of observation on behaviour.
- D. behavioural changes due to development of bodily systems.

Answer is B

Explanatory notes

- A is incorrect as this is a description of classical conditioning.
- B is correct as operant conditioning relates the performance of a behaviour to the consequences of the behaviour.
- C is incorrect as this relates to modelling.
- D is incorrect as this describes unlearned behaviours which result from maturation.

Use the following information to answer Questions 2 to 4.

Bianca is attempting to teach her daughter Olivia to dive into a pool. At first she instructs Olivia to kneel on the edge of the pool and angle her body head first into the water and praises her for achieving this. She then gets Olivia to dive into the water from a crouching position and praises her. Bianca then asks her to dive from a standing position and after a number of trials Olivia is able to do this.

Question 2

The process which Bianca is using to teach her daughter is best described as

- A. flooding.
- B. graduated exposure.
- C. shaping.**
- D. negative reinforcement.

Answer is C

Explanatory notes

A and B are incorrect as flooding and graduated exposure are types of therapy which can be used to treat phobias.

C is correct, as shaping is the reinforcement of any behaviour which leads to the desired behaviour. Shaped behaviours are often complex in nature.

D is incorrect, as praise is a positive reinforcer (a pleasant stimulus is given) rather than a negative reinforcer (which would involve the removal of an unpleasant stimulus).

Question 3

Bianca's use of praise is an example of

- A. a token economy.
- B. positive reinforcement.**
- C. negative reinforcement.
- D. a conditioned stimulus.

Answer is B

Explanatory notes

- A is incorrect, as a token economy would involve giving some form of token which could be exchanged for a valued reward. Praise is not something which can be used in this way.
- B is correct as praise is a form of positive reinforcement, especially in children.
- C is incorrect as praise does not involve removal of an unpleasant stimulus.
- D is incorrect as this terminology relates more to a classical conditioning scenario.

Question 4

As Olivia learns this new skill, changes will occur within her brain. These will involve

- A. changes in neural connections.
- B. changes in synaptic functions of certain neurons.
- C. a decrease in complexity of neural connections.
- D. both A and B are correct.**

Answer is D

Explanatory notes

- A is correct but so is B. Therefore D is the **best** answer.
- D is correct in saying that both A and B are correct. Learning involves a change in the connections between neurons – the connection between neurons is one which involves synaptic functioning.
- C is incorrect, as the connections between neurons become more complex as learning occurs.

Use the following information to answer Questions 5 to 9.

When Jessica was a young child, her mother often used CleanQuick spray to clean the house. This did not initially bother Jessica. When Jessica was eight years old, she experienced a severe gastric illness. During this time, Jessica's mother used CleanQuick spray wherever Jessica was in order to reduce the risk of infecting others. Since then, whenever Jessica smells CleanQuick spray she feels ill.

Use the language of classical conditioning for Jessica.

Question 5

The period of time when she experienced the illness and the continuous spraying of CleanQuick is known as

- A. responding.
- B. operating.
- C. extinction.
- D. **acquisition.**

Answer is D

Explanatory notes

- A is incorrect as responding is not the continual pairing of the unconditioned stimulus (UCS) (illness) and conditioned stimulus (CS) (spraying of CleanQuick).
- B is incorrect, as 'operating' is not a relevant term in the language of classical conditioning.
- C is incorrect as extinction is when the conditioned response (CR) is no longer produced by the CS.
- D is correct, as acquisition is the period when the CS is continually paired with the UCS.

Question 6

Before Jessica's illness, CleanQuick spray was

- A. a conditioned response.
- B. **a neutral stimulus.**
- C. an unconditioned stimulus.
- D. an unconditioned response.

Answer is B

Explanatory notes

- A is incorrect as CleanQuick spray is not a response, it is a stimulus.
- B is correct, as before learning had occurred, CleanQuick would have provoked no response in Jessica.
- C is incorrect as an UCS is one which naturally produces the UCR. Jessica's response to CleanQuick was learned, and was thus not a natural response to a stimulus.
- D is incorrect, as CleanQuick spray is not a response, it is a stimulus.

Question 7

As a teenager, CleanQuick spray is now to Jessica a

- A. **conditioned stimulus.**
- B. unconditioned stimulus.
- C. conditioned response.
- D. unconditioned response.

Answer is A

Explanatory notes

- A is correct. Jessica has learned to produce a CR to CleanQuick spray – thus it is a CS.
- B is incorrect as an unconditioned stimulus is one which produces a response before learning.
- C and D are incorrect as CleanQuick spray is a stimulus, not a response.

Question 8

As a teenager, when Jessica feels nauseous at the smell of CleanQuick spray, the nausea is an example of

- A. **a conditioned response.**
- B. an unconditioned response.
- C. a generalised response.
- D. spontaneous recovery.

Answer is A

Explanatory notes

- A is correct, as the response Jessica has to CleanQuick spray (nausea) has been conditioned (learned).
- B is incorrect, as the nausea has been learned, and is thus not an unconditioned response.
- C is incorrect as nausea at the smell of CleanQuick is not generalised, as it is a response to the original CS.
- D is incorrect, as spontaneous recovery is when an extinguished CR reappears after a rest period.

Question 9

Jessica now also feels nauseated when she smells a similar spray, CleanSlow. This is an example of

- A. spontaneous recovery.
- B. **stimulus generalisation.**
- C. stimulus discrimination.
- D. acquisition.

Answer is B

Explanatory notes

- A is incorrect as spontaneous recovery is when the extinguished CR reappears after a rest period.
- B is correct, as stimulus generalisation is when the CR is made to another, similar stimulus (CleanSlow spray).
- C is incorrect as stimulus discrimination is when the CR is made only to CleanQuick spray and not to another similar stimulus (CleanSlow spray).
- D is incorrect, as this describes the initial learning period when the CS was continually paired with the UCS.

Question 10

The manual published by the American Psychiatric Association which is used to categorise mental health disorders using standard criteria (DSM-IV) is known as

- A. Discovery and Standardisation Manual of Mental Disorders.
- B. Diagnostic Standardised Manual of Mental Disorders.
- C. **Diagnostic and Statistical Manual of Mental Disorders.**
- D. Distribution and Standardisation Manual of Mental Disorders.

Answer is C

Explanatory notes

- C is the correct terminology for the DSM-IV.
- A, B and D are all incorrect wording for the DSM-IV.

Question 11

One criticism of the DSM-IV is that it lacks a **dimensional** approach to mental disorders. The best description of this criticism is that the manual lacks

- A. clean and standardised terminology.
- B. incorporation of different categories of mental disorders.
- C. **the ability to differentiate between different degrees of severity of a mental disorder.**
- D. a consideration of biopsychosocial factors.

Answer is C

Explanatory notes

- A is incorrect, as one of the main aims of the DSM-IV is to provide clean and standardised terminology to help with diagnosis.
- B is incorrect as one of the main aims of DSM-IV is to place a diagnosis within a category.
- C is correct. The DSM-IV is a categorical approach to mental disorders, which means that it places mental disorders within categories, but this system places many levels of severity of a mental disorder within the same category.
- D is incorrect, as the DSM-IV evaluates a number of axes related to a patient, based around biological, psychological and social factors.

Question 12

The biopsychosocial framework can be used to understand and manage anxiety disorders. Using this framework, investigating whether a patient carried a specific gene which would predispose them to anxiety would be a consideration of which factor?

- A. a biological factor**
- B. a socio-cultural factor
- C. a psychological factor
- D. a psychosocial factor

Answer is A

Explanatory notes

- A is correct as biological factors which contribute to anxiety disorders include looking at the genes which an individual carries.
- B, C and D are incorrect as these factors do not directly relate to the investigation of physiological factors.

Question 13

Treatment of a phobic anxiety disorder may involve a number of strategies, one of which is the use of systematic desensitisation. The therapy of systematic desensitisation is based mainly around

- A. observational learning.
- B. classical conditioning principles.**
- C. insight learning.
- D. operant conditioning principles.

Answer is B

Explanatory notes

- A is incorrect, as systematic desensitisation is not based around watching someone else being treated for a phobia.
- B is correct, as systematic desensitisation involves continually pairing a UCS (relaxation exercises) with a CS (the phobic situation), which essentially means the therapy is attempting to acquire a classically conditioned response (of relaxation).
- C is incorrect, as the role of cognition or insight is largely ignored in behavioural therapies such as systematic desensitisation.
- D is incorrect as systematic desensitisation does not involve reinforcement or punishment being used to shape behaviour.

Question 14

Which of the following would **not** be considered a usual strategy given to help someone cope with stress?

- A. meditation
- B. increase in physical exercise
- C. deep muscle relaxation techniques
- D. **increase in caffeine intake**

Answer is D

Explanatory notes

- A, B and C are incorrect as these are common strategies used to help people cope with stress.
- D is correct, as an increase in caffeine intake would not be recommended for someone coping with stress. The stress response involves an increase in heart rate and other physiological symptoms which may actually be made worse with an intake of caffeine which acts as a stimulant.

Question 15

A psychologist develops a questionnaire to give to students which will investigate different learning strategies at schools. Within the total forty questions, eight questions relate to how comfortable the student feels within the classroom environment. Making sure that scores on these eight questions all show similar results is a check of

- A. construct validity.
- B. external validity.
- C. **internal consistency.**
- D. internal validity.

Answer is C

Explanatory notes

- A is incorrect as construct validity is a concept which considers whether the questionnaire is actually measuring what the researcher wishes to measure.
- B is incorrect, as external validity is a consideration of whether the results can be applied to other populations or situations.
- C is correct, as internal consistency is a reliability measure used to indicate whether the related parts of a measurement tool yield similar findings.
- D is incorrect, as internal validity is not a term used in psychology.

Question 16

A limitation of Selye's General Adaptation Syndrome is that

- A. it does not describe the body's response to long-term stress.
- B. it does not fully explain the role of a person's appraisal of a stressor in the model.**
- C. it is designed only to be applied to very specific stressors.
- D. there is no mention of the role of stress-related hormones in the model.

Answer is B

Explanatory notes

- A is incorrect, as a strength of the General Adaptation Syndrome (GAS) is that it describes the effect of long-term stress on the body.
- B is correct, as the GAS describes the stress response as basically the same in everyone, and thus does not account for reasons why some people may show a stress response to an event, whilst the same event will not cause a stress response in other people.
- C is incorrect as the GAS is said to be a description of the body to non-specific stressors.
- D is incorrect, as the secretion of hormones, such as adrenalin and cortisol (and their effects on the body), are mentioned in all stages of GAS.

Use the following information to answer Questions 17 and 18.

Due to cost cutting at his place of employment, Will has just been retrenched from his job. His wife is currently on maternity leave and Will is the only person within the family bringing home an income.

Question 17

Will's perception of his retrenchment as being a major, significant stressor is, according to the Transactional Model of Stress and Coping

- A. a primary appraisal.**
- B. a secondary appraisal.
- C. the alarm reaction stage.
- D. the resistance stage.

Answer is A

Explanatory notes

- A is correct, as deciding on how significant a stressor is, is a primary appraisal of the stressor.
- B is incorrect, as a secondary appraisal involves deciding on resources to deal with a stressor, after it has been appraised initially during primary appraisal.
- C and D are incorrect, as these are stages of another model of stress, the GAS.

