



VCE PSYCHOLOGY 2018
Unit 3 & 4 Trial Examination
Question and Answer Book

Reading time: 15 minutes

Writing Time: 2 hours and 30 minutes

Instructions

Answer All Questions

Section A	Multiple Choice	50 Questions	50 marks
Multiple Choice questions are to be answered on the sheet provided.			
Section B	Short Answer Questions	8 Questions	70 marks
Answers should be given in the space provided			
Total			120 marks

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Section A – Multiple Choice Questions

Question 1

The part of the nerve responsible for speeding up the transmission of nervous information along a nerve is the

- A. soma
- B. dendrites
- C. cell nucleus
- D. myelin sheath

Question 2

John picked up a hot rock that was lying beside his campfire. It was too hot to handle and he decided to drop the rock. The action of dropping the rock is best described as

- A. a reflex arc
- B. an unconscious response to sensory stimuli
- C. a conscious response to sensory stimuli
- D. an automatic process that requires selective attention

Question 3

GABA plays a key role in fine tuning the neurotransmission that occurs in the brain by

- A. increasing the speed with which neurotransmitters travel along the axon
- B. increasing the likelihood of the post-synaptic neuron firing
- C. aiding the release of neurohormones into the blood stream
- D. decreasing the likelihood of the post-synaptic neuron firing

Question 4

Which of the following statements about the autonomic nervous system is incorrect?

- A. it is responsible for regulating our internal environment
- B. it does not require a conscious response
- C. it is not responsible for the initiation of actions similar to the function of the somatic nervous system
- D. it increases heart rate to normal levels after a period of exercise

Question 5

Parkinson's disease has no known cure. The area of the brain most likely to be affected by Parkinson's Disease is the

- A. hippocampus
- B. amygdale
- C. substantia nigra
- D. somatosensory cortex

Question 6

Nervous information is passed from the pre-synaptic nerve to the post-synaptic nerve. The part of the pre-synaptic nerve that releases neurotransmitters across the synaptic gap is the

- A. myelin
- B. axon terminal
- C. soma
- D. dendrites

Use the following information to answer Questions 7 and 8.

Steve and Jim are best of friends who have decided to go bungee jumping for the very first time. Whilst in the plane preparing to jump, they are both experiencing some anxiousness and nervousness.

Question 7

Which of the following physiological responses is likely to occur whilst they are in the plane preparing to jump?

- A. contraction of the bladder
- B. an increase in salivation
- C. constricted pupils
- D. inhibition of digestion

Question 8

Steve was genuinely excited about sky diving and he was experiencing eustress as opposed to Jim who was quite distressed. It is likely that

- A. Steve was having a positive psychological response to bungee jumping
- B. Jim was having a positive psychological response to bungee jumping and his sympathetic nervous system was activated.
- C. Steve was having a negative psychological response to bungee jumping and his sympathetic nervous system was activated.
- D. the parasympathetic nervous system was dominant for Steve and the sympathetic nervous system was dominant for Jim.

Question 9

A policeman knocked on Mary's door and when she opened it and saw the policeman, she fainted. According to the General Adaptation Syndrome, it is most likely that Mary fainted as a result of the

- A. shock stage
- B. counter shock stage
- C. resistance stage
- D. alarm reaction stage

Use the following information to answer Questions 10 and 11.

Jennifer was bitten by a German Shepherd dog when she was 5 years of age and has been terrified of German Shepherd dogs since that day.

Question 10

That fact that Jennifer is terrified only of German Shepherd dogs is an example of

- A. stimulus generalisation
- B. stimulus discrimination
- C. spontaneous recovery
- D. the German Shepherd was once a NS and has now become a CR

Question 11

Jennifer has been classically conditioned to fear German Shepherd dogs. When she was initially bitten, the German Shepherd dog

- A. would have been a NS and has become an UCS
- B. would have become a CS producing a CR of fear of dogs.
- C. would become a CS whereas before she was bitten it was a NS
- D. the UCS of the dog would have produced a CR of fear of German Shepherd Dogs

Question 12

Three types of learning are classical conditioning, operant conditioning and observational learning. When learning occurs through classical conditioning, which of the following is not relevant in comparison to the other types of learning?

