2018 VCE Psychology examination report

General comments

The 2018 Psychology examination assessed Units 3 and 4 of the revised *VCE Psychology Study Design*. The examination consisted of two sections (A and B) and was scored out of a total of 120 marks. Section A comprised 50 multiple-choice questions worth one mark each. Section B comprised seven short-answer questions worth 60 marks and one extended-response question worth 10 marks.

The examination reflected changes to the study design, particularly in relation to a greater focus on scientific literacy and on experimental design. Examination questions also reflected the interconnectedness of different Areas of Study as well as the relationship between key knowledge and key science skills in the study design.

Most students provided a response to every multiple-choice question. Students should be aware that it is impossible to achieve a mark if no response is given. It is always possible to change a response by carefully erasing and re-shading.

As marking is completed online using scanned images of the examination, it is emphasised that students should write within the marked boundaries on the examination for each question and clearly indicate if a responses is continued in the extra space provided at the end of the question and answer book. If students continue a response in the extra space, they must number the response clearly.

Students should ensure that they address the questions asked and that any examples given are specific to the question. Where questions assess the application of knowledge to a scenario, it is particularly important that students make clear and relevant references to the scenario in their responses. Generic responses to questions eliciting applied knowledge cannot be awarded full marks. Students should also ensure that they attempt to answer all parts of each question.

Students are reminded that although spelling errors are not penalised, the meaning of the response must be clear and unambiguous. Students should take care to spell scientific terms correctly.

Specific information

Note: Student responses reproduced in this report have not been corrected for grammar, spelling or factual information.

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

The statistics in this report may be subject to rounding resulting in a total more or less than 100 per cent.

Section A – Multiple-choice questions

The table below indicates the percentage of students who chose each option. The correct answer is indicated by shading.

Question	% A	% B	% C	% D	Comment
1	4	2	89	5	
2	88	4	6	2	
3	95	1	1	3	
4	23	5	55	18	
5	60	11	1	28	
6	43	40	10	6	Some students understood this question as specifically referencing the sympathetic division of the ANS. Other students responded in terms of the ANS broadly, given that the stress response was alluded to in the scenario. Both options A and B were accepted as correct.
7	75	2	3	20	
8	5	76	8	11	
9	10	8	2	80	
10	9	78	9	4	
11	11	61	12	16	
12	3	6	9	81	
13	4	3	88	6	
14	4	3	86	6	
15	97	1	0	2	
16	0	98	0	1	
17	18	27	23	32	All four options were accepted as correct.
18	3	3	93	2	
19	67	13	2	19	
20	3	2	92	3	
21	73	5	6	16	
22	9	76	12	3	
23	13	71	3	13	
24	2	1	4	93	
25	12	81	5	3	
26	5	5	84	7	
27	2	1	93	5	
28	1	97	1	1	
29	1	1	3	95	
30	35	11	47	7	Only option C, ‘impaired memory’, meets the criteria for a psychological risk factor. Many students selected option A, ‘stigma’. However, stigma is incorrect as it is a social risk factor, notwithstanding that the effect of stigma is experienced psychologically by the individual, and that there can be self-stigma resulting from internalising social attitudes.
31	13	14	11	62	

Question	% A	% B	% C	% D	Comment
32	9	1	89	1	Option C 'avoidance' was consistent with the terminology used in the current study design. However, students may have encountered option A, 'emotion-focused, as the problem upset him', when studying Lazarus and Folkman, and avoidance coping strategies. Avoidance is typically considered an emotion-focused strategy and includes keeping feelings to oneself. Given this, both options A and C were accepted.
33	6	92	1	1	
34	57	5	4	33	
35	16	5	53	26	
36	21	66	2	11	Option A, 'only the researcher knew who would receive the placebo', was the best response. The research assistant, whose role is to interact with the participants and administer the treatments, is blind to the allocation of the GABA agonist and placebo to participants. This aspect of a double-blind procedure is used to avoid the influence of any bias or unconscious demand characteristics by the person interacting with the participants on how participants respond to the substance or how the research assistant handles the data. The lead researcher overseeing the study knows which participants have been randomly allocated to each group, and provides the research assistant with the treatment and control substances in containers labelled neutrally as conditions A and B (for example) to give to two groups who are also referred to neutrally as A and B. To make the procedure double-blind, the participants also do not know if they are in the experimental or control group, but most of the response options focused only on the administrative side of the double-blind procedure.
37	5	71	4	20	
38	1	1	3	96	
39	7	16	3	74	
40	9	14	2	74	
41	27	13	43	18	According to the restoration theory of sleep, REM sleep is associated with restoration of brain/cognitive/psychological functions (for example, memory consolidation), while NREM sleep is associated with restoration of body/growth/ physiological processes. Given this, option C was the best response as it was the only one congruent with this account of the restoration theory.