Question 18

When Will is evaluating his retrenchment as a major stressor, this evaluation can be considered

- A. a psychological determinant of the stress response.**
- B. a biological determinant of the stress response.
- C. a physiological response to a stressor.
- D. eustress.

Answer is A

Explanatory notes

- A is correct, as thoughts about how stressful something is, are a psychological determinant of the stress response.
- B and C are incorrect as biological determinants or physiological responses would involve mention of bodily systems such as heart rate or blood pressure, not thought processes.
- D is incorrect as eustress is when a person undergoes a pleasant or rewarding form of stress.

Question 19

The ultimate aim of aversion therapy is to

- A. use operant conditioning principles to treat a phobia.
- B. use classical conditioning principles to treat a taste aversion.
- C. use operant conditioning principles to discourage an unwanted behaviour.
- D. use classical conditioning principles to discourage an unwanted behaviour.**

Answer is D

Explanatory notes

- A and C are incorrect, as aversion therapy is based around the continual pairing of a UCS (e.g. a nausea inducing drug) and a CS (e.g. cigarettes) and is a passive process. Operant conditioning is a more active process requiring punishment and reinforcement.
- B is incorrect, as aversion therapy is not used to treat taste aversions.
- D is correct, as aversion therapy is the application of classical conditioning as a form of therapy to discourage a type of behaviour. The ultimate aim is to replace the pleasurable response of an unwanted behaviour (e.g. satisfaction when smoking) with an unpleasant response (e.g. nausea when smoking) to discourage the behaviour.

Question 20

According to Tolman's theory of latent learning

- A. learning is always shown at the time of learning.
- B. learning involves a period of incubation followed by an 'ah-ha' experience.
- C. **knowledge or skills can be learned, but may not be expressed until a later time.**
- D. learning involves copying a model who is admired.

Answer is C

Explanatory notes

- A is incorrect, as latent learning theory suggests that learning can occur and not be shown until required.
- B is incorrect, as this is a description of insight learning.
- C is correct, as latent learning suggests we may learn skills or knowledge, but this learning may not be expressed until it is needed at a later date.
- D is incorrect as this is a description of observational learning. Observational learning can become latent learning, but is not always expressed at a later time.

Question 21

To investigate the effect of latent learning on rats, Tolman exposed three groups of hungry rats to a maze and timed how long the rats took to learn to run the maze. Group 1 always received food at the end of the maze, Group 2 never received food at the end of the maze and Group 3 received no food at the end of the maze for the first ten days, but then received food on the eleventh day. Tolman then compared how long the rats took to run the maze on the twelfth day.

In this experiment the independent variable is

- A. how long the rats took to run the maze.
- B. whether the rats were placed into a maze.
- C. **the manner and timing of when rats did/did not receive food.**
- D. whether or not the rats were hungry.

Answer is C

Explanatory notes

- A is incorrect, as the time the rats took to run the maze is a factor measured at the end of the study to see what effect the varying food schedule had on the rats. It is thus the dependent variable (DV).
- B is incorrect, as all rats were placed into a maze.
- C is correct, as the independent variable is the variable which Tolman has systematically manipulated in order to check its effect on the DV. Tolman manipulated whether the rats received food at the end of the maze by having three groups, one who always received food, one with food on the twelfth day and one who never received food.
- D is incorrect, as it is stated that all rats were hungry. This is thus not a variable which Tolman was manipulating to check its effect on the DV, it was just a requirement of the experiment.

Question 22

In the Tolman experiment, the dependent variable is

- A. how long the rats took to run the maze on their first attempt.
- B. how long the rats took to run the maze on day 12.**
- C. whether the rats received food at the end of the maze.
- D. whether the rats were in Group 1, 2 or 3.

Answer is B

Explanatory notes

- A is incorrect, as the independent variable could not have affected the maze running time of the rats on their first attempt.
- B is correct. The effect of latent learning could not be investigated until a reason to display the learning was given. Essentially Group 3 were there to demonstrate latent learning by giving them food as a reason to run faster. The time taken to run the maze on day 12 was measured and compared between the three groups to show the effect of the independent variable.
- C and D are incorrect, as these are descriptions of independent variables of control and experimental conditions.

Question 23

Allostasis is best described as

- A. a state where body temperature is kept constant.
- B. a constant pH level within the body.
- C. achieving bodily stability through physiological or behavioural changes.**
- D. our appraisal of how stressful an event is.

Answer is C

Explanatory notes

- A and B are incorrect, as these are descriptions of bodily systems which contribute to a state of homeostasis. These are both too specific to be considered correct descriptions of allostasis.
- C is correct, as allostasis is the process of an individual attempting to keep their body in a state of homeostasis. It is a general term encompassing not just bodily systems, but how a person may achieve stability in bodily systems through behaviour.
- D is incorrect, as this is a component of the Transactional Model of Stress and Coping.

Use the following information to answer Questions 24 to 26.

John has been highly stressed lately, and has been experiencing bouts of dizziness, which his doctor believes relate to John breathing too rapidly and shallowly. John's doctor attaches John to a device (a pneumograph) which measures the depth of his breath and how rapidly John is breathing. When John breathes too shallowly or too rapidly, the device signals this with a high-pitched sound. This sound does not occur if John breathes normally. At first John needs the device to identify his breathing patterns. After a while John learns to identify the state of breathing which is too shallow and rapid, without the use of the pneumograph.

Question 24

What is the name of the procedure which allows John to learn about his breathing pattern?

- A. systematic desensitisation
- B. allostasis
- C. relaxation response
- D. biofeedback**

Answer is D

Explanatory notes

- A is incorrect, as John is not attempting to treat a phobia using classical conditioning principles.
- B is incorrect, as allostasis is a process of achieving overall bodily stability through change.
- C is incorrect as John is not being taught a relaxation response.
- D is correct, as John is being taught to control a physiological response through the use of a machine which gives him feedback about this physiological response.

Question 25

What is the ultimate aim of the procedure which John is experiencing?

- A. to allow him to breathe more shallowly
- B. to have insight and control over his breathing patterns without the pneumograph**
- C. to relax more
- D. to constantly be attached to the pneumograph to help him throughout life

Answer is B

Explanatory notes

- A is incorrect, as the aim of the procedure is to reduce John's shallow breathing.
- B is correct. Biofeedback allows insight into physiological responses; this insight can be used to control responses.
- C is incorrect, as John is not being taught a relaxation response.
- D is incorrect, as biofeedback is used to teach a patient to identify physiological responses so that they can ultimately learn to identify these responses without the use of a machine.

Question 26

John's rapid and shallow breathing is what type of response to stress?

- A. a psychological response
- B. a physiological response**
- C. a primary appraisal
- D. depression of the immune system

Answer is B

Explanatory notes

- A is incorrect as psychological responses involve cognition or thoughts such as catastrophising or confusion.
- B is correct, as respiration rate is a bodily or physiological response.
- C is incorrect as primary appraisal refers to cognitive evaluation of how stressful a stressor is.
- D is incorrect as there is no indication of immune system involvement. John has just developed an erratic breathing pattern.

Use the following information to answer Questions 27 to 31.

Mr Mitchell wishes to investigate ways in which students in Prep at Langford Primary School will increase their behaviour of picking up rubbish in the school yard. He firstly asks some high-profile students within the school (Grade 6 leaders such as school captains, sport captains and musicians who play at assembly every week) to spend four days picking up any rubbish in the school yard. Mr Mitchell then counts the number of times the Preps pick up rubbish on the following day (Day A). Mr Mitchell then asks some Grade 3 students who do not have any leadership roles (low-profile students) in the school to pick up rubbish for four days in a row. He then counts the number of times the Preps pick up rubbish on the following day (Day B). He finds that on Day A, Prep students pick up a total of 46 pieces of rubbish and that on Day B, Prep students pick up a total of 39 pieces of rubbish. He finds the difference between the two groups is not significant ($p > 0.05$).

Question 27

In this study the population is

- A. all students at Langford Primary School.
- B. Grade 6 high profile students at Langford Primary School.
- C. Grade 3 students at Langford Primary School.
- D. Prep students at Langford Primary School.**

Answer is D

Explanatory notes

- A, B and C are incorrect: A is too general, B and C are identifying the type of model the students will be exposed to within the experiment.
- D is correct. The scenario states Mr Mitchell wishes to investigate students in Grade Prep at Langford Primary School.

Question 28

In this study the independent variable is

- A. whether the Prep students are exposed to high-profile or non-high-profile students.**
- B. whether the students are in Prep, Grade 6 or Grade 3.
- C. whether the Prep students pick up rubbish.
- D. whether the Grade 3 students pick up rubbish.

Answer is A

Explanatory notes

- A is correct. The independent variable is the variable the researcher systematically varies in order to check its effect on the DV. The researcher varies the type of model the Prep students are exposed to in order to check its effect on the DV (rubbish picking-up behaviour).
- B is incorrect, as Mr Mitchell is not investigating whether the grade a student is in will affect the DV.
- C and D are incorrect, as Mr Mitchell is not investigating the effect of the grade on rubbish picking-up behaviour.

Question 29

Which experimental design was used in this study?

- A. matched pairs
- B. independent groups
- C. repeated measures**
- D. single blind

Answer is C

Explanatory notes

- A is incorrect, as the students have not been matched on an important characteristic which could affect the DV before they are placed into experimental and control conditions.
- B is incorrect, as the students have not been placed into two different groups, one which is exposed to the IV and one which is not.
- C is correct. Mr Mitchell watches the preps after exposure to high-profile models and then watches the same group after exposure to low-profile students.
- D is incorrect, as single blind is not a type of experimental design.

Question 30

What is a possible explanation for the fact that there was not a significant difference between the two groups?

- A. An order effect has occurred.
- B. Whether or not students have been exposed to high-profile models has not affected rubbish picking-up behaviour.
- C. Stimulus discrimination has occurred.
- D. **Both A and B are correct.**

Answer is D

Explanatory notes

- A is correct and so is B. but the **best** answer is D.
- C is incorrect, as this is not relevant to this scenario.
- D is correct, as both A and B could explain the fact there was no difference between the two groups. It may be that the profile of the model makes no difference to the rubbish picking-up behaviour. Alternatively, the high profile of the Grade six students may have affected the rubbish picking-up behaviour in the first week, and then continued to affect the rubbish picking-up behaviour in the second week. This is an example of an order effect, in which participation in the first condition of an experiment can affect results in the second condition of the experiment.

Question 31

Mr Mitchell's investigation is based mostly around which theory of learning?

- A. classical conditioning
- B. insight learning
- C. operant conditioning
- D. **observational learning**

Answer is D

Explanatory notes

- A is incorrect, as there has been no classical conditioning of a response.
- B is incorrect, as there is no evidence of investigation of insight into a solution.
- C is incorrect, as the consequences of rubbish picking-up behaviour are not really investigated in this research.
- D is correct, as Mr Mitchell is attempting to investigate whether observing someone else's behaviour will change behaviour in Prep students.

Question 32

Which of the following is not an example of a reflex action?

- A. **a magpie swooping in springtime when chicks are in nest**
- B. blinking in response to a puff of air in the eye
- C. a newborn baby turning to feed when stroked lightly on the cheek
- D. a dog salivating when food is placed in its mouth

Answer is A

Explanatory notes

- A is correct, as swooping behaviour is a more complex sequence of behaviours than a simple reflex reaction.
- B, C and D are incorrect, as these are very simple, inborn responses to a stimulus, and are thus reflex actions.

Question 33

Dr Greg wants to investigate whether certain areas of the brain function when the reflex behaviour of swallowing occurs. She asks volunteers to repeatedly swallow and whilst they do this she monitors if any areas of the brain become active. Which of the following imaging methods would **not** be suitable to determine which area of the brain is active?

- A. fMRI
- B. **CT**
- C. SPECT
- D. PET

Answer is B

Explanatory notes

- B is correct. CT scans show only structure, so level of activity cannot be determined from a CT scan.
- A, C and D are incorrect. fMRI, PET and SPECT are all functional neuroimaging techniques, which means areas of activity can be determined from these techniques.

Question 34

What is the best description of how learning affects neural pathways in the brain as a child develops and learns?

- A. A child is born with all synapses already formed and these remain constant throughout the lifespan.
- B. As a child learns, the neurons within the brain greatly increase in number.
- C. **A child is born with vast numbers of synapses, many of which are modified or eliminated as a child learns.**
- D. A child with a special interest in reading will decrease the number of synapses in their brain that are dedicated to reading.

Answer is C

Explanatory notes

- A is incorrect. A child is born with synapses already formed, but many of these undergo modifications or may be lost over time.
- B is incorrect. The learning a child does over time is not related to increases in the **number** of neurons.
- C is correct. Learning involves modification and elimination of many of the synapses a child is born with.
- D is incorrect. Developmental plasticity means that the more a function is performed, especially when young, the greater the increase (not decrease) in neurons and synapses dedicated to this function.

Question 35

Which of the following is **not** important in the formation and functioning of synapses?

- A. neurotransmitters
- B. dendrites
- C. axon terminals
- D. **corpus callosum**

Answer is D

Explanatory notes

- A is incorrect. Neurotransmitters are released at the synapse when a neuron is functioning.
- B and C are incorrect. Dendrites and axon terminals are components of a nerve cell which connect from one nerve cell to another, and are thus part of a synapse.
- D is correct. The corpus callosum is a large structure which connects the left and right hemispheres, and is thus not a microscopic component of a neuron.

Question 36

The processes of observational learning as suggested by Bandura are, in order

- A. attention, reinforcement, reproduction, motivation/retention
- B. attention, retention, reinforcement, motivation/reproduction
- C. attention, reproduction, reinforcement, motivation/retention
- D. **attention, retention, reproduction, motivation/reinforcement**

Answer is D

Explanatory notes

- A, B and C are incorrect, as the terminology is not in the order suggested by Bandura.
- D is correct as Bandura suggests we watch someone, remember their behaviour and its consequences, decide if we have the capability to perform this behaviour, and then perform this behaviour if we have a desire to carry it out and there is some form of reinforcement. Thus this is the correct order of processes.

Question 37

Alice is 11 years old. Alice has watched older people surfing a number of times as they are exciting to watch, but often decides that she could not paddle out and catch large waves as she is not experienced enough. Alice then watches a young girl, Rani, surf in smaller waves. She decides that she could easily do what Rani is doing. Alice is being affected by which element of observational learning when she makes this decision?

- A. retention
- B. reproduction**
- C. reinforcement
- D. attention

Answer is B

Explanatory notes

- A is incorrect as whether Alice watches the older people or Rani surfing does not affect how well she remembers their behaviours.
- B is correct. Alice is deciding whether she has the capability to carry out the behaviours modelled. She feels she has the capability to reproduce Rani's behaviour as she is similar to Rani.
- C is incorrect as there is no mention of reward throughout the scenario.
- D is incorrect. She will pay attention to Rani as she is similar to her, but she is also paying attention to the older surfers as they are exciting to watch.

Question 38

Which of the following is an example of psychological response to stress?

- A. increased respiration rate
- B. decreased ability to concentrate**
- C. increased blood pressure
- D. decreased rate of digestion

Answer is B

Explanatory notes

- B is correct, as the inability to concentrate means thoughts (cognition) are being affected. Thought processes are psychological processes.
- A, C and D are incorrect as these are all physiological responses to stress.

Question 39

When Thorndike first placed cats into a puzzle box to investigate learning, the cats' initial behaviour could best be described as

- A. learned
- B. random**
- C. conditioned
- D. reinforced

Answer is B

Explanatory notes

- A is incorrect, as the cats' initial behaviour had not been learned in any way.
- B is correct. An important part of trial-and-error learning as suggested by Thorndike is that at first the behaviour is random, until it is reinforced in some way.
- C is incorrect. The cat was not conditioned initially. After the cat learned to associate the fish reward with pressing a lever, the behaviour was conditioned.
- D is incorrect. The cats' initial behaviour was trying a number of responses. Only the correct response was reinforced.

Question 40

A radio station advertises that it will be giving away a ticket to 'the big day out' once an hour, but the exact time of the giveaway in any given hour is not given. What schedule of reinforcement is the radio station using?

- A. fixed interval
- B. variable interval**
- C. fixed ratio
- D. variable ratio

Answer is B

Explanatory notes

- A is incorrect. A fixed interval schedule would mean the ticket would be given out at a set, identified time each hour.
- B is correct. Although reinforcement is once every hour, the time at which reinforcement will occur varies.
- C and D are incorrect, as the reinforcement schedule is based around time (interval) rather than number of responses (ratio).

Question 41

When considering research on different pain management techniques, an ethics committee decides that the small effect the research may have on a participant will not cause any long-term lasting harm and that the knowledge gained will be useful to the wider society. Which ethical principle are they considering?