- A. forming an association between a NS and a UCS
- B. passive learning
- C. reinforcement
- D. involuntary behaviour

Question 13

Veronica's mother was always nagging her about cleaning her room and Veronica always cleaned her room to stop her mother from nagging. Veronica cleaning her room is an example of

- A. punishment
- B. negative reinforcement
- C. positive punishment
- D. response cost

Question 14

When operant conditioning is compared to observational learning, it has been argued that observational learning is not all that different. The reason for this is that

- A. operant conditioning involves reinforcement and consequences which, in observational learning, can be observed in others without directly experiencing the reinforcement or consequences.
- B. both involve forming an association with a stimulus that was once a NS.
- C. in operant conditioning, the characteristics of the model are just as important as they are in observational learning
- D. both involve the learner having a passive role in learning the behaviour

Question 15

According to Bandura, there are five steps necessary for learning to occur by observation which are attention, retention, reproduction, motivation and reinforcement. In this regard, motivation refers to

- A. being motivated to learn the behaviour
- B. being motivated to repeat the behaviour
- C. being motivated to perform the behaviour
- D. being motivated to acquire the behaviour

Question 16

Peter was walking down the street when he saw someone that he had not seen for many years.

However, he could not recall the person's name so he avoided them rather than stop and talk. Which of the following best explains why Peter could not remember the person's name?

- A. seeing a face is a recall task whereas remembering a name involves recognition
- B. remembering a name involves recognition which is less sensitive than remembering a face which involves recall
- C. Peter was experiencing retrograde interference
- D. seeing a face is a recognition task whereas as remembering a name involves recall which is less sensitive

Question 17

Sandra was watching TV when her mother called out that her dinner was ready. At first Sandra responded with "pardon" but then shortly after responded with "I'm coming". The reason Sandra was at first not aware of what her mother said but then responded to her can be best explained by

- A. the words of her mother were in STM which can hold information for approx. 20 seconds allowing her to pay attention to what was said
- B. Sandra was familiar with her mother calling out at that time of night and reasoned what she wanted.
- C. the words of her mother were still retained in her iconic memory
- D. words can remain in echoic memory for approx. 3-4 seconds allowing Sandra enough time to pay attention to the words and identify what it was that her mother said.

Question 18

Peter had a serious illness as a child that destroyed the amygdale in both his left and right temporal lobes. When he was 6 years old, he was severely bitten by a German Shepherd Dog. Three weeks after being bitten, Peter saw the same German Shepherd dog that bit him. It is most likely that Peter would

- A. remember that this was the dog that bit him and he would display the signs of a fear response.
- B. be unable to recall that this was the dog that bit him
- C. be unable to recall that this was the dog that bit him and display no fear response when the dog approached him
- D. not display any fear response at all even though he clearly recalled that this was the dog that bit him.

Question 19

Declarative memories with emotional content tend to be consolidated and strengthened when stored in LTM. Which of the following is associated with the strengthening of emotional memories?

- A. cerebellum
- B. adrenaline
- C. GABA
- D. hippocampus

Question 20

Jack is married with four children and he explained to his children that when driving his car, he stays below the speed limit to avoid receiving a heavy fine as the family cannot afford these fines. Jack's behaviour of driving below the speed limit to avoid speeding fines is an example of

- A. positive reinforcement.
- B. negative reinforcement.
- C. response cost.
- D. punishment.

Question 21

Which of the following is least likely to be associated with Alzheimer's disease?

- A. Neurofibrillary tangles
- B. amyloid plaques
- C. increase in neurotransmitters
- D. a shrinkage of cerebral cortex

Questions 22 and 23 refer to information below

Steven was watching his young son Jack learn basketball. Steven noticed that Jack had to watch the ball closely when he was dribbling the ball and didn't have any great awareness of what was happening around him. After a few weeks of practice, Steven was surprised to see that Jack could now dribble the ball whilst looking at his teammates.

Question 22

At the beginning of learning basketball, it is likely that Jack was not aware of what was happening around him because

- A. dribbling the ball was a task that required greater mental effort and was a controlled process
- B. dribbling the ball had become an automatic process requiring focused attention
- C. dribbling the ball required little mental effort because it was a controlled process
- D. dribbling the ball was a task that required little mental effort and had now become automatic

Question 23

After a few weeks of practice, Jack could dribble the ball and look at his teammates. This is an example of

- A. selective attention and NWC
- B. divided attention
- C. focused attention
- D. desensitisation

Question 24

When comparing an ASC with NWC, which of the following statements about an ASC is incorrect?

- A. an ASC usually involves a lower level of awareness
- B. in an ASC we have less content limitations
- C. an ASC cannot occur naturally
- D. in an ASC we can experience a distortion of time

Question 25

Gary was knocked unconscious during a football match although he was not unconscious for very long. His coach wanted to ascertain if Gary was in an ASC. Which of the following questions would be most suitable to try and determine if Gary was experiencing perceptual distortions?

- A. what is five plus four?
- B. how many fingers am I holding up?
- C. what day is it?
- D. what team were we playing against?

Question 26

Jim was at a party when he decided to experiment and take a stimulant. In this case it is likely that Jim would experience

- A. an increase in beta waves and a decrease in alpha waves
- B. an increase in beta waves and an increase in alpha waves
- C. an increase in all brain waves
- D. a decrease in beta waves and a possible increase in theta waves

Question 27

Which of the following statements is most likely to be a part of a discussion on the restoration theory of sleep?

- A. sleep enhances survival
- B. animals with few predators tend to sleep for longer
- C. we are more at risk when we are asleep due to a reduction in consciousness
- D. babies have a greater amount of REM sleep

Question 28

Which of the following statements is not correct regarding the characteristics of a typical night's sleep?

- A. with each ultradian rhythm we have a decrease in REM sleep
- B. everyone experiences the various stages of NREM sleep when sleeping
- C. the average ultradian rhythm lasts approx. 90 minutes
- D. stage 1 sleep most commonly occurs only in the first ultradian rhythm

Question 29

Andrew was a shift worker and as a result of his work patterns he was experiencing severe sleep deprivation. Using your knowledge of the effects of sleep deprivation, which of the following tasks is Andrew likely to find the easiest to complete?

- A. making a cup of coffee
- B. calculating his pay for the hours he has worked
- C. tying his shoelaces
- D. making his lunch to take to work

Question 30

Kevin was going through an extremely difficult divorce process. In addition, he was being inundated with extra work at his place of employment. Kevin sought the assistance of a counsellor who was quickly able to identify that Kevin was also experiencing chronic sleep deprivation. In explaining the effects of chronic sleep deprivation to Kevin, which of the following statements was the counsellor most likely to use?

- A. you may experience psychological effects of sleep deprivation but not any physiological effects
- B. you need to be aware that the effects of chronic sleep deprivation are long lasting
- C. you may experience some amplified emotional responses
- D. you will need at least two weeks of having 8 hours sleep per night to remove the effects of sleep deprivation.

Question 31

Which of the following is a circadian phase disorder?

- A. jetlag
- B. sleep walking
- C. sleep onset insomnia
- D. dysfunctional cognitions

Question 32

Judy has been having difficulty falling asleep. In addition, she awakens 2-3 times a night and again struggles to fall back asleep. This situation would best be classified as being a

- A. dyssomnia
- B. parasomnia
- C. somnambulism
- D. circadian phase disorder

Question 33

Gary was suffering from advanced sleep-wake phase disorder whereby his circadian rhythm was advanced and he was becoming sleepy too early in the night. In an attempt to remedy this situation, a sleep therapist is most likely to use the strategy of

- A. medication that mimics the role of cortisol
- B. use bright light therapy early in the morning
- C. use CBT to alter Gary's attitude towards sleep
- D. use bright light therapy early in the evening

Question 34

Which of the following is most likely to be a psychological risk factor in the development and progression of mental illness?

- A. a poor response to medication
- B. anxiety
- C. poor family support
- D. disorganised attachment

Question 35

Which of the following statements regarding mental health is not accurate?

- A. mental health can be thought of as a continuum
- B. our mental health can affect how we behave
- C. mental health is an objective well-being
- D. being mentally healthy means we realise our own abilities

Question 36

Mary has four children and she has just been informed that her youngest child has a serious illness. Mary's mother and father are both deceased and her husband has employment that takes him away from home for weeks at a time. Since being told of her child's illness, Mary has begun to drink alcohol quite heavily. When considering the development and progression of a mental health disorder, Mary's use of alcohol may be classified as

- A. a perpetuating risk factor that is also a social factor
- B. a predisposing risk factor that is also a biological factor
- C. a perpetuating risk factor that is also a psychological factor
- D. a precipitating risk factor that is also a biological factor

Question 37

Several risk factors are associated with the development and progression of a mental health disorder. Which of the following risk factors is not a social risk factor?

- A. disorganised attachment
- B. rumination
- C. stigma
- D. poor sleep

Question 38

Significant research has been conducted around the development and progression of a mental health disorder. Which of the following best describes research findings demonstrating the involvement of a psychological risk factor leading to the development of a mental health disorder?

- A. having a father with a mental health disorder
- B. the relationship between self-efficacy and the development of an anxiety disorder
- C. the use of diet and sleep in the treatment of specific phobia
- D. the greater relationship between disorganised attachment and the development of mental health disorders

Question 39

Sally was suffering from stress. She visited a psychologist that told her she had thought patterns that were impeding her ability to solve problems. This can be classified as

- A. a predisposing risk factor in the development of mental health issues
- B. a precipitating risk factor
- C. rumination
- D. a social risk factor

Question 40

Which of the following is not considered to be a contributing factor in the development of a specific phobia?

- A. low levels of GABA
- B. Long Term Potentiation
- C. specific environmental triggers
- D. perpetuation by classical conditioning

Question 41

Lucy was diagnosed with an anxiety disorder. Which of the following statements best describes someone who has an anxiety disorder?

- A. There is little interference with their daily living
- B. the sympathetic nervous system is activated causing an increase in physiological arousal
- C. they would feel apprehensive about a job interview
- D. they would drive more slowly in wet weather due to anxiousness of having an accident

Question 42

Which of the following best describes the difference between stress, anxiety and phobia?

- A. only phobia would result in physiological arousal
- B. stress and anxiety can be eustress or distress whereas phobia is only distress
- C. they are all diagnosable mental disorders
- D. a phobia is irrational compared to stress and anxiety

Question 43

People can often develop specific phobias about the weirdest stimuli. In the development and progression of a specific phobia, which of the following would not have a role?

- A. classical conditioning
- B. operant conditioning
- C. catastrophic thinking
- D. CBT

Questions 44 and 45 refer to information below

When dealing with mental health issues, part of the healing process is for the patient to change their thought patterns and behaviours. John is a psychologist who has a patient that is starting to think about changing their behaviour and intends to change within the next 6 months.

Question 44

Using the transtheoretical model of behaviour change, it is likely that this patient is in the stage of

- A. pre-contemplation
- B. contemplation
- C. preparation
- D. action

Question 45

An appropriate strategy to encourage someone in this stage would be to

- A. encouraging small steps
- B. focusing on the positive outcomes of changing behaviour
- C. education on strategies to keep up commitments
- D. encourage support from family members

Question 46

It is important that we take steps to maintain our mental health. Some strategies involve social factors. Which of the following is not a social factor in maintaining mental health?

- A. using an on-line chat room
- B. reducing any isolation
- C. family support
- D. CBT

Questions 47, 48 and 49 refer to the following information

Professor Smith wanted to examine the effect of soft background music on the time taken for rats to learn a maze. Forty rats were placed in a maze where food was the reward for completing the maze. In the first trial, the rats completed a maze in complete silence. A week later the rats again completed a different maze where soft classical music was played in the background. The average time for the completion of the maze in Trial 1 was 3 minutes and 36 secs. In trial 2 the average time was 2 minutes and 23 secs.

Question 47

The types of study design used by Professor Dangerfield is

- A. matched pairs
- B. independent groups
- C. cross-sectional
- D. repeated measures

Question 48

In this particular study, what confounding variable was least likely to influence the results?

- A. initial memory ability
- B. order effect
- C. the type of music played
- D. the type of maze used

Question 49

To increase the validity of the research design used by Professor Smith, he should have used

- A. stratified random sampling
- B. a placebo
- C. counterbalancing
- D. standardised procedures

Question 50

A researcher wanted to see if taking bicarbonate improved the 400m sprint times of AFL footballers. He had the players consume 30g of bicarbonate and then 60 minutes later he timed them over a 400m sprint. These times were then compared to their previous 400m sprint times. In this research, bicarbonate is

- A. a type of confounding variable
- B. the dependent variable
- C. the independent variable
- D. the placebo

Section B - Short Answer Questions

Question 1 (3 marks)

Steven was sitting by a river when he felt something crawling across his lower leg. He looked down and saw a snake crawling across his foot and he immediately sensed that his hands had become sweaty. Steven did not move but he then decided to kick out his leg to remove the snake. Steven then ran away from the river. With reference to our nervous system, explain the responses outlined in this scenario.

Question 2 (3 marks)

Susan was at a nightclub with her boyfriend when he became involved in a violent confrontation. She suffered from nightmares for many months as a result of what she had witnessed. Explain the role of adrenaline in the consolidation of this emotionally arousing experience.

Question 3 (8 marks)

John was fourteen years of age when he contracted a rare form of brain disease that destroyed the hippocampus in both of his medial temporal lobes.

- a. Outline and explain the impairment to John's LTM that would result from him no longer having a functional hippocampus. Include in your answer any effect on procedural memories. (4 marks)

- b. When John was recovering from this disease, the Doctor treating him conducted some tests on his STM that involved him learning a set of nonsense syllables such as XRG, WPQ etc. What would these tests most likely have indicated? (2 marks)

- c. If John was asked questions about his life prior to contracting his disease, outline how well John would be able to recall these events. Justify your response. (2 marks)

Question 4 (11 marks)

Mary and Jane, who are the best of friends, are completing Year 12 and they are both doing the same subjects. They were excited about completing the same subjects as they could study together hoping that this may enhance their learning and performance in assessments. During Term 1, Mary noticed that Jane was starting to become stressed and was constantly worrying about the workload and her performance on SAC's. In contrast, Mary was enjoying the work even though she found it difficult to maintain the constant effort required. Mary looked forward to SAC's as she was always excited to test herself and she looked forward to receiving feedback on her performance. Towards the end of Term 3, Mary was concerned about Jane as she often complained of not feeling well. Jane seemed to constantly have cold/flu like symptoms that she could not overcome.

- a. Using Lazarus and Folkman's Transactional Model of Stress and Coping explain the differences between Mary and Jane as they complete Year 12. (3 marks)

- b. Outline two limitations of Lazarus and Folkman's Transactional Model of Stress and Coping. (2 marks)

- c. For Jane, what branch of the nervous system is most likely experiencing prolonged elevation? (1 mark)

- d. Outline an approach strategy that may be useful for Jane in this scenario. (1 mark)

- e. In terms of the General Adaption Syndrome, outline why Jane has reached a point where she always feels unwell and is struggling to overcome her cold/flu like symptoms. (4 marks)

Question 5 (13 marks)

Professor Smith was interested in certain aspects of learning including the rate at which learning took place. He sourced 40 monkeys from a local zoo to conduct his research and he decided to complete two experiments that were connected to one another. Professor Smith was interested in how quickly the monkeys would learn where he had hidden some food.

Experiment 1

He placed 20 monkeys in the experimental group. These monkeys were presented with food under two different types of boxes. One of the boxes (Box A) always had a flashing blue light on top of it and this box always had food under it. On another box, (Box B), he varied the colour of the flashing light which was sometimes red, sometimes green, sometimes yellow and sometimes white but never blue. This box never contained food under it.

The remaining 20 monkeys were in the control group. They were also presented with two boxes with different coloured flashing lights. Both boxes in the control group were the same as Box B used in the experimental group. Professor Smith randomly varied which of the two boxes contained food. There was no relationship between the colour of the lights and which box the food was under.

Professor Smith was interested in how quickly the monkeys would learn which box contained the food. Both the experimental and control group were tested over three sets of trials with ten trials given in each set. Professor Smith recorded the mean percentage of correct trials made by each group of monkeys. The results are presented in the table below.