Question	% A	% B	% C	% D	Comment
42	54	9	34	3	
43	0	4	1	95	
44	10	7	8	76	
45	5	8	83	4	
46	79	16	2	3	
47	5	5	8	81	
48	25	63	4	9	Option B was incorrect as the definition of a confounding variable is that it is systematically conflated with the independent variable, rather than merely uncontrolled (extraneous). Only option A correctly described the confounding effect of conflating context-dependent cues with non-leading questions. Both context-dependency and non-leading questions are known to lead to more accurate recall. Therefore, the more accurate recall of participants in Group B cannot be attributed purely to the effect of leading questions as Group B received both non-leading information and had the benefit of matching contextual cues for encoding and retrieval. Group A had the effect of both being exposed to the misleading question and did not benefit from contextual cues shared between encoding and recall.
49	3	3	87	7	
50	2	3	2	93	

Section B

Question 1

Marks	0	1	2	3	4	Average
%	19	15	21	25	21	2.2

This question assessed the students' knowledge of the role of neurotransmitters in the transmission of neural information between neurons (lock-and-key process) to produce excitatory effects (as with glutamate).

Students needed to demonstrate the following knowledge in their response.

- glutamate released into the synapse/synaptic gap/cleft (from vesicles of the presynaptic neuron)
- glutamate acts as a key; the complementary receptor site acts as a lock
- glutamate binds with specifically shaped receptor sites on (dendrites of) the post-synaptic neuron
- glutamate (excitatory) increases the likelihood of the post-synaptic neuron firing (depolarising of post-synaptic neuron, making it more likely to fire an action potential)

It was not relevant to refer to the processes prior to the neural impulse reaching the axon terminals.

For full marks, the components relating to the lock-and-key mechanism needed to be detailed to include binding due to the matching/specific shape of the neurotransmitter molecules and the receptor sites.

Most students provided both text and diagrams. Students who included only a diagram needed to make sure it was annotated clearly to demonstrate all of the above key knowledge.

Question 2

This question comprised four parts, assessing content related to: observational learning, specific phobia, biological (breathing retraining) and social (psychoeducation) evidence-based interventions for specific phobia.

Question 2a.

Marks	0	1	2	Average
%	41	52	7	**0.7**

The question required students to demonstrate knowledge of the role of attention in the vicarious learning of a phobic response.

Students were awarded one mark for each of the following:

- a description of attention as involving active focusing of observation/concentration on the mother's (role model) responses to the cockroach
- demonstrating knowledge that what was learned related to (storing/encoding/retention of) the antecedent-behaviour-consequence relationships in the scenario, not mere imitation of 'screaming and running away'. For example, students needed to note that the mother's fear response was relieved when she moved away from the cockroach, so David learned through observation (vicarious learning) that avoidance of cockroaches is (negatively) reinforced/rewarded.

Question 2b.

Marks	0	1	2	3	Average
%	14	33	37	17	**1.6**

Students needed to demonstrate knowledge of what breathing retraining is and how it can be used to assist in lowering anxiety, including knowledge of the physiological responses to anxiety and the effect of breathing retraining on these responses. The following elements were required in the response:

- breathing is often fast and shallow during a phobic/anxiety response (fight-flight-freeze, panic attack), which can lead to hyperventilation resulting in imbalance of oxygen and carbon dioxide/rapid decrease in carbon dioxide levels or activation of sympathetic nervous system in anxiety causing increase breathing/heart/respiration rate (any sympathetic nervous system response was suitable)
- breathing retraining involves teaching David to consciously control/slow his breath (by taking slow, deep inhalations and exhalations through the nose/diaphragm breathing, etc.) when experiencing anxiety/fear
- breathing retraining acts to reduce physiological arousal associated with fear/anxiety/phobic response/restore balance of oxygen/carbon dioxide/regulate breathing rate/activate parasympathetic response.

Question 2c.

Marks	0	1	2	Average
%	48	29	23	**0.8**

For full marks students needed to demonstrate knowledge of:

- what a contextual cue is in terms of sensory information/sensory signals/stimuli present in the environment at the time of encoding that becomes associated with the information being encoded/learned (sights, sounds, smells, etc.)
- the principle of context-dependency, i.e. that the success of retrieval of the learned instructions at a later date (in a different place) is enhanced/supported by (i.e. depends on) contextual cues present at the time of encoding (learning) being available/present (reinstated) in the environment where retrieval is attempted.

Many students merely gave an example of what could be done (for example, holding a stress ball during learning or learning the instructions in his home) rather than demonstrating explicit knowledge of what context-dependent cues are and the principle of matching elements of the context at encoding and with elements present at retrieval to enhance memory.

The highest-scoring answers defined the term and principle and gave an example, such as David imagining the therapist's voice or office when attempting to recall the instructions later.

Learning the instructions in the presence of a cockroach was not considered a valid response, as this relates to systematic desensitisation training rather than simply using context-dependent cues to assist recall of the instructions.

Question 2d.

Marks	0	1	2	3	Average
%	51	12	18	20	**1.1**

The relevant evidence-based social intervention consistent with the study design is psychoeducation. For full marks students needed to explain psychoeducation and how it can be used to manage specific phobia, related to the scenario.

- identification of psychoeducation as the relevant evidence-based social intervention
- definition of psychoeducation in terms of involving family/friend/social networks of David in treatment by providing them with information about David's phobia, how it is triggered and how they can assist David to manage it
- explanation of what family/friends/social network could do to assist David, such as strategies for challenging unrealistic thoughts about cockroaches, discouraging avoidance behaviours, reminding him of his breathing retraining, etc.

Question 3

The question comprised four parts, assessing content related to classical conditioning, the neural basis of learning, as well key science skills related to experimental design and reliability.

Question 3ai.

Marks	0	1	Average
%	24	76	**0.8**

The only responses accepted were repeated measures (the term used in the study design), within-groups or within-subjects. These are equivalent responses that refer to a design in which each participant undertakes each condition of the experiment.

Question 3aii.

Marks	0	1	Average
%	63	37	**0.4**

Acceptable responses included:

- Repeated measures designs reduce the influence of extraneous variables (on the dependent variable). It is not true to say that extraneous variables are 'eliminated' in a repeated measures design, given that conditions are administered at different times, etc.
- Repeated measures designs reduce/eliminate the influence of participant differences/variables (on the dependent variable). 'Eliminate' was acceptable in the context of specific participant variables.
- Repeated measures designs reduce the number of participants required compared to independent groups. It was necessary to include the comparison to independent groups.
- Repeated measures is the appropriate design to investigate learning of a conditioned response as it is the only design that allows the experimenter to determine the effect of the acquisition phase on the subsequent phases when the buzzer is presented without the food.

Question 3b.

Marks	0	1	Average
%	37	63	**0.7**

Students needed to demonstrate their understanding of reliability in terms of repeatable, reproducible, replicable or similar/consistent results obtained from similar methods.

Responses needed to identify that the replication/reproduction of similar/consistent results to Pavlov's original study using the same/similar methods (in a different lab with a different sample of dogs) indicates that Pavlov's original results were reliable (in the sense that the effects observed are less likely to be able to be attributed to a specific sample of dogs [participants], to other specific contextual factors such as the time and place of testing, or to measurement error, etc.).

Question 3c.