- A. justice
- B. integrity
- C. beneficence**
- D. respect for persons

Answer is C

Explanatory notes

- A is incorrect. Justice involves ensuring there is a fair distribution of benefits and burdens of the research.
- B is incorrect. Integrity involves the professional conduct and report of research.
- C is correct. Beneficence involves weighing up the impact research will have on the individuals involved in the research, compared to the benefits the research will provide to the larger population.
- D is incorrect. Respect for persons involves carrying out research whilst considering the needs of special groups such as religious or cultural groups.

Question 42

A researcher conducts a study and makes sure that the participants in the study are debriefed. When would debriefing have occurred?

- A. before the study began
- B. during the study
- C. **after the study had finished**
- D. when the participants were signing the informed consent form outlining roles, rights and risks of the study

Answer is C

Explanatory notes

- A, B and D are incorrect. Debriefing occurs after the study has finished.
- C is correct. The purpose of debriefing is to fully explain some details of the study, check that no harm has been done and to offer counselling services to the participants if required. This is done after the study has finished, and is especially important if some form of deception has been used in the study.

Question 43

Jill has been to a psychiatrist and as part of her initial consultation she has been asked to fill in a survey detailing how well Jill is managing her family commitments and coping with problems at work. Using answers from this survey the psychiatrist evaluates her according to the DSM-IV in terms of how well she is functioning in day-to-day life. This will help the psychiatrist evaluate Jill in terms of which axis of the DSM-IV?

- A. Axis 1
- B. Axis 3
- C. Axis 4
- D. **Axis 5**

Answer is D

Explanatory notes

- A, B and C are incorrect. Axis 1 is an evaluation of whether a person is suffering from a clinical disorder; Axis 3 is an evaluation of any physical disorders which may be relevant, and Axis 4 is an evaluation of environmental stressors which may be affecting the individual.
- D is correct. Axis 5 involves determining how well the individual is functioning in social and occupational settings.

Question 44

Which of the following is **not** commonly associated with someone experiencing eustress?

- A. a feeling of excitement
- B. feelings of an inability to cope**
- C. a feeling of motivation
- D. increased heart rate

Answer is B

Explanatory notes

- A, C and D are incorrect, as eustress is a form of positive stress often associated with feelings of excitement, motivation and increased physiological responses such as increased heart rate.
- B is correct, as eustress is usually associated with a feeling of being able to cope with an upcoming stressor.

Question 45

Which of the following would most likely lead to someone experiencing eustress?

- A. excessive job demands
- B. lack of training to carry out an important task
- C. an upcoming marriage**
- D. losing contact with loved ones

Answer is C

Explanatory notes

- A, B and D are incorrect. These are negative events which may cause distress.
- C is correct. Although an upcoming marriage may be perceived as a stressful time, this is a positive form of stress (eustress).

SECTION B – Short-answer questions

Question 1

Eliza is a fifteen-year-old girl. When Eliza was eight years old she was exposed to a traumatic situation in which she experienced severe turbulence whilst flying. Consequently, she has an intense and irrational fear of flying on a plane to the point that she has not been in a plane for years as she avoids them at all costs. Eliza now wishes to travel to Europe in an exchange program at her school, and has decided that she needs to treat her fear. She arranges therapy with a local psychologist.

- a. What would the psychologist most probably classify Eliza as suffering from?

1 mark

Answer

The psychologist would classify Eliza as suffering from a phobia. (A phobia is an anxiety disorder, but because of the description as intense and irrational fear, the word **phobia** must be used in the answer.)

Mark allocation

- One mark for using the key term ‘phobia’

- b. Using the terms of classical conditioning, explain how Eliza’s intense fear of flying in a plane has developed.

3 marks

Answer

Before learning takes place, a plane is a neutral stimulus and severe turbulence is an unconditioned stimulus which causes the unconditioned response of fear. The unconditioned stimulus of turbulence is paired with the conditioned stimulus of the plane, causing the unconditioned response of fear. The conditioned stimulus of the plane now causes the conditioned response of fear of flying.

Mark allocation

- One mark should be given for each point made above.
 - The conditioned response must be fear of flying, not just fear.
- c. The psychologist decides that she will use either flooding or systematic desensitisation in order to treat Eliza. Give one major difference between these two methods.

1 mark

Answer

The major difference between flooding and systematic desensitisation is that flooding involves a sudden exposure to the anxiety-producing stimuli whereas in systematic desensitisation, exposure to the anxiety-producing stimuli is more gradual.

Mark allocation

One mark given for identifying the major difference between sudden exposure and gradual exposure.

- d. The psychologist decides that the most appropriate method to treat Eliza is the use of flooding. As part of the therapy she arranges a flight with herself and Eliza on a plane. During this flight Eliza experiences severe anxiety and the psychologist monitors any physical symptoms Eliza is experiencing. List two possible physical symptoms that Eliza may be showing.

2 marks

Answer

Increased heart rate and dilated pupils.

Mark allocation

- One mark each for any **two** of the following:
 - increased heart rate
 - dilation of pupils
 - increased respiration rate
 - decreased digestion rate
 - increased blood pressure
 - decreased salivation
- or any other relevant response apparent in flight-fight response.

- e. Because of the severity of Eliza's fear, the psychologist suggests that Eliza may benefit from also having a medically trained professional prescribing a drug which will stimulate gamma-amino butyric acid receptors in the brain. What effect will this drug probably have on Eliza's physical symptoms?

1 mark

Answer

This drug should reduce or inhibit physical symptoms. GABA has an inhibitory effect on the effects of stress.

Mark allocation

- One mark for identifying reduction of physical symptoms or the inhibitory effect.

Question 2

Using an example of each, describe one difference between fixed action patterns and reflex actions.

2 marks

Answer

Fixed action patterns are complex behaviours often specific to certain species. Reflex actions are simple behaviours which are more widespread. Any appropriate example of fixed action patterns and reflex actions.

Mark allocation

- One mark for one of the following points:
 - Fixed action patterns are more complex; reflex actions are simple.
 - Fixed action patterns are often specific to certain species; reflex actions are more widespread across species.
- One mark for appropriate examples, e.g., FAP involves magpie-swooping when young are in the nest; reflex actions involve blinking in responses to a puff of air.

Question 3

Researchers at a teaching hospital wish to investigate the effects of learning a new motor skill on structures within the brain. To do this, they expose a number of mice to a task which requires them to perform complex movement of their front limbs (reaching through a small, curved wire shape to find a piece of food). The mice quickly learn this skill. As the mice learn, the researchers monitor a number of neurons within the motor cortex of the brains of the mice. The researchers note that the neurons in this area change.

a. What is a synapse?

1 mark

Answer

A synapse is the gap between two neurons (across which neurotransmitters are transmitted).

Mark allocation

- One mark for identifying the space between neurons.

b. Explain what the researchers would probably have found in terms of neurons and their synapses.

1 mark

Answer

That the number of neurons and synapses dedicated to their front limbs increases.

Mark allocation

- One mark for identifying an increase in synapses.

c. What is one advantage of using mice in this type of study in terms of ethical and professional conduct?

1 mark

Answer

That there are less stringent ethical requirements with animal research (even though animal researchers in the field of psychology are still bound by a number of ethical guidelines within the *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes*).

Mark allocation

- One mark for identifying that ethics surrounding animals is not as strict or stringent.

Question 4

A number of years ago, John had his right middle finger amputated as part of treatment after severe injury. He has now been functioning for five years with the missing finger and continues to work as a highly skilled carpenter. As part of a study on the effects of amputation on brain organisation, John undergoes a PET scan. John is asked to move his arms and fingers, and activity within the left motor cortex is monitored.

Explain what will most likely be shown on the PET scan in the area of the primary motor cortex which originally controlled movement of John's right middle finger. Name and describe the process which would allow this to occur.

3 marks

Answer

Neuroplasticity is the process of areas of the brain taking on new functions when their original function is lost. Other fingers on the right hand will thus be moved by the area originally dedicated to his right middle finger.

Mark allocation

- One mark for each of the following points:
 - The area of the primary motor cortex originally dedicated to his right middle finger will take on the functioning of the other fingers of the **right** hand (right must be mentioned).
 - This is due to adaptive neuroplasticity.
 - This is the brain's ability to form new connections to compensate for lost functions.

Question 5

What is the flight-fight response?

3 marks

Answer

A state of intense arousal, initiated by sympathetic nervous system to allow the organism to run away or confront a stressor.

Mark allocation

- One mark for each of the following:
 - A state of intense physiological arousal
 - Initiated by the sympathetic nervous system in response to a stress
 - Allows the organism to run away or confront stressor

Question 6

Question 6 has three parts. You must answer only one part (a, b or c).

Answer part **a** if you have studied depression.

Answer part **b** if you have studied gambling addiction.

Answer part **c** if you have studied schizophrenia.

- a.** The mood disorder of major depression has a number of contributing factors. Suggest one biological factor and one sociocultural factor which may contribute to the onset or progression of major depression.

2 marks

Answer

Biological:

- Genetic predisposition
- Decreased levels of serotonin and/or noradrenaline

Sociocultural:

- Poverty
- Social isolation/lack of social support
- Abuse (or specific example of abuse such as repeated criticism, sexism, etc.)
- New/increased parenting role
- Boring/meaningless occupation
- Any other relevant factor

Mark allocation

- One mark for correct identification of a biological factor.
- One mark for correct identification of a sociocultural factor.

- b.** Gambling addiction has a number of contributing factors. Suggest one biological factor and one sociocultural factor which may contribute to the onset or progression of gambling addiction.

2 marks

Answer

Biological:

- Deficiencies in noradrenaline/serotonin
- Dopamine reward system functioning
- Genetic predisposition

Sociocultural:

- Living close to a gambling facility
- The acceptance of gambling as social recreation
- Wide range of possibilities for gambling to easily enable gamblers

Mark allocation

- One mark for correct identification of a biological factor.
- One mark for correct identification of a sociocultural factor.

- c.** Schizophrenia has a number of contributing factors. Suggest one biological factor and one sociocultural factor which may contribute to the onset or progression of schizophrenia.

2 marks

Answer

Biological:

- Genetic predisposition
- Brain abnormalities; structural differences of brain
- Drug-induced onset
- Neurotransmitter imbalance; overabundance of dopamine; highly sensitive dopamine receptors

Sociocultural:

- Trauma
- Poverty
- Family tension; social tension

Mark allocation

- One mark for correct identification of a biological factor.
- One mark for correct identification of a sociocultural factor.

Question 7

Dr Jones is a teaching psychologist at Belmont University and has a special interest in how students cope with the demands of university. Belmont University has a large intake of overseas students, and Dr Jones is particularly interested in determining ways in which the university can help these overseas students deal with the pressures of shifting to a different country whilst taking on their studies. He has noticed that a number of these students have been showing an increased incidence of minor ailments such as colds and flu. He decides to perform a study to determine if first-year overseas students at his university will benefit from regular guided relaxation exercises.

The university has 400 first-year overseas students, of which 60 per cent are male, and 40 per cent female. He takes a stratified random sample (stratified for gender) of 100 students. He administers a Stress Response Survey to each of these students. Using results from this survey he pairs the students from the most stressed to the least stressed. He then uses the matched pairs experimental design to obtain two groups. Group A is taught a simple relaxation exercise, which involves progressively relaxing muscle groups in the body for 20 minutes a day. Group B is not exposed to the relaxation exercise. After three weeks, Dr Jones rates the students on how stressed they appear to him, using the 'Perceived Stress Scale' (where 1 = not stressed at all and 10 = highly stressed). Using the data obtained, Dr Jones calculates a number of descriptive statistics, summarised in Table 1 below.

Table 1: Stress rating after three weeks of experiment

	Mean stress score	Median stress score
Group A	4.6	4
Group B	6.1	6

Dr Jones also calculates a t-test (test of significance) and finds that $p = 0.04$.

- a. Dr Jones has noticed an increase in the incidence of minor illnesses in some of the students he is studying and feels this is related to stress. What stage of the GAS are the students probably in? (State the name and number.)

1 mark

Answer

Resistance stage (stage 2).

Mark allocation

- One mark for identifying 'resistance' stage 2.

- b. According to the GAS, why would these students be experiencing an increased incidence of minor illnesses?

1 mark

Answer

Prolonged stress depresses the immune system.

Mark allocation

- One mark for identifying a reduction in functioning of the immune system.

c. What is the operationalised independent variable in this experiment?

1 mark

Answer

The independent variable is whether or not the participant is exposed to the progressive relaxation exercise for twenty minutes a day for three weeks.

Mark allocation

- One mark for identifying exposure or non-exposure to progressive relaxation exercises.

d. What is the operationalised dependent variable in this experiment?

1 mark

Answer

The operationalised dependent variable is the score on the Perceived Stress Scale.

Mark allocation

- One mark for identifying the score on the Perceived Stress Scale.

e. Why would Dr Jones carry out an experiment to investigate his ideas?

1 mark

Answer

An experiment allows a researcher to establish if one thing (the independent variable) causes another thing (a change in the dependent variable).

Mark allocation

- One mark for stating that an experiment allows cause and effect to be investigated.

f. Explain how Dr Jones would have carried out the process of random stratified sampling.

3 marks

Mark allocation

One mark for each of the following points:

- The population is split into strata or groups (or gender in this case).
- Participants are chosen from each group, ensuring the proportions are kept the same as they are in the population.
- This process is done using a random method such as the lottery method or a random number generator.

Tip

- *The third step mentioned in the answer is the one most students will tend to miss out on when describing random stratified. This third step is essential to differentiate this from stratified sampling.*

g. How many males and how many females would be in the sample?

1 mark

Answer

60 males and 40 females.

Mark allocation

- One mark if correct number of both males and females identified.

h. Dr Jones used the Stress Response Survey to match his sample into pairs in terms of how stressed they were before the experiment began. What is the other step Dr Jones would have needed to do in terms of the matched pairs experimental design?

1 mark

Answer

Dr Jones would then have placed one of each pair into the experimental group and one into the control group.

Mark allocation

- One mark given if both experimental and control group placement stated.

i. How would Dr Jones have calculated the median score for Group A?

1 mark

Answer

The median score is calculated by arranging all the scores in order. The middle score is the median score.

Mark allocation

- One mark given by identifying arrangement in order and middle scores.

j. What is the probability in this study that the results occurred due to the independent variable rather than chance?

1 mark

Answer

There is a 96% chance (or 96 out of 100) that the results occurred due to the IV.

Mark allocation

- One mark for identification of 96%.

Tip

- *It would be easy to answer this question as 4% as often the exam question asks the probability the results occurred due to chance (which is the opposite of what this question asked).*

- k. Dr Jones concludes that the results are statistically significant, and therefore his hypothesis is supported. Define the experimenter effect and explain why care must be taken in accepting this conclusion in terms of this effect.

2 marks

Answer

The experimenter effect is the effect of an experimenter's expectations on a participant's response. Because Dr Jones rates the students himself, he may have conveyed to them in some way his expectations and they may have subsequently altered their response.

Mark allocation

- One mark for correct definition of the experimenter effect.
- One mark for identification of the effect of Dr Jones' expectations on participants' responses.

SECTION C – Extended-response question

Question 1

A primary school has decided to implement the use of a token economy throughout the school. A consultant visits the school and explains the important elements of the system. In his report he covers the aims of a token economy, steps which would need to be taken by staff when using a token economy and also lists two advantages of the system over the current system, which involves each teacher creating their own rewards and punishments. He also explains the operant conditioning principles on which the system is based. In the space below – using psychological terms and the language of operant conditioning – provide the major points which the consultant would include in his report.

10 marks

Answer

1. A token economy involves giving some form of token when a child displays an appropriate behaviour.
2. A token can be taken away if the child displays inappropriate behaviour.
3. The token by itself has no value, it is exchanged for things of value.
4. A child can choose what the token is exchanged for, (so rewards, or punishments are always appropriate).
5. Aim of token economy is to increase appropriate behaviour.
6. Another aim of token economy is to reduce inappropriate behaviour.
7. Token economy uses reinforcement of appropriate behaviour.
8. Token economy uses punishment of inappropriate behaviour.
9. Advantage is that reinforcement/rewards are the same for each student (in terms of teacher planning).
10. Another advantage is that reinforcement can be immediate.

Mark allocation

- The extended-response question will vary in mark allocation. Your response should try to identify the same number of key points as there are marks.

Tip

- *A good way to start an extended response is to look at the number of marks allocated. The assessment of the question will be looking for you to make the same number of different points as there are marks, so perhaps quickly jotting down the points you wish to make and making sure there are the same number of points as marks will be useful. This also helps ensure you don't repeat yourself.*

END OF SOLUTIONS BOOK