Group	Set 1	Set 2	Set 3
Experimental Group	50%	85%	100%
Control Group	50%	50%	50%

Experiment 2

After the initial experiment was finished, Professor Smith decided to continue researching with the same monkeys in the experimental group. He organised the boxes so that when a monkey went to touch Box A with the blue light they received a painful electric shock. After several trials, Professor Smith noticed that when the blue light flashed the monkeys would scamper away from the box and would not attempt to get the food even if they were extremely hungry.

a. In experiment 1, what type of research design was used by Professor Smith? (1 mark)

b. In experiment 1, what was the independent variable and dependent variable? (2 marks)

c. Name and explain one ethical principle of research that Professor Smith is possibly breaching in this experiment. (2 marks)

d. In experiment 1 and experiment 2, explain the type of conditioning that occurred that would account for the learned behaviours of the monkeys. (6marks)

- e. Sometime later professor Smith was investigating the role of the hippocampus and amygdale in memory. He again sourced some monkeys who then completed exactly the same two experiments. However, before commencing the experiments, Professor Smith removed both amygdale from all of the monkeys. Explain the likely outcome when these monkeys completed experiment 2. (2 marks)

Question 6 (9 marks)

Wendy and Sharon had been friends since primary school. When they both turned 21, they decided to celebrate together by going out to dinner. As well as having dinner, they also decided to go to a nightclub where they continued their celebration with several alcoholic drinks. At the end of the night, both girls decided to walk to the train station and catch a train home. When Wendy arrived home, she was surprised at the noise level coming from her house. Her brother had decided to have some friends around to play music. Wendy had difficulty getting to sleep and hardly slept at all. In addition, when she did fall asleep, she found that she was often woken by the loud noise being made from her brother and his friends. The next day Wendy had to commence her nursing shift at 6:00am.

- a. In terms of content limitations, explain any possible differences that would could occur for Wendy when she was travelling on the train compared to when she was getting ready to go out for dinner. (3 marks)

- b. One of the Doctors at the hospital where Wendy worked joked about her appearance and condition for work. He suggested that for fun she should undergo an EEG. Explain what an EEG measures and how the results can be used to indicate a state of consciousness. (3 marks)

- c. Some Psychologists use some form of self-reporting to measure various states of consciousness such as a sleep diary. Outline **one** advantage and **two** disadvantages of using a sleep diary to collect data on sleep and sleep patterns. (3 marks)

Question 7 (13 marks)

Stephen, a sleep researcher, was interested in examining the effects of caffeine on the sleeping patterns of adolescents and adults. He asked for 50 adolescent volunteers and 50 adult volunteers. Stephen then evenly divided the 50 adolescents in to a control and experimental group. He did exactly the same for the adults. Both experimental groups were required to take a tablet containing 300mg of caffeine one hour prior to going to sleep for 2 weeks. Both control groups were required to continue with their normal sleeping habits. All participants were asked to record their total sleep time for the length of the experiment. Stephen then calculated the mean sleep periods for all groups. The results are in the table below.

Table 1: Mean adolescent and adult sleep times in hours.

	Adolescents	Adults
Experimental Group	6.3 hours	7.8 hours
Control Group	8.6 hours	7.7 hours

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-

-
-
-
-

- [illegible]

- e. At the conclusion of the experiment, many of the adult participants complained to Stephen that they were having some sleep difficulties as they were not becoming tired until later in the night. Stephen offered for them to have bright light therapy to try and rectify the problem. Explain how bright light therapy could possibly help those adults who were not becoming tired until much later in the night. (3 marks)

Question 8 (10 marks)

Michael is a 40-year-old male who is in excellent physical condition. He has a high pressure job as the national sales manager of a large international business. Michael has to achieve a certain level of sales in order to meet one of the key performance indicators of the company. His employment involves him working very late hours and sometimes this will include weekend work. Because of his time away from his family, and other issues, he recently separated from his wife and moved into a place of his own. He found the cost of renting a place for himself to be quite high. In addition, Michael had an obligation to pay child support for his children and this along with other costs placed him under additional financial stress.

Michael's parents were becoming concerned about his mental health as they felt that his outlook on life had changed and he was not his normal happy self. They noted that he was also beginning to consume a substantial amount alcohol nearly every day which was not characteristic of his past behaviour. His mother was concerned because Michael's father suffered significantly from depression when he was younger. When she suggested to Michael that he seek help from a counsellor, Michael was adamant that this was not necessary and seeking help from a counsellor was a form of weakness.

Using a biopsychosocial approach to mental health, discuss the possibility and risk of Michael developing a mental health disorder. Include in your response any predisposing, precipitating and perpetuating risk factors that exist in the above scenario and the concept of cumulative risk factors. In addition, what biological, psychological and social strategies would a counsellor suggest to Michael to try and improve his resilience to his current situation.

[illegible]

[illegible]

[illegible]