Marks	0	1	2	3	Average
%	21	24	47	8	**1.4**

This question referred to the processes of acquisition in Stage A of the graph that led to the conditioned response (which was shown in Stage B of the graph). Students needed to include the following three critical elements that lead to the acquisition of a classically conditioned response:

- correct identification of the buzzer as the initially neutral stimulus (NS) and the food as the unconditioned stimulus (UCS) (that produces the unconditioned response [UCR] of salivation)
- repeated presentation (pairing) of the NS and the UCS is required
- the NS must (immediately) precede the UCS (with the UCS either being presented shortly after and overlapping with the NS as in 'delay conditioning' or preceding the NS by a very short interval as in 'trace conditioning').

Responses that did not include the ordering of the NS prior to the UCS could not gain full marks (assuming other required elements included in response). 'Simultaneous' (UCS and CS presented exactly together) and 'backwards' conditioning (i.e., the UCS presented before the NS) rarely result in a conditioned response, with backward conditioning producing inhibition. The key to classical conditioning is the timing so that the NS comes to predict the UCS-UCR (and so becomes a CS).

Question 3d.

Marks	0	1	2	3	Average
%	18	27	35	21	**1.6**

For full marks, students needed to:

- demonstrate knowledge of long-term depression as a neural mechanism of learning (neural plasticity) that results in the (long-lasting) weakening (depotentiation) of post-synaptic responses (or weakening of neural connections/pathways or weakened memory trace)
- demonstrate knowledge that the **repeated** presentation of the UCS/food without the CS/buzzer resulted in weakened input to the post-synaptic neuron (i.e. absence of the signal from the UCS)
- the repeated weak stimulation results in the weakening of the (previously potentiated) conditioned salivation response (or gradual extinction/inhibition/depotentiation of the conditioned salivation response)

While not technically correct, many students stated that long-term depression occurs 'due to disuse' of neural pathways or 'due to lack of stimulation' of neural pathways. The correct response was that long-term depression results from repeated low intensity (sub-threshold) stimulation of the post-synaptic neuron.

Question 4

This question comprised four parts, assessing knowledge related to Alzheimer's disease as well as key science skills related to research hypotheses, generalisability of research findings and informed consent processes.

Question 4a.

Marks	0	1	2	3	Average
%	11	5	17	67	**2.4**

Students needed to phrase their hypothesis appropriately (i.e. not as a research question or aim), including the three critical components of a hypothesis, specifically:

- correct reference to the central **independent variable** (IV), in this case, exercise intensity (low versus moderate intensity). Time was a second IV, but this was not required in the response (baseline, 6 months and 1 year)
- correct reference to the **dependent variable** (DV), in this case the volume/size of brain structures related to memory and learning (hippocampal volume)
- correct statement of the **direction** of the predicted/expected effect of the IV on the DV (e.g. that the increase in hippocampal volume would be greater for those in the moderate-intensity exercise group compared to the low intensity exercise group).

A number of alternative statements of the hypothesis were permitted, but the hypothesis did not need to anticipate the actual results shown in the graph. Statement of the population was not required for three marks, and a null hypothesis was not acceptable.

The hypothesis could be stated in terms of the broad research aims outlined in the article, for example, 'People who undertake regular exercise will show a reduction in the normal age-related decline of brain structures related to memory and learning compared to those who do not undertake regular exercise'. Or it could have been stated in operationalised terms, for example, 'It was hypothesised that healthy older adults who undertake regular aerobic exercise of moderate intensity will show an increase hippocampal volume (after 6 months and/or 1 year) compared to those who undertake regular low-intensity aerobic exercise'.

It was incorrect to phrase the hypothesis in terms of people with Alzheimer's disease.

Question 4b.

Marks	0	1	Average
%	41	59	0.6

Students needed to recognise that the study sample included only healthy older adults and so the results could not be extended to those with Alzheimer's disease.

Question 4c.

Marks	0	1	2	3	Average
%	25	28	29	18	1.4

Students needed to demonstrate knowledge of the following in their response:

- (The earliest stages of) Alzheimer's disease is associated with a reduction/impairment of hippocampal volume/function (due to neurofibrillary tangles and amyloid plaques) affecting learning and memory (especially short-term and episodic memory, anterograde amnesia).
- The effects of moderate intensity aerobic exercise seen in the study suggest that it can protect against decline in hippocampal volume.
- Therefore, researchers may be interested in how regular moderate intensity exercise might act as a protective factor against the development of Alzheimer's disease.

Question 4d.

Marks	0	1	2	3	Average
%	24	27	38	11	1.4

Students needed to demonstrate knowledge of the following three elements of consent when conducting research with people who have a cognitive impairment:

- the role of informed consent is to ensure that the participant understands and willingly agrees to the procedures involved in the experiment, including understanding the potential harms/risks (withdrawal rights, how their data may be used)
- those who have Alzheimer's disease may not have full cognitive capacity to give consent (depending on the stage of the disease)
- the appropriate extra protocols required to ensure informed consent from persons with a cognitive impairment, especially the requirement to obtain consent from the person's (legal) guardian or another person/organisation authorised by law. (This may need to be revisited if the study continues over a period of time and the person's cognitive impairment worsens).

Question 5

The question comprised two parts, assessing content related to REM and NREM sleep in healthy adults, and the relative proportions of REM and NREM sleep in healthy adolescents and older adults.

Question 5a.

Marks	0	1	2	Average
%	22	41	37	1.2

One mark was awarded for each valid difference (comparison) between REM and NREM sleep evident from the hypnogram, with two valid differences (comparisons) being required.

Acceptable differences included, but were not limited to:

- REM duration becomes longer over the later sleep cycles, whereas NREM becomes shorter.
- NREM stages 3–4 are generally evident in first couple of cycles, whereas REM occurs throughout the night.
- Overall time spent in NREM is greater than REM.
- Non-REM sleep has four stages and REM has one.

Question 5b.

Marks	0	1	2	Average
%	32	44	23	**0.9**

One mark was awarded for a correct comparison between healthy adolescents and elderly people for REM sleep, and a second mark for a correct comparison between healthy adolescents and elderly people for NREM sleep.

An acceptable comparison for REM sleep was: an adolescent is likely to have more REM sleep than an elderly person.

An acceptable comparison for NREM sleep was: an adolescent will have more NREM sleep than an elderly person (more NREM Stages 3–4; elderly more NREM Stages 1–2).

Some students did not interpret the question correctly and gave a comparison between the sleep pattern of a healthy adolescent and an elderly person; for example, a healthy adolescent will have more sleep (9–10 hours) than an elderly person (6–7 hours). This might be shown in a hypnogram but is not a comparison of REM or NREM sleep.

The following are examples of possible responses.

- The hypnogram of a healthy adolescent would show more REM cycles and longer periods of time in NREM stages 3–4 compared to the hypnogram of an elderly person.
- The hypnogram of a healthy adolescent is likely to show a very similar proportion of REM: NREM sleep as an elderly person, but an elderly person is likely to have less NREM stages 3 and 4 than a healthy adolescent.

Question 6

The question comprised five parts, assessing knowledge related to: physiological measures of states of consciousness; the effects of a full night of sleep deprivation on affective, behavioural and cognitive functioning; comparison of the effects of a full night of sleep deprivation to legal levels of blood-alcohol concentration; susceptibility to developing a circadian phase disorder due to jetlag; bright light therapy as an intervention to treat sleep disorders; and key science skills related to drawing evidence-based conclusions from data, and consideration of extraneous variables in research design.

Question 6a.

Marks	0	1	Average
%	47	53	**0.6**

For one mark, students needed to identify the role of Group C in the investigation as being the control group to enable comparison with Groups A and B, who travelled across time zones (experienced jetlag), or as a control group to allow the effect of travelling across time zones to be determined.

It was not sufficient to state ‘control group’ without stating the purpose of the control group. Many students knew that the answer was ‘control group’ but did not explain the ‘purpose in this investigation’. ‘Controlled group’ was not accepted.

Question 6b.

Marks	0	1	2	3	Average
%	16	36	36	12	**1.5**

Students needed to:

- correctly describe the results shown in the graph in terms of both cognitive errors and interpersonal conflicts, referring to each of the three groups
- draw a conclusion from the data that included both a statement of the direction of the effect of crossing time zones/jetlag on cognitive and interpersonal functioning (i.e. negative impact/more errors in reports and more interpersonal conflicts) and noting that the negative impact was most pronounced for the group that travelled across time zones/experienced jetlag most frequently.

No marks could be obtained for the conclusion component of the response for stating that ‘there was an effect of jetlag/overseas travel on interpersonal conflicts and cognition’, as this does not inform the reader about the nature of the effect or whether the amount of overseas travel matters.

Question 6c.

Marks	0	1	2	Average
%	30	44	25	**1**

One mark was awarded for a relevant extraneous variable that Jake could consider, and one mark for a valid/congruent justification in terms of why the extraneous variable may confound the results.

Possible relevant extraneous variables included, but were not limited to: medications, sleeping patterns, prior experience with overseas travel, ability to sleep on a plane, what class they flew in, pre-existing interpersonal conflicts, pre-existing differences in report-writing ability, direction of route to South America, etc.

The justification needed to relate to the potential impact on one/both of the outcome variables and to be potentially unevenly distributed between the groups (i.e. potentially confounded with the manipulation of overseas travel).

Question 6di.

Marks	0	1	2	Average
%	43	33	24	**0.8**

Students were required to identify an appropriate physiological measure that could be used to determine a geologist’s state of consciousness and outline how the measure could be used.

Acceptable physiological measures included, but were not limited to: EEG, temperature, eye test for blurred vision.

The following is an example of a possible response.

An EEG could be used to detect, amplify and record the electrical activity of the brain. The geologist could be in an altered state of consciousness if the EEG results showed different brainwave patterns compared to normal waking consciousness.

Question 6dii.

Marks	0	1	2	3	Average
%	25	44	27	4	1.1

Students could obtain full marks if their response included:

- a statement that 24 hours of sleep deprivation is equivalent to a blood-alcohol concentration (BAC) of 1.0, or twice the legal limit. It was important that students mentioned that it was during a 24-hour period
- valid impairment(s) on driving, such as slower reaction times, increased chance of microsleep, poorer concentration, lower levels of alertness, perceptual distortion, reduced visual acuity, etc.
- comparison of the effect on driving to the legal BAC of 0.05.

Many students demonstrated a sound knowledge of the impact that sleep deprivation has on functioning, but many did not specifically describe the effects of sleep deprivation on driving, and very few compared these effects to legal blood alcohol concentrations.

Question 6e.

Marks	0	1	2	Average
%	24	44	32	1.1

Students could be awarded full marks if their response included:

- a statement that bright light therapy involves (appropriate timing of) exposure to safe amounts of bright light with the aim of shifting (or resetting) the circadian rhythm
- a statement of how bright light therapy may be relevant to managing jetlag, either in terms of prevention by attempting to shift the sleep-wake cycle ahead of travel to match the new time zone, and/or to reset the circadian rhythm once returned.

A definition of jetlag was not required, nor was mention of circadian phase disorder. Students could have mentioned the effect of bright light on the suprachiasmatic nucleus, and/or that appropriate timing of bright light can block melatonin production (to reduce drowsiness), and/or that it can instigate the release of cortisol to enhance alertness.

Question 7

The question comprised four parts, assessing knowledge related to: mental health as a continuum, internal factors affecting susceptibility to developing a mental health disorder, psychological protective factors that promote resilience and disorganised attachment as a (social) risk factor for the development and progression of mental health disorders.

Question 7a.

Marks	0	1	2	Average
%	26	18	56	1.3

Students were required to make a correct statement of a potential position on the mental health continuum that is consistent with Shari's symptoms and then provide a valid and congruent justification based on the symptoms described in the scenario.

Students could respond with any of: mental health problem, mental health disorder or mental illness.

Students suggesting that Shari might be placed as experiencing a mental health problem could have justified this on the grounds that the severity of her symptoms did not seem to significantly impact her work and/or be of significant duration.

Students suggesting that Shari might be experiencing either a mental health disorder or mental illness may have justified their response by noting that her symptoms seem to be worsening and that she is showing signs of distress, impacting on her social interactions (signs of paranoia in not trusting her colleagues), that she is distressed enough by her symptoms to have consulted a psychologist and that this has occurred over a significant period of time (4 weeks).

Only one mark could be awarded if placement on the continuum did not match the justification.

Question 7b.

Marks	0	1	2	Average
%	24	34	42	**1.2**

Internal factors could be either psychological or biological factors, as long as they could plausibly be linked to the issues described in the scenario (i.e. 'relevant'). Acceptable internal factors included, but were not limited to: stress, poor self-efficacy, poor sleep, genetic predisposition, hormonal imbalance, substance use, responses to medication.

The following are examples of possible responses.

- Shari may be experiencing increased levels of stress since her company underwent restructure. Sustained stress can increase susceptibility to developing a mental health disorder by affecting the balance of neurotransmitters in the brain.
- Shari may have a genetic predisposition to develop a mental health disorder. Her underlying genetic predisposition could be exacerbated by the increased stressors at work since the restructure, increasing her susceptibility to develop a mental health disorder.

Question 7c.

Marks	0	1	2	3	Average
%	43	16	22	19	**1.2**

For full marks, the response needed to contain:

- identification of one relevant psychological protective factor (i.e. cognitive behavioural strategy)
- explanation for how the cognitive behavioural strategy could be protective by preventing the occurrence or reoccurrence of symptom(s) from the scenario
- knowledge that resilience influences the ability to respond to and overcome stressors.

Cognitive behavioural strategies could include strategies learned through cognitive behaviour therapy as she is seeing a psychologist. Other psychological protective factors such as improved self-efficacy were also accepted.

The following is an example of a possible response.

Shari could increase her ability to adapt to stressful change at work through the use of cognitive behaviour therapy (CBT). Using CBT, the psychologist could identify Shari's persistent negative thoughts about her colleagues and ability to do her job and replace them with more realistic thoughts combined with behavioural change when the negative thoughts present. This could increase Shari's resilience as it could reduce the reoccurrence of stress response to changes at work.

Question 7d.

Marks	0	1	2	3	Average
%	27	33	26	14	**1.3**

For full marks, the response needed to include:

- demonstrated understanding of the definition of disorganised attachment
- demonstrated understanding of the causes and consequences of disorganised attachment on adult relationships
- appropriate application of knowledge of disorganised attachment to Shari's experiences in the scenario.

The following is an example of a possible response.

Disorganised attachment occurs during infancy when the main caregiver does not provide consistent care/love/food/emotional support/affection to an infant. This leads to uncertainty regarding the caregiver providing basic needs and can lead to trust issues (or forming positive social relationships as adults). In the scenario, Shari's difficultly working with colleagues and considering them untrustworthy is an example of how disorganised attachment may have affected her at work.

Question 8

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	6	4	7	12	15	20	15	11	6	3	1	**4.7**

Students were provided with a scenario describing a series of events in the life of Gita, an immigrant university student in her final year of study for her degree. Students were required to analyse the scenario and identify sources of stress, and to apply their knowledge of theories and models of stress and coping in terms of both biological and psychological responses to stress. A structured extended response was required. Relevant topics from the study design included:

- stress as an example of a psychobiological process
- sources of stress (eustress and distress) including daily pressures, life events, acculturative stress, major stress
- models of stress as a biological process, with reference to Selye's General Adaptation Syndrome of alarm reaction (shock/counter shock), resistance and exhaustion, including the 'fight-flight-freeze' response and the role of cortisol.
- models of stress as a psychological process, with reference to Richard Lazarus and Susan Folkman's Transactional Model of Stress and Coping (stages of primary and secondary appraisal)
- context-specific effectiveness, coping flexibility and use of particular strategies (exercise and approach and avoidance strategies) for coping with stress
- risk factors, cumulative risk, protective factors, resilience, and cognitive behavioural strategies.

Holistic assessment of responses was based on the level of detail in the analysis of 'sources of stress, biological and psychological responses' and on the depth with which students discussed and applied the theories and models of stress and/or coping that were relevant to the scenario.

The most appropriate answers demonstrated knowledge and application of Selye's General Adaptation Syndrome (GAS) as a biological model and the Lazarus and Folkman Transactional Model of Stress and Coping as a psychological model. It should be noted that the interpretation of 'and/or coping' in the question left open discussion of coping strategies, but these are not models or theories.

Students were expected to write in prose and to demonstrate the ability to structure and organise their arguments. The use of subheadings was an effective way to signal which aspects of the question were being addressed, but these were not required.

The highest-scoring responses clearly identified the GAS as a biological model and the Transactional model as a psychological model, and provided comprehensive and accurate descriptions of each model. Each model was then applied appropriately to the various instances in the scenario that were relevant. Other relevant knowledge regarding coping strategies was woven in, and sometimes elements from Unit 4 such as the notion of cumulative risk and protective factors.

Students who validly identified and correctly attributed at least two sources of stress from the scenario and the related biological and psychological responses using psychologically appropriate terminology, and who attempted to relate these sources of stress and associated responses to at least one model of stress and/or coping in such a way that they demonstrated accurate knowledge and application of that theory/model received high marks.

Sources of stress in the scenario that students could have addressed include:

- daily pressures – Gita's parents' expectations, academic demands, part-time work, usual daily irritations
- life events – Gita's relationship break-up
- acculturative stress – Gita arrived in Australia when she was 12 years old, from a non-English-speaking family, parental expectations (cultural), first in family to attend university (high expectations)
- major stress – Gita's relationship break-up, expensive car repairs.

In applying Selye's GAS model, students could have noted the following aspects of the scenario:

- When Gita lost her part-time job at the beginning of Semester 1, she experienced initial shock but quickly tackled this.
  - alarm reaction: enables body/individual to deal with the stressor
  - shock – body reacts as though injured, drop in blood pressure
  - counter shock – sympathetic nervous system/HPA axis activated with subsequent physiological changes: release of adrenaline and cortisol from adrenal glands (noradrenaline released from amygdala during emotional/fear/stress response)
- After Gita's relationship break-up at the end of Semester 1, she developed a cold but still managed to stay on top of this.
  - resistance, adaptive stage: body adjusts to raised levels of neurohormones in order to maintain increased demands
  - prolonged presence of stress hormone (particularly cortisol) suppresses/weakens immune system
- Towards the end of Semester 2, Gita developed insomnia and headaches
  - exhaustion: body is depleted and unable to maintain the increased levels of arousal
  - individual susceptible to more serious illness

In applying Lazarus and Folkman's Transactional Model of Stress and Coping students could have noted the following aspects of the scenario:

- primary appraisal of stressor as 'harm/loss': Gita's loss of significant relationship and expensive car repairs might have been initially appraised as harm
- primary appraisal of stressor as 'threat': Gita could have perceived the loss of her part-time job at the beginning of Semester 1 as a threat to her finances and her ability to pay bills
- primary appraisal as 'challenge' (opportunity): Gita's loss of her part-time job at the beginning of Semester 1 could have been perceived as an opportunity to find a better job
- secondary appraisal: assessing what options are available to cope with stressor/how person can cope. Examples from the scenario were drawing on friends and family to find another part-time job, taking up exercise and dancing classes after relationship break-up, seeking help from a psychologist when she was no longer coping.

Students might also have noted strategies for coping with stress as follows:

- context-specific effectiveness: Gita sought support from family and friends, which worked well when she lost her part-time job at the beginning of Semester 1
- coping flexibility: towards the end of Semester 2, when Gita's previously successful strategy of seeking assistance from family and friends did not work, she showed coping flexibility by going to see her family doctor, then psychologist, to assist her
- use of particular strategies: exercise/approach – Gita used meditation and dancing classes to help her refocus. Avoidance – following the news that her car needed expensive repairs, Gita decided to keep the problem to herself.