

A qualitative study to determine the effects of
academic stress on undergraduate university students
in Cape Town

By: Megan Coldbeck

Student number: 17229489

Supervisor's name: Dr Sarah Heany

Module name: Research

Module code: RESE8419

Qualification details: Honours in Psychology at the IIEs Varsity College

Declaration: I hereby declare that the Research Report submitted for the Honours in Psychology degree to The Independent Institute of Education is my own work and has not previously been submitted to another University or Higher Education Institution for degree purposes.

Word count: 11 723

Abstract

Academic stress is an aspect of university that every student experiences at some point during their degree. As a result, research on the effects that academic stress has on undergraduate university students is imperative. This research study explores some of the various effects of academic stress. Namely, the effects that academic stress has on the amount and types of foods that students eat, the amount of sleep that students receive, the amount of alcohol that students consume, the student's academic performance as well as the moods and emotions of undergraduate university students in Cape Town. The study is qualitative by nature to gain an in-depth understanding of the experiences of the students. This has been done through one-on-one semi-structured online interviews with six undergraduate university students, from various institutions and degree programmes. This was done in order to gain variety and a broad understanding of the issue. A local study will provide insight into further knowledge of what undergraduate university students in Cape Town are experiencing as a result of academic stress.

Table of Contents

Abstract	2
Table of contents	3
1. Introduction	5
1.1. Contextualisation	5
1.2. Rationale	5
1.3. Problem Statement	6
1.4. Purpose Statement	7
1.5. Research Question	7
1.5.1. Research Goal	7
1.6. Objectives	7
1.6.1. Hypotheses	7
2. Literature Review Section	8
2.1 Theoretical Foundation	8
2.2. Literature Review	9
2.3. Conceptualisation	13
2.4. Outline of Paradigm	15
3. Research approach	16
3.1. Research Design	16
3.2. Population	16
3.3.Sampling Method	17
3.4. Data Collection Method	18
3.5. Data Analysis Technique	20
3.5.1. Implementation of data analysis technique	21
4. Findings and interpretation of findings	22
4.1. Validity, Reliability and Trustworthiness	22
4.2. Presentation of Findings	23
4.3. Interpretation of Findings	25
4.4. Findings in Context	26
5. Conclusion section	29
5.1. Indication of how the Research Question and Goals were Answered	29
5.2. Implications of findings for future practices	30

5.3. Evaluation of Success	30
5.4. Evaluation of possible future actions/research on topic	31
5.5. Ethical implications	31
5.6. Limitations of the study	32
6. Conclusion	34
7. Reference List	35
Appendix A – Research report summary Document Table	40
Appendix B – Ethics Checklist	41
Appendix C – Consent Form	42
Appendix D – Consent to Record	44
Appendix E – Interview Schedule	45
Appendix F – Ethics Clearance Letter	46

1. Introduction

1.1. Contextualisation

Academic stress is an aspect of university that all students experience at some point during their degree programme. The effects of academic stress that have been highlighted for this study are effects that if left unattended and untreated, can lead to more severe issues. If students over-eat due to stress, they could become overweight and with that comes a handful of its own health risks, just as if they were to under-eat, this too could lead to the students experiencing a lack of energy and/or weight loss. If students form a habit of drinking alcohol as a means of coping with stress, this may lead to alcoholic type behaviours. Students who do not receive adequate amounts of sleep can develop mental and physical health problems as a result of sleep deprivation. If a student experiences fluctuations in their moods and emotions as a result of academic stress and it is left unattended, it can become more severe. When students are under a large amount of academic stress, their academic performance can decrease and if this persists, it can lead to students failing a module or dropping out of university. Undergraduate university students are prone to experiencing these outlined effects of academic stress. There is a gap in research in terms of studies being done in South Africa on this topic. There are few current studies that focus on academic stress in the country compared to that of other countries around the world. A study done locally, will shed light on whether South African students are experiencing the same effects that have been noted in other countries, or do they experience more of certain effects than others.

1.2. Rationale

This topic was chosen because students are under a large amount of stress from their academic requirements and this has many negative effects on their health and performance. Therefore, the study was chosen because these afore mentioned negative effects need to be understood so that institutions can be made aware of what their students are experiencing. The undergraduate years are a time of adjustment (Lee, 2018) and this particular group of students are not as experienced as postgraduate students at handling the stresses of academics. When students matriculate out of high school, they are ill equipped for the increased workload and the independence that comes with university and therefore, they have not yet acquired adequate skills in coping with academic stress (Lee, 2018).

