

2020 VCE Psychology examination report

General comments

In 2020 the Victorian Curriculum and Assessment Authority produced an examination based on the *VCE Psychology Adjusted Study Design for 2020 only*. All students provided a response to every multiple-choice question, which is strongly advised even if the answer is unknown, as 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 of the examination paper for each question and clearly indicate if a response 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.

For short-answer questions and the extended response, students should ensure that they clearly address each question as it is asked, and that any examples provided are relevant to the question. In questions that assess the application of psychological knowledge to a scenario, it is particularly important that students make clear any relevant references to the scenario in their responses. Generic responses to such questions cannot be awarded full marks. Students should also ensure that they attempt to answer all parts of each question; again, no marks can be achieved if no response is given.

Students are reminded that although spelling errors are not penalised, the meaning of the response must be clear and unambiguous. If a key term in the student's response spells another word (e.g. 'semantic' when the student intended 'somatic'), then no marks can be awarded. Students should take care to spell key terms from the study design correctly.

Specific information

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

Question	% A	% B	% C	% D	Comments
1	69	14	8	9	
2	2	80	2	17	
3	87	5	4	4	
4	18	15	13	55	
5	5	33	49	13	While it is true that myelin covers the axon, it does not cover the axon terminals.
6	1	1	87	11	
7	5	6	81	8	
8	3	59	5	33	
9	16	6	45	34	As a result of psychometric analysis, all four options were accepted as correct.
10	26	35	12	26	
11	57	3	36	5	
12	56	1	42	1	
13	24	53	14	9	
14	2	17	69	12	
15	39	2	2	58	
16	18	30	12	40	Option D was the best response. Option A is not correct because the infant Albert could not give consent. Option B is not correct because this is not a valid example of informed consent. Option C is not correct because this is not an example of a breach of withdrawal rights.
17	11	8	50	31	
18	20	52	17	11	
19	6	3	89	2	
20	75	1	18	5	
21	45	28	25	2	As a result of psychometric analysis, all four options were accepted as correct.
22	7	38	8	47	Option D was the best response. Although the maximum capacity of short-term memory is commonly cited as 7 plus-or-minus 2 items of information, making 9 the standardly cited upper limit, STM capacity can be increased beyond 9 by using mnemonic strategies.
23	53	6	6	35	
24	4	42	3	51	Neurofibrillary tangles are not a build-up of abnormal proteins outside the neurons in the brain.
25	3	81	4	12	
26	2	6	86	6	

Question	% A	% B	% C	% D	Comments
27	63	1	8	29	
28	15	4	1	80	
29	21	24	2	53	Option A was the best response. The successful coordination of multiple aircraft simultaneously is a new task for Amanda and would likely require controlled processing. Even with increased arousal, Amanda's attention is not likely to be divided but rather shifting from one controlled process to the next.
30	1	2	95	2	
31	1	91	7	1	
32	1	29	13	56	
33	6	61	7	26	
34	70	14	6	11	
35	2	3	1	93	
36	15	14	17	54	
37	12	3	74	11	
38	3	72	18	7	
39	8	10	76	5	
40	83	6	9	1	
41	4	62	9	25	
42	10	17	61	11	
43	1	23	4	72	
44	48	1	2	49	Option D is better than A because improved nutrition is a biological strategy for improving resilience that a doctor could encourage. Prescribing medication, although a biological strategy, is less likely to be used initially to improve resilience.
45	10	84	5	2	
46	49	14	25	12	
47	42	20	34	4	
48	5	13	6	75	
49	11	13	71	4	
50	4	20	18	57	

Section B

Question 1

Marks	0	1	2	3	4	Average
%	17	10	24	23	26	2.3

Each difference statement was awarded two marks for a potential score of four marks. A difference statement could gain two marks only if it comprised two correct components relating to a congruent difference. A large range of responses were considered correct, depending on which aspect of difference between the two responses was targeted.

No marks were awarded for responses that included only a single statement about either the sympathetic nervous system or the spinal reflex. Responses that referred to 'the spine' as the location of the spinal reflex, rather than the spinal cord, gained no marks for this component of a difference statement.

Students who focused on the different structures of the nervous system needed to specify the autonomic nervous system as the system governing the sympathetic nervous system response; 'peripheral nervous system' was not considered specific enough.

The following is a sample response.

- Difference 1: The sympathetic nervous system can bring about change in visceral muscles, organs and glands, whereas the spinal reflex brings about change in (skeletal) muscles.
- Difference 2: The spinal reflex is controlled by the central/somatic nervous system, whereas the sympathetic nervous system is controlled by the autonomic nervous system.

Question 2a.

Marks	0	1	2	3	Average
%	17	29	40	14	1.5

Marks were awarded for:

- correct identification of the independent variable
- correct identification of the dependent variable
- a statement regarding the predicted direction of the effect of the independent variable on the dependent variable.

Students were awarded marks if the research hypothesis was stated in broad terms, or if it was operationalised. As no population of research interest was included in the scenario, it was appropriate for the research hypothesis to only refer to participants/volunteers.

The following is a sample response.

That participants/volunteers who are provided with information about the positive effects of stress (responses) will have a lower level of stress during public speaking (smaller difference in heart rate after giving a speech from baseline) than participants/volunteers who are not provided with information about the positive effects of stress (responses).

Question 2b.

Marks	0	1	2	3	Average
%	10	14	27	48	2.1

Marks were awarded for noting that:

- the sympathetic nervous system is activated during a stress response
- heart rate is increased during the stress response
- because the researchers are interested in measuring the stress response, heart rate can serve as a (objective/physiological) dependent measure of the stress response.

The following is a sample response.

The researchers measure heart rate in this study because an increase in heart rate is an objective measure of the sympathetic nervous system's response to stress.

Question 2c.

Marks	0	1	2	3	4	5	6	Average
%	40	4	9	6	17	5	19	2.5

The question was marked as two three-mark responses, with three marks possible for each secondary appraisal and justification with reference to the graph. Students needed to demonstrate an understanding that the experimental manipulation was intended to cause the two groups to differ in their secondary appraisals of the resources they had available for coping with the stress of giving the speech. Then, evidence for this being the case needed to be referenced from the graph in terms of change in heart rate from baseline to immediately after the speech.

The following is a sample response.

- Group 1 – Experimental group
 - Secondary appraisal: The experimental group would be more likely to appraise themselves as having the resources they need to cope with the (challenge of) the speech.
 - Justification: They received information that taught them that experiencing a stress response means their body is ready to support them for the challenge of public speaking. Evidence that this occurred can be seen in the smaller change in heart rate from baseline for the experimental group.
- Group 2 – Control group
 - Secondary appraisal: The control group were less likely to appraise their resources as being sufficient to cope with the stressor (threat) of giving the speech because they did not receive information about the positive effects of stress.
 - Justification: Evidence that this occurred can be seen in the larger change in heart rate from baseline to immediately after the speech for the control group.

Question 2d.

Marks	0	1	2	3	Average
%	20	40	29	11	1.3

Marks were awarded for identifying the following:

- the uneven allocation of athletes
- the problem being that the athletes ended up in the experimental group
- this weighting provides an alternative explanation for the result; thus the result is confounded.

'Extraneous' or 'uncontrolled' variable were not accepted as correct.

The following is a sample response.

Having the majority of athletes randomly allocated into the experimental group produces a confounding variable. The effect of the independent variable on the dependent variable cannot be unambiguously attributed to the intervention because athletes' heart rates are likely to be slower under stress than non-athletes. Therefore, having the majority of athletes in the experimental group confounds the explanation of the observed difference between the groups in post-speech heart rate because athleticism provides an alternative cause of the observed effect.

Question 3a.

Marks	0	1	2	3	Average
%	25	29	32	14	1.4

Marks were awarded for:

- demonstrating knowledge that long-term depression (LTD) is the long-lasting, repeated or prolonged decrease in the strength of neural pathways. LTD could also be described in terms of repeated low-level stimulation or prolonged suboptimal activation of neural pathways
- demonstrating knowledge that the weakening of neural connections will occur for the neural connections involved with two-finger typing
- knowledge that this allows for modification of neural pathways to strengthen/learn the new touch-typing technique.

The following is a sample response.

When Raafe learns to touch-type, long-term depression causes the neural pathways for two-finger typing to become weakened due to repeated low-level stimulation of these pathways. This allows for the new skill of touch-typing to be strengthened.

Question 3b.

Marks	0	1	2	3	4	Average
%	16	14	19	27	24	2.3

Marks were awarded for demonstrating knowledge that:

- glutamate is the main excitatory neurotransmitter and/or that glutamate increases the chance of the (post-synaptic) neuron firing an action potential
- glutamate acts as a key, and the glutamate receptor sites (on the post-synaptic neuron) act as the lock
- glutamate binds/chemically reacts with its complementary receptor sites (on the post-synaptic neuron)
- glutamate strengthens the synaptic pathways responsible for the touch-typing learning.

The following is a sample response.

Glutamate is the main excitatory neurotransmitter released from the pre-synaptic neuron during learning. Glutamate acts like a key that opens the complementary receptor sites on the post-synaptic neuron, which can be thought of as a lock. The glutamate binds with the receptor site, which strengthens the synaptic pathways responsible for touch-typing.

Question 3c.

Marks	0	1	2	3	Average
%	47	7	14	32	1.3

Marks were awarded for stating that:

- feelings associated with hunger act as state-dependent cues for Raafe
- hunger-related cues were present during the encoding/forming/learning of touch-typing
- if hunger-related cues are also present during retrieval of touch-typing skills, this enhances/improves/facilitates Raafe's ability to type (makes him faster, more accurate).

The following is a sample response.

Feelings of hunger were present when Raafe was encoding the skill of touch-typing. If these cues are also present on subsequent occasions when Raafe wants to touch-type, then they act as state-dependent cues that enhance Raafe's ability to retrieve his touch-typing skills, making him faster/more accurate.

Question 3d.

Marks	0	1	2	Average
%	28	21	50	1.2

Marks were awarded for:

- identifying implicit or procedural memory as the form of long-term memory
- stating that Raafe's touch-typing becomes automated or better with practice OR that Raafe does not need to think about how to type.

The following is a sample response.

Touch-typing is an implicit memory. Raafe's behaviour may demonstrate this through his fluent typing ability without conscious effort.

Question 4a.

Marks	0	1	2	3	Average
%	51	14	19	16	1.0

One mark was awarded for classical conditioning. Then, one mark was awarded for each of two valid justifications for why the type of conditioning was classical conditioning. Valid justifications mapped the drink to the role of the neutral stimulus which, when repeatedly paired with unconditioned stimuli related to people having fun, becomes a conditioned stimulus that produces positive emotions on its own.

- Classical conditioning, not observational learning, is the only correct response because the question asks specifically 'what type of conditioning' is used.
- Operant conditioning was not acceptable because the question asked how the advertisement produces positive emotions towards the new soft drink (a neutral stimulus that becomes a conditioned stimulus), not how the advertisement increases the likelihood of purchasing the product (which would relate to voluntary behaviour and therefore operant conditioning).
- Experience of positive emotions is an involuntary response associated with unconditioned stimuli associated with pleasure (that is, the images of people having a good time).

The following is a sample response.

The advertisement uses classical conditioning principles because the drink acts as a neutral stimulus that is repeatedly paired with unconditioned stimuli (images of people having fun) that promote a positive emotional response. With repetition, the drink becomes a conditioned stimulus that can produce positive feelings on its own.

Question 4b.

Marks	0	1	2	3	4	Average
%	29	8	17	21	35	2.4

This question was marked as two separate two-mark questions. One mark was awarded for identifying a correct process of observational learning, and another mark was awarded for a valid and congruent justification.

The processes identified could be any of attention, motivation, retention or reinforcement. Reproduction was not considered relevant to this scenario. Students were also awarded marks if they referred to 'modelling' (imitation of behaviour) and vicarious reinforcement.

The following is a sample response.

Process 1: Attention

Justification: The viewer is more likely to actively focus on the drink and encode information about it if it is associated with someone famous.

Process 2: Retention

Justification: Viewers are more likely to remember the product and the pleasant feelings associated with it because it is linked in memory with someone they admire.

Question 5a.

Marks	0	1	2	Average
%	16	30	55	1.4

Marks were awarded for:

- identifying the circadian rhythm/suprachiasmatic nucleus (SCN)
- explaining that the circadian rhythm is the biological rhythm that governs the (approximately) 24-hour/sleep-wake cycle.

The following is a sample response.

The 'body clock' refers to the circadian rhythm, which regulates the sleep-wake cycle.

Question 5b.

Marks	0	1	2	3	Average
%	14	38	46	3	1.4

Marks were awarded for:

- correctly defining the role of melatonin release in the onset of sleep/feeling drowsy
- outlining that the level of melatonin will indicate the current state of the doctor's/nurse's body clock
- stating that melatonin levels were used to verify the accuracy/validity of the data from the wrist-worn device for the model.

The following is a sample response.

Melatonin is a hormone that induces sleep. Measuring melatonin levels will tell the researchers when the doctors are likely to feel tired. The researchers can then compare the melatonin levels to the data from the wrist band device to determine whether the light and movement data from the device accurately predict the onset of tiredness.

Question 5c.

Marks	0	1	2	3	4	Average
%	35	13	22	10	20	1.7

This question was marked as two independent two-mark questions, one relating to the affective response and the other to the behavioural response.

One mark was awarded for a valid affective factor (for example, irritability, moodiness, anger, heightened anxiety, lack of motivation, inappropriate emotional reactions) and one mark for a valid behavioural factor (for example, slowed reaction times, reduced motor control, microsleeps, increased risk-taking behaviours). Then, one mark each was awarded for a valid example of the impact of the identified affective and behavioural factors in a hospital setting.

The following is a sample response.

Affective functioning: A doctor might be snappy and irritable with a patient, which might affect the patient's willingness to speak about concerns.

Behavioural functioning: A nurse might be clumsy handling equipment and accidentally prick someone with a needle.

Question 5d.

Marks	0	1	2	3	Average
%	25	38	25	12	1.2

Marks were awarded for:

- demonstrating understanding that timed exposure to bright light in eyes can shift the sleep-wake cycle (by changing the timing of melatonin release)
- identifying that the device would provide information about the current state of the body clock based on light exposure
- noting that the information from the device could be used to identify times during a shift when bright light exposure should be used to enhance alertness.

The following is a sample response.

The device provides doctors with information about their body clock. The doctors could then use bright light therapy at times they need to be awake for a shift but their body clock is indicating they should be asleep as exposure to bright light will delay the release of melatonin, which makes them feel sleepy.

Question 5e.

Marks	0	1	2	Average
%	18	39	44	1.3

Marks were awarded for:

- correct identification of a difference between jet lag and shiftwork

- demonstration of how this difference makes it harder for shift workers to realign their sleep-wake cycle.

The following is a sample response.

Shift workers tend to work alternating rosters of day shifts and night shifts, which makes it difficult to adapt the sleep-wake cycle to match the work schedule, whereas for jet lag, individuals experience a single stable shift in the timing of light/dark to which they can adapt relatively quickly.

Question 6a.

Marks	0	1	2	3	Average
%	31	28	16	25	1.4

Marks were awarded for:

- correctly identifying that Maxine's parents' behaviour positively reinforced Maxine's avoidance of the red box
- correct identification of the reinforcer as playing with/comforting Maxine
- demonstrating knowledge of the effect of the reinforcement as making it more likely that Maxine would respond with a phobic response to similar red boxes in future (that is, perpetuating the phobia).

This question specifically asked how the parents' behaviour made it more likely that Maxine's avoidance response would be perpetuated. Negative reinforcement was not correct as the punishing stimulus (the clown box) was not removed, rather Maxine's voluntary avoidance behaviour was rewarded by providing (adding) comfort.

The following is a sample response.

Maxine's parents positively reinforced Maxine's running away from (avoidance of) the red box by playing with her and comforting her. This reward increases the likelihood that Maxine will persist in avoiding similar red boxes into the future.

Question 6b.

Marks	0	1	2	3	Average
%	23	26	39	12	1.4

Marks were awarded for:

- demonstrating understanding that benzodiazepines act to promote GABA (they are GABA agonists), which is the primary inhibitory neurotransmitter
- noting that people with a phobia may have lower levels of GABA
- stating the effect of the benzodiazepine agent as reducing anxiety (anxiolytic) to help treat phobia.

The following is a sample response.

A benzodiazepine agent acts as a GABA agonist in the brain, promoting GABA's inhibitory effect, and so helps to calm physiological arousal. People with a phobia may have dysfunctional levels of GABA.

Prescribing a benzodiazepine agent for Maxine would help reduce the extreme anxiety she experiences due to her phobia.

Question 6c.

Marks	0	1	2	Average
%	46	50	4	0.6

Marks were awarded for:

- demonstrating knowledge that people with a specific phobia have a tendency to focus on recalling the threat-related/negative content of their experiences with their phobic stimulus more than their positive or neutral memories associated with it
- stating that this bias will cause Maxine to have more negative memories of boxes, similar to the one that caused the fear response, than positive memories OR that these memories will be strengthened/be more readily recalled/retrieved/activated.

The following is a sample response.

People with a specific phobia have a bias to recall the negative content of experiences with their phobic stimulus more than positive or neutral memories associated with it. Consequently, Maxine's negative memories of red boxes similar to the one that caused her extreme fear response are strengthened and/or are more likely to be recalled again in future.

Question 7

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	9	4	6	10	14	20	17	12	6	2	0.3	4.5

This question required students to evaluate the proposed design (that is, methods and procedures) of the study in terms of the potential impact of the design features on the ability of researchers to meaningfully analyse and/or interpret the results and draw conclusions. The provided scenario required students to evaluate a proposal to investigate the relative efficacy of two programs designed to enhance protective factors and increase resilience. It is important to note that the study has not been conducted – it is a research proposal – and so there are no results to evaluate, only the quality of the proposed design and its potential to provide valid and reliable results.

Evaluation of the likely benefit of research proposals is a common and crucial part of the scientific process. The student's role as an evaluator is to articulate the extent to which the proposed design allows the researcher to address the question of interest and draw relevant and meaningful conclusions. They may praise the strengths of certain aspects of the design and comment on potential weaknesses, with justifications and suggestions for possible solutions or alternative approaches. Inherent in this is a demonstration that they understand the overall objectives (aims) of the study, the basic operationalisation of key constructs, and the sample selection and allocation processes.

In evaluating the design, responses could include (but were not limited to) the following aspects:

- The design included both an independent-groups (between-groups) factor of resilience program-type with three levels (biological, psychological and control) and a repeated-measures (within-groups) factor of time with three levels (baseline, immediately after six-month intervention and six months post-intervention). This design allows one of the treatment conditions to potentially behave differently over time than the other. For example, it may be that, relative to the control group, the biological factor resilience program shows longer lasting effects than the cognitive program or vice versa. This is a strength of the (longitudinal) design over a period of a year, notwithstanding some of the risks with this type of design such as likelihood of drop-outs.
- Treatment/intervention studies like the one proposed do not lend themselves well to repeated measures, hence the independent groups design is appropriate, notwithstanding some issues that need to be considered, especially in relation to matching of groups on participant characteristics.

- Having each participant complete a resilience questionnaire at three time points (before, directly after and six months post-intervention) allows the researcher to determine the magnitude (size) of any treatment effects from baseline (before the study) to immediately after completion, and the extent to which any effects persist six months beyond the treatment period.
- The design does not allow comparison of the different time-courses of the development of treatment effects during the study. This would require another test during the six-month intervention period to compare how quickly effects emerge.
- Sampling and participant selection method: sampling through widespread media/social media advertisement and then random selection of 100 respondents. Potential issues include representativeness of the sample (as while the researchers went to great lengths to try and reach a wide and representative sample of the wider population, there is the unavoidable limitation that people will self-select by responding to the ad, so representativeness cannot be assured) and sample size/power of analysis.
- Random allocation of participants to groups: intended to reduce likelihood of systematic biases between groups but can lead to unintended loading of one or more extraneous participant characteristics into one or more groups. Possible solution is matched groups and/or collection of demographic data that can be factored into group allocation and/or analyses.
- Validity and reliability of the resilience measure: does it have an evidence base and verified reliability and validity?
- Issues related to self-report and whether an objective measure of resilience could be considered.
- Evidence base and details of the coaching interventions and the expertise of those presenting it (for example, importance of standardised procedures).
- Effect of ignoring social protective factors (bio-psycho-social factors are all relevant to resilience).
- Consideration of the fact that participants cannot be blind to which condition they are in, although the experimenters/research assistants potentially could/should be blind, and consideration of why.
- Recognising that double-blind procedures, while being generally desirable where possible, would not be appropriate in the proposed study because it is not possible for participants to undertake the study without knowing to which group they have been allocated. Although consideration of whether the control group might also have undertaken some kind of activity during the six-month trial might have reduced this problem.
- Role of control group in accounting for possible placebo effects and whether the control group might also have been engaged in a program over the six-month period rather than receiving no treatment, and consideration of why.
- Possible demand characteristics: repeating the questionnaire could imply expected improvement effects over time etc.
- Consideration of the effect that the likely variation in peoples' individual life circumstances (exposure to stressors) might have on the nature of the stressors experienced between groups and consideration for how this might be controlled.
- Whether, what and why other information should be collected from the participants (for example, demographics).

It is important to note that assessment of the 10-mark extended response question is based on criterion-referenced descriptors, which are applied holistically and reflect the assessor's consideration of the whole answer. There is no such thing as the 'right' answer – the assessors make judgments about the unique qualities of what is written by each student, understanding that this is first draft writing completed under the time constraints of an examination.

The highest-scoring responses not only provided a balanced evaluation of the design but reflected on possible solutions to identified problems and explained the reasoning in relation to the specific scenario. They provided a systematic and structured evaluation in which the most important aspects of the design were prioritised, ending with an overall assessment of the value of the research design.

A number of students provided an essay on resilience, including prediction of the likely results; but this is not what was required. Information about resilience was relevant only when it was included as part of the description of the aim of the study and in the evaluation of the design. For example, it would be relevant to note that a bio-psycho-social approach to resilience includes social protective factors. However, the study did not account for the social factors in its design. Or, it may be relevant to note key aspects of biological and psychological protective factors in evaluating the extent to which the design was capable of operationalising these approaches effectively.

The following high-scoring student response highlights specific examples of the design and applies them clearly to the scenario; the student does not merely provide generic statements of design principles that are not necessarily relevant to the specific study. The response includes a good introductory summary, noting that social protective factors were not included in the design. The response discusses benefits and limitations of the planned sampling methods and evaluates the use of independent groups as appropriate, with appropriate cautions about the possible effects of extraneous variables associated with the proposed design. The student's response evaluates the self-report method in terms of the possible impact on the analysis of results in relation to reliability and validity of results. There is good structure and balance in the response and the analysis qualifies the potential interpretation of results.

This study aims to investigate the impact of protective factors designed to increase resilience, which is the ability to cope with adversity and 'bounce back' from struggles. It focuses on diet and sleep behaviours and cognitive behavioural strategies which follow a biopsychosocial model. The proposed design investigates both biological and psychological protective factors, however it does omit social protective factors, including types of social support (appraisal support, tangible assistance, emotional support and information support).

This proposed design uses convenience sampling method which is quick and easy, however involves no attempt to make the sample representative of the sample. This study also uses an independent groups design which is suitable for this study as it eliminates any order effects from occurring, however there could be extraneous variables due to individual participant differences, such as age, gender, lifestyle and willingness to implement any strategies they are coached in. This research does use standardised procedures, as all participants are allocated to the conditions for the same amount of time (6 months), and they are all completing the self report style 3 times (at the beginning of the study, immediately after, and 6 months after the experimental conditions end). The use of a self report to collect data is providing qualitative data which is easy to analyse, and can be completed quickly and anonymously, but is a subjective measure of reporting.

These methods and procedures could have multiple effects on the analysis or interpretation of results. The use of a self-report is a subjective measure of reporting. This means the results of the experiment could be affected by the participants own beliefs, attitudes and/or opinions. This could affect how the results are interpreted, as the ratings may be inaccurate and unreliable. The independent groups design would also effect the analysis of results. Due to this design not controlling any extraneous variables due to individual participant differences (age, gender, lifestyle) this would mean the results could be analysed in multiple ways. They would not be analysed in terms of the impact of protective factors on results, but insted as the impact of a number of extraneous variables on resilience ratings. This would effect the analysis and interpretation of the results, as well as both the validity and reliability of this study.

Possible conclusions that may be drawn from this study would be that diet and sleep strategies as well as cognitive behavioural strategies have a positive impact on increasing resilience levels. However, when drawing these conclusions, researchers would need to be mindful that the results are being generated from a subjective method of reporting, and that there were multiple extraneous variables which could have confounded the results produced. When drawing conclusions, researchers would also need to be thinking about any generalisations, which is the ability of the researchers to apply the results to other members of the population, particularly to which the participants were selected from. Due to using a convenience sample, no generalisations from this study can be made, as the sample is biased and not as all representative of the population.