This study is relevant because if these effects of academic stress are not addressed, the effects can persist and become more problematic and hazardous in the future. In some extreme cases, if left unaddressed, academic stress and its effects can lead to students dropping out of university before completing their degree (Karaman, Lerma, Vela & Watson, 2019).

This study will make a contribution to the academic sphere in gaining an in-depth understanding into the negative effects that academic stress has on undergraduate university students and identify what types of student support to put in place to assist their students in reducing the negative effects of academic stress.

There is great benefit to gaining insight into the effects that academic stress has on undergraduate university students. Firstly, by adding to the information that is already known about the topic, one can better understand the effects that the students experience during these years of study as a result of academic stress. There are many effects of academic stress that impact students and therefore, by adding to the information that is available, it additionally allows for individuals who are experiencing these effects to gain a better understanding as to whether or not what they are experiencing is being experienced by others.

1.3. Problem statement

Undergraduate university students in Cape Town are experiencing various effects of academic stress which may include drinking large amounts of alcohol, mood changes, eating habits changing, sleeping patterns changing as well as their academic performance decreasing, that are affecting their lives negatively. Such as; over-eating or under-eating (Papier, Ahmed, Lee & Wiseman, 2015), hazardous levels of alcohol consumption (Maykrantz & Houghton, 2018), sleep deprivation, mood changes (Kail, Cavanaugh & Muller, 2019) and a lower academic performance (Maykrantz & Houghton, 2018). It is unknown how these various effects are manifested in local students.

1.4. Purpose statement

To determine the main effects of stress among this group of students, in a bid to shed light on the extent to which undergraduate university students in Cape Town are experiencing the effects of academic stress and to allow for greater understanding on the topic so that the students, the public and academic personnel have more information to possibly reduce the maladaptive coping strategies mentioned above in the future. The purpose is also to provide an in-depth understanding as to which effects of academic stress South African undergraduate university students experience more than others, so that it can be seen which areas need to be focused on for mental health service initiatives at universities in future.

1.5. Research question

To what extent do undergraduate university students in Cape Town experience the effects of academic stress, namely; mood changes, eating more or less food, drinking large quantities of alcohol, sleeping too much or too little, and experience a decrease in academic performance?

1.5.1. Research goal

The goal of this research is to provide an in-depth understanding of the effects that academic stress has on undergraduate university students in Cape Town.

1.6. Objectives

To determine if undergraduate university students sleep less, eat more or less food and drink more alcohol when they are experiencing academic stress.

To determine if undergraduate university students have a lower academic performance and increased mood changes as a result of academic stress.

1.6.1. Hypotheses

Let it be seen that not all of these effects will be seen in all of the students.

Hypothesis 1: Undergraduate university students who are under large amounts of academic stress will experience a decrease in academic performance.

Hypothesis 2: Undergraduate university students who experience large amounts of academic stress do not receive adequate sleep.

Hypothesis 3: Undergraduate university students when under large amounts of academic stress will overeat and eat unhealthy foods, as opposed to healthy foods.

Hypothesis 4: Undergraduate university students who experience stress from their academics will drink hazardous amounts of alcohol.

Hypothesis 5: Undergraduate university students experience mood changes as a result of academic stress.

2. Literature review section

2.1 Theoretical foundation

The theoretical foundation that has been chosen for this study is the General Adaptation Syndrome Theory (McCarty & Pacak, 2000). The General Adaptation Syndrome Theory has three phases. The first phase is made up of two stages: 1) The alarm phase, which is the initial shock of the stressor that effects the person, and which brings down a person's resistance to stress. 2) The countershock phase which brings the person's resistance back to a normal state.

The second phase is the resistance phase and this phase is marked by a person resisting the stressor. The person may or may not be able to resist the stressor, depending on their ability to resist the stressor based on the use of adaptive or maladaptive coping strategies (Cunanan et al., 2018).

The third phase is the exhaustion phase and is described as person's ability to resist the stressor decreasing, which is also known as the collapsing phase (McCarty & Pacak, 2000). This is where the maladaptive effects of stress occur. To explain through the use of an example, if a student is exposed to stressors such as examinations, tests, assignments and lectures. They will experience a spike in stress which will be brought down by the second phase, the person will resist the stress during some of their tasks. If they employ adaptive coping strategies they will be able to avoid the exhaustion phase. If they make use of maladaptive coping strategies, they will experience the exhaustion phase and experience effects such as, negative mood changes, sleep problems, abnormal eating habits, hazardous drinking and a decrease in academic performance.

2.2. Literature Review

Much research has been done around the world on the topic of academic stress and the effects that it has on students, however, there has been a lack of research in South Africa, creating a gap. According to the research available there are associations between academic stress and mood changes, sleep, eating patterns, consuming hazardous amounts of alcohol and academic performance.

In terms of mood changes, the undergraduate years are a time of adjustment and due to this some students struggle to adjust to university (Lee, 2018). It has been seen that students who are experiencing academic stress are prone to display changes in their moods and emotions (Kumaraswamy, 2012). The literature has indicated that academic stress has been shown to make undergraduate university students feel more easily angered about simple daily tasks that usually would not cause anger (Peer, Hillman, & Van Hoet, 2015). Students who are stressed academically have been seen to be more irritable, feel more hopeless and as a result, socially isolate themselves and furthermore it can lead to problems concentrating on tasks (Peer et al., 2015). Increased irritability has been seen to be a negative effect of academic stress (Kumaraswamy, 2012). Undergraduate university students have been seen to respond to academic stress with feelings of anger and irritability towards others and objects (Dalton & Hammen, 2018; Peer et al., 2015).

Sleeping patterns can be affected by academic stress. Due to a heavy workload, students are having to work longer hours independently of university class time in order to complete the required course work in time and as a result, sleep is negatively affected (Peer et al., 2015). A lack of sleep has an effect on a student's ability to concentrate adequately, as well as take in the necessary information. As a result of the fatigue caused by lack of sleep, academic performance ultimately takes strain (Alapin et al., 2000). According to Dalton and Hammen (2018), students recorded not having enough sleep, with participants recorded receiving an average of 6.8 hours of sleep a night, using the Pittsburgh Sleep Quality Index which is two hours less than the recommended 8 hours of sleep a night. As a result of sleeping less, students may not be able to complete all of the required work on time to the best of their abilities. Academic stress can lead to students feeling restless when they try to sleep and therefore this can lead to them receiving inadequate sleep due to the stress that they are under (Alapin et al., 2000).

According to Kumaraswamy (2012), having disturbed sleep is a well-known effect of academic stress in university students. In agreement with this, Chaudhury et al., (2018) mention, that excessive stress can lead to sleeplessness. Students simply may not have enough time to receive adequate sleep (Dalton & Hammen, 2018). This is not only from academic stress, but also from the combination of academic stress, procrastination, social life and adjustment to university life. Dalton and Hammen (2018) mentioned that those who cope with their stress in more effective ways tend to have less disturbed sleep. Some examples of good coping strategies are good time management, sleeping well, pacing one's self with work and very little procrastination.

As it has been seen, stress greatly influences student's abilities to sleep. What is not mentioned in the articles nor is it taken into account are the confounding variables that may cause the disturbances in the sleep patterns that have been said to be caused by stress, such as family issues, health problems, job stress and financial stress.

In addition to sleep disturbances, academic stress can also have a negative effect on the eating habits of undergraduate university students. According to Dalton and Hammen (2018), stress causes students to have unhealthy eating habits. This can be an unconscious decision or a conscious choice, as obtaining unhealthy foods is easier than making/obtaining healthier foods. It has been seen that eating habits have gender differences. Males have been seen to be more likely to consume more-high calorie, high processed foods such as take-outs (Peer et al., 2015). When females are stressed, it has been seen that they consume more high sugar foods and eat more snacks than actual meals (Peer et al., 2015). Females, when under large amounts of academic stress have also been noted to eat foods that they would normally avoid when they are not stressed (Peer et al., 2015).

When students are under large amounts of academic stress, they have been seen to consume more non-time-consuming foods such as ready-made meals, snacks and take outs, as well as sweets (Peer et al., 2015). Whereas the consumption of fruits, vegetables and other healthy food choices decrease (Peer et al., 2015). As mentioned earlier in the literature review, eating high carbohydrate foods has been shown to increase the serotonin reaction in people's brains, improving their moods and decreasing the negative moods such as anger and irritability (Peer et al., 2015).

It has also been noted that when students are stressed, they are more likely to overeat rather than under eat (Maykrantz & Houghton, 2018). However, on the other hand, there are a

select group of students who simply do not consume much food when they are stressed, as they do not think about food, nor see the time for food (Dalton & Hammen, 2018). This has been mentioned by Misra and Castillo (2004), where they state that some students have shown to have a loss in appetite when under academic stress, which will result in them not consuming enough food.

When undergraduate students are stressed, they are often young and do not know adequate ways of coping with stress. Because of this, some undergraduate university students turn to alcohol as a means of coping with academic stress. Drinking alcohol is a maladaptive method for coping with stress. It is also one of the most common ways that undergraduate university students cope with academic stress (Maykrantz & Houghton, 2018). According to Lee (2018), universities have a large problem with their students drinking hazardous amounts of alcohol, which leads to negative long- and short-term consequences. The long-term consequences are alcoholic type behaviours and the short-term effects are risky behaviours such as taking drugs, smoking and other reckless behaviours (Lee, 2018). Undergraduate university students are predominantly in their late teens and early twenties, this group of young adults are known to consume and sometimes abuse alcohol (Dalton & Hammen, 2018). Consequently, when under large amounts of academic stress, some students turn to binge drinking, which can be defined as consuming an excess of four alcoholic beverages in a two-hour period or less (Maykrantz & Houghton, 2018). This consumption of alcohol reduces the negative feelings that come with feeling stressed (Park, Armeli & Tennen, 2004). When students are experiencing large amounts of academic stress they may turn to alcohol as a way to reduce the effects that stress has on them for a period of time (Dalton & Hammen, 2018).

Undergraduate university is a transitional time for students and adjusting to the academic stress that university comes with may produce maladaptive coping strategies, such as drinking hazardous amounts of alcohol (Lee, 2018). What these articles do not take into account is any predispositions to alcohol abuse which an individual may have, that may have been triggered by academic stress.

Academic performance has been seen to be affected by academic stress. Students have reported that when they are under large amounts of academic stress, their academic performance decreases (Maykrantz & Houghton, 2018). Lower academic performance can include receiving lower marks on tests, examinations, projects, modules and can even extend to failing a module (Maykrantz & Houghton, 2018). Being stressed by academic work

has previously been shown to have an effect on students sleeping patterns, resulting in exhaustion. This exhaustion has been seen to impact learning abilities and ultimately decrease academic performance (Chaudhury et al., 2018). Students' academic performance is negatively impacted by the stress brought on by pressures to achieve in the academic sphere. This perceived stress can be self, peer or family induced and lead to the student feeling stressed by the academic work (Dalton & Hammen, 2018). This stress will possibly lead to the negative consequences such as sleeping, eating, drinking and mood changes, which will ultimately lead to a lower academic performance (Dalton & Hammen, 2018). Academic performance being lower has been seen to be a causative factor of mood changes in students, as they are not happy with their overall performance in the academic environment (Ang & Huan, 2006).

According to Busari (2012), if academic stress is long lasting and severe, it is more likely to have a negative impact on students' academic performance. Being unable to achieve what you intended to achieve during undergraduate studies, has been shown to be a major source of stress for students (Akgun & Ciarrochi, 2003). According to Akgun and Ciarrochi (2003), students have been seen to have a negatively impacted academic performance when their academic stress levels are high due to examinations, tests, time pressure and grade pressure. Students have increased levels of academic stress when their academic performance is not adequate for what they hoped to achieve after high school (Hystad, Eid, Laberg, Johnsen & Bartone, 2009). Academic stress has been seen to increase the probability of students dropping out of university due to being unable to cope with the stress (Karaman et al., 2019). Overall, the literature is consistent in showing that academic stress has a significantly negative impact on academic performance.

It has also been seen in the literature, that not allowing one's self adequate time to complete the required academic work, because they have not divided their time between their external activities and university work adequately. This lack of time management has been shown to increase academic stress (Hystad et al., 2009). It has also been noted in this article, but also in other articles used in the literature review, that academic stress impacts students physical health, as well as their mental health, meaning that students fall ill on occasion when they are under large amounts of academic stress (Misra & Castillo, 2004).

The gap in the literature shows that there are limited studies conducted on undergraduate university students in South Africa regarding academic stress and therefore the gap needs to be filled. The studies found were not pertinent to undergraduate university students and

academic stress, they focused on race and the effect that that had on undergraduate university students. The reason the gap needs to be filled, is that South Africa has a complex socio-economic imbalance, which will impact the academic stress that students may feel. Another reason that a South African study is required is that in South Africa there are many students of different cultures who may experience academic stress differently and the effects of the academic stress may be different between these cultures.

To conclude this literature review, the effects of academic stress that have been noted are vast and can be devastating. The effects of academic stress have been shown to increase changes in the moods of undergraduate university students (Dalton & Hammen, 2018). Students on average do not receive an adequate amount of sleep due to the workload and/or due to feeling stressed about the work (Dalton & Hammen, 2018). In addition to sleep, it has been seen that academic stress has an effect on what students eat and in what quantities (Maykrantz & Houghton, 2018). In general students consume more food and often more unhealthy food (Maykrantz & Houghton, 2018), while there are a portion of students who consume very little food when they are stressed (Misra & Castillo, 2004). Alcohol consumption is also negatively affected by academic stress. Due to students being stressed, some turn to alcohol in order to reduce the effects of academic stress for the duration that the alcohol has intoxicating effects on the student (Dalton & Hammen, 2018). This consumption of alcohol, if in excess, has been shown to have negative effects on the students (Dalton & Hammen, 2018). Lastly, academic stress has been seen to negatively impact student's academic performance and this may be seen in receiving a lower result on a test or examination (Maykrantz & Houghton, 2018). All of the aspects of academic stress indicate that there is a large problem that needs to be addressed so that it can be determined to what extent these problems are affecting undergraduate university students in Cape Town.

2.3. Conceptualisation

The first term is academic stress, which is the stress that a student feels as a result of the combination of all of the various academic demands, such as tests, assignments, tasks and examinations (Busari, 2012). Academics and academic-related stressors significantly increase students stress levels (Busari, 2012). Aspects such as time management, procrastination, pressure by one's self and others, academic requirements, adjusting to university life and workload can all lead to academic stress (Busari, 2012). Academic stress

includes the amount of knowledge that is required of the students and the perceived lack of time there is in order to achieve that knowledge (Misra & Castillo, 2004).

The second concept is hazardous drinking, which is the consumption of excessive amounts of alcohol (Maykrantz & Houghton, 2018). This can lead to binge drinking, which is consuming in excess of four alcoholic beverages in less than a two-hour time span (Maykrantz & Houghton, 2018). The definition of hazardous drinking also includes drinking a dangerous amount of alcohol, however not meeting the criteria of being diagnosed with a drinking disorder (Halme et al., 2008). Hazardous drinking over a long period of time leads to harm of the drinker (Halme et al., 2008). Drinking this amount of alcohol can lead to maladaptive consequences and negatively affect the student. Students may consume alcohol as a way to cope with the academic stresses that are placed on them during university (Dalton & Hammen, 2018).

The third term that requires conceptualisation is disordered eating habits, which is the consuming of unhealthy foods in large quantities and/or not eating enough food. When under stress, the students who consume more food will often turn to carbohydrate rich foods due to the serotonin reaction in the brain when eating these foods, also known as comfort foods (Papier et al., 2015). These foods consist of unhealthy sweets and ready-made meals, as well as take outs (Papier et al., 2015). By eating these types of foods, it can help these students in reducing the feelings of anxiety due to the serotonin effect on the brain and neurotransmitters (Papier et al., 2015). Students who are under large amounts of stress have shown to consume less fruits and vegetables and more sweets and chocolates (Papier et al., 2015). On the other hand, there are students who do not consume much food during this time. When some students are under stress, they do not see a need for food, nor do they believe that they have time for food and therefore do not receive adequate nutrition, in turn increasing their anxiety, mood changes and increases their need for sleep due to a lack of energy (Papier et al., 2015). Students may also have a perceived lack of time and therefore they obtain food that is easily available to them and that is most often unhealthy foods.

The fourth term that needs defining is mood changes. University students experience a variety of changes in their moods and emotions as a result of academic stress such as, feeling sad often, feeling irritable and easily angered (Kumaraswamy, 2012). Feeling irritable could mean that the individual is easily annoyed by objects or people and being easily angry

could mean lashing out at others, getting frustrated and agitated by stimuli. Which in turn can impact the student's abilities to concentrate and/or complete the work adequately.

Lower academic performance is the last aspect that needs to be conceptualised. It can be defined as a person's performance on all academic tasks such as, tests, assignments and examinations (Maykrantz & Houghton, 2018). Lower academic performance can be caused by stress and that can lead to students receiving lower than average results on their given tasks and or course at university (Maykrantz & Houghton, 2018).

2.4 Outline of worldview/ paradigm/ tradition

Interpretivism is a paradigm that is used to understand and explain why people respond the way they do to various experiences (du Plooy- Cilliers, Davis & Bezuidenhout, 2018). Interpretivism is based on the assumption that reality is fluid and changes as people change (du Plooy- Cilliers et al., 2018). It states that people are not set, that they are complex beings and that they cannot be studied accurately in a laboratory (du Plooy- Cilliers et al., 2018). They need to be studied in their own environments and by doing so, one will get a more in-depth understanding of people (Nieuwenhuis, 2020). Therefore, this method is used more often in qualitative studies (du Plooy- Cilliers et al., 2018).

This is a non-scientific method of study as it also values a person's uniqueness (du Plooy- Cilliers et al., 2018), which reinforces the non-scientific reasoning of study. Interpretivism states that people's reality is socially constructed (Nieuwenhuis, 2020) and is created through human interaction with their environment (du Plooy- Cilliers et al., 2018). Interpretivism is used in order to describe meaningful human actions (du Plooy- Cilliers et al., 2018). This paradigm makes use of Verstehen, which means understanding. This was proposed by Max Weber and it involves the understanding of people and their experiences (Chowdhury, 2014).

The relevance of using this paradigm for this study is that people are affected differently by academic stress and therefore, using this paradigm, allows for an in-depth study to be done to better understand the full extent of the effects of academic stress. By using this paradigm, the researcher will be able to use the in-depth understanding that comes from immersing one's self in the study to be able to fully explain the effects of academic stress on undergraduate university students. Questions will be asked to the participants in an open-ended manner in order to allow for explanation and elaboration so that an in-depth understanding can be obtained.

This study is qualitative and therefore, requires understanding and not a quantitative analysis (Bezuidenhout & Cronje, 2018). Each participant will have experienced similar effects of academic stress and some will have unique experiences, therefore, by using a qualitative paradigm such as interpretivism, it will enable all the various aspects experienced by the participants to be explained and an understanding will be provided.

3. Research approach

3.1. Research design

The study has been done using a qualitative design which is well suited to the type of research such as this, as it allows for the lived experiences of the students to be recorded in a study and it provides an in-depth account of the personal experiences that students have experienced. It allowed for a degree of understanding of the complexities of academic stress (Judd, Dorozenko & Breen, 2017). By using qualitative analysis, it suited the study more than reducing their experience to quantitative data.

To be able to better comprehend the individual experiences of the student's various effects of their academic stress, in-depth interviews were conducted to find common themes and individual differences, this has also allowed for variation in the interviews so that more information and insight could be obtained if needed, to get a greater understanding of the topic.

The study has been done using a descriptive study as the aim was to describe in detail what the effects of academic stress were. The study is cross-sectional in nature as the results were taken at a single point in time. Given the time constraints for this study, conducting a longitudinal study would not have been possible as well as the students may have developed better coping strategies as the years of study progressed.

3.2 Population

The population was comprised of undergraduate university students who included a mix of male and females of a variety of racial groups and socioeconomic backgrounds. The population was made up of students who were between the ages of eighteen and twenty-two and who were enlisted in full-time tuition in their first degree at a tertiary institution in Cape Town. The students were from a variety of degree programmes and finally, all of the participants had to have been South African citizens.

By choosing only those who are in their first degree, this eliminated those who have had more experience in encountering stressful situations and managing their stress caused by academic stress. Students who are enlisted in full-time tuition spend more time on university related tasks than those who are enlisted in part-time studies, this means that there is the potential that the students in full-time tuition will encounter more stress caused by academics. By including South African citizens only in the study, it eliminated the possibility of international students bringing in unique stressors therefore, creating a confounding variable to the study and therefore the decision was made to exclude this group.

Students from a variety of institutions and degrees were to be considered for participation and ensured that the sample size wasn't too large for a person to analyse the data collected singlehandedly. By obtaining information from a variety of institutions, allowed for variation in the study as well as an opportunity to observe the differences in the effects that the students experience.

3.3.Sampling method

The sampling method used was convenience sampling and snowball sampling, which allowed for the sample to be chosen in an inexpensive and fast manner (Maree & Pietersen, 2020). The way in which the sample was sourced was by making contact with those who are known to me at the various institutions in Cape Town and asking them for contact information of people that they know and who are not known by me who meet the criteria. Contact was then made with them to ask if they would be willing to partake in the study. This ensured that they did not have to say yes and that I myself was not a confounding variable in their responses, where they did not feel obligated to give answers that they thought were wanted, as they were not personally connected to me.

The sampling method included aspects of snowball sampling (Robinson, 2013) as well as convenience sampling, as the people who were known to me to provided contact information for people that they know. The intended sample size was six undergraduate students, as in-depth interviews were done. The number was large enough to gain a variety in courses, experiences, institutions and other variables and small enough that the transcribing of the data would not be more work than a single person could handle.

Another reason for having six participants is that it allowed for enough time for interviews to take place so that each participant had the time to express themselves fully without the interviewer having to cut the interview time short to have enough time to interview many

participants. The time given for the data to be collected was limited and therefore having six participants gave enough time for the data to be analysed thoroughly and accurately, thus allowing for an in-depth understanding to be concluded in a thorough manner. In an ideal situation, the sample would be collected from people who were more convenient such as locating the students on Main Road Rondebosch, or in the vicinity of the various institutions, however due to COVID-19 the sample was found using the above-mentioned method which reduces the randomness of the sample.

This study made use of an un-equal number of male and female students to ensure that the experiences of both male and female perspectives are examined adequately. Making use of students from a variety of fields of study allowed for a variety of different experiences to be brought up as some degrees are more content heavy than others and therefore, that may have impacted the effects of academic stress. This study has so few exclusion criteria for generalisability reasons.

3.4. Data collection method

Through the use of WhatsApp correspondence with peers who attend universities in South Africa, who have peers at various tertiary institutions in Cape Town, these students were contacted. More peers than were needed were contacted as some of them would not have peers at the institutions in question. The peers contacted by me, approached their peers via text or WhatsApp and asked them whether they would be interested in participating in the data collection for this study. If the people contacted were interested in participating, their contact details were sent to me. Once this was done, either email or WhatsApp contact was made with them and they were asked various questions pertaining to the various population requirements.

If the individuals met all of the requirements of a participant, consent forms were emailed to them with additional information about the study. Some of the people who were contacted did not wish to be part of the study. If the participants were comfortable with the study and the consent forms, they signed them and sent them back to me via email. After the signed consent forms had been signed and received, times for the interview were discussed and any further questions regarding the study posed by the participants were answered.

The participants were contacted on the morning of the interview to ensure that they were still available for the interview to take place at the set time and through the discussed medium. At the agreed upon time the participants were phoned through the medium chosen

and the recording was started. The interview started with the interviewer introducing who they were, and the participants were given details about the study. This was followed by re-verifying that the participants met the inclusion criteria.

One-on-one, semi-structured in-depth interviews on an online medium such as Skype, Zoom and/or Google Hangouts were conducted. If there were problems such as a lack of access to these platforms, a telephonic interview was to occur. If the participant did have access to these platforms, but did not have Wi-Fi access, the data costs of the interviews were to be covered by me.

Semi-structured interviews were used as a method of gaining in-depth understandings of the participant's experiences various (Longhurst, 2003). The participants were encouraged to elaborate and express their experiences as well as embark on tangents around the topics discussed to a certain extent. If the interviews were to be structured, the interviewer would not gain as much insight as one would get with the semi-structured approach. This is because of the structured interview method having set questions and little variation occurs in the asking of the questions. The interviews were to take between 30 and 60 minutes depending on the amount of elaboration the participant provides.

The questions that followed were based on the effects of academic stress such as, "how do your sleeping patterns change when you are stressed academically?" This is a question from the interview schedule (Please see appendices). The participants and interviewer engaged in conversation on the topic of the question and the participants were encouraged to elaborate on the questions asked. Notes were taken down during the interview in order to note any specific aspects of the interview that could not be observed on the audio recording, such as body language or facial expressions. The questions were open ended and posed around the five areas of interest with regards to the effects of academic stress, namely, changes in eating habits, sleeping habits, alcohol consumption, academic performance and lastly, changes in moods.

If more questions arose from the asked questions, they were asked and discussed. Each individual participant had their own experiences of academic stress and therefore by asking open ended questions, each objective could be fully answered by each participant. It also allowed for an analysis of the study to be addressed and a full answer of the research question could be answered through the various experiences discussed in the in-depth, semi-structured interviews.

3.5. Data analysis technique

There were many stages of the data analysis. The first stage was to organise the data. This occurred with organising the notes made during the interview, the audio recordings and consent forms. The information listed above, was placed into their own respective folders and labelled accordingly with their own respective pseudonyms. Within the individual folders contain subfolders for each of the above-mentioned aspects. This was to ensure that at no point context was lost and none of the data was associated with the incorrect participant, as well as to ensure anonymity.

The next stage was transcribing the data. This was where the audio files were transcribed into text. This was done word-for-word and included non-verbal aspects too, such as long pauses. Nothing was omitted from the transcripts, even if it was inaudible. In the case of inaudible responses, it was stated as 'inaudible'. Once the data was transcribed, the transcript was reread to ensure that it was understandable, coherent and any important aspects from the audio and transcripts were noted for further use.

Once this was done, the data was coded. This occurred by splitting the data up into pieces of information that each held meaning. During the coding of the data, the themes were identified from the transcripts. The data was coded by using a combination of line-by-line coding and thematic coding. Line-by-line coding occurred by going through the data, one line at a time (Khandkar, 2009). By doing this, it slowed the process of analysis down so that it could be done thoroughly (Chenail, 2012). It allowed for the key themes in the data to be located, as each line was analysed (Khandkar, 2009).

In terms of thematic coding, the data was analysed by grouping similar themes together, such as alcohol consumption or eating habits. By coding the data into their themes, it allowed for ease of locating the information. This method was a good method for immersing one's self into the data (Braun & Clarke, 2006). This method allowed for flexibility if new data arose that needed to be coded and this was key as this was a qualitative study and it was looking at people. People are unique from each other and have individual experiences and therefore, this method was well suited for this data (Nowell, Norris, White & Moules, 2017). With it being flexible, if any themes arose that were not originally identified, they could be analysed (Nowell et al., 2017).

The final stage was categorising the data. This was where the analysed data was grouped together into different categories based on the themes so that when data was required for further aspects of the study it could be easily located, organised and analysed.

3.5.1. Implementation of data analysis technique

The data analysis method was implemented as follows. The notes from each individual interview were typed into a word document and stored in their own labelled subfolder within a greater folder (Maree & Pietersen, 2020). This was also done with the consent forms and audio files, it was ensured that each of the before mentioned items were correctly labelled with the appropriate pseudonym for the respective participant, as in participant 1 through 6 for this study. Within these individual subfolders, any additional notes from the data were added. This was done to ensure that none of the participants data was mistakenly confused with another participant's data.

Once the data was organised into their own respective folders, the audio files were transcribed word for word by listening to the recordings repeatedly through earphones, this was to ensure that none of the data was overheard by anyone besides myself. The audio files were transcribed not only from what was said but what was not said, such as silences, stutters and hesitations. The audio files were listened to repeatedly to ensure that no data was missed, or mistakes were made in the transcripts and that any additional important information was noted. This was done for each participant and the audio files were labelled with the appropriate pseudonym in their correct respective folders. In addition to this, repeating the listening process of the audio files, it allowed me to become familiar with the data received.

The data was coded by using two types of coding (Maree & Pietersen, 2020). The first of which was line-by-line coding (Chenail, 2012), where each transcript was individually analysed line-by-line, in a slow methodological manner to ensure that a thorough analysis was done (Kandkar, 2009). Any themes that were identified were noted in a word document with the same themes that were identified in the other transcripts. The thematic analysis was done by identifying the key themes in the data by repeatedly reading and analysing the transcripts and allowed for the interviewer to become immersed in the data (Braun & Clarke, 2006). By grouping these common themes together from the various transcripts, it ensured that the data could be and can be easily accessed. The themes that would be grouped would

be eating habits, sleeping habits, alcohol consumption, mood changes, academic performance and any additional themes that may have arose as a result of the interviews.

Through the use of thematic coding and differences in individual responses, a full range of data from different perspectives was noted. The coding, when complete was typed into a document in which contained all of the key themes in the data and any additional key elements that had become apparent. The information from above was stored in the individual folders on a secure hard drive.

4. Findings and interpretation of findings

4.1. Validity, reliability and trustworthiness

The methodology of this study has been used in other peer reviewed studies. The data collection method was used by Dawson, Grant and Ruan (2005) and the sampling method was used by Shelton (2017), therefore, it was an informed decision to make use of the same methodology for this study. A second reason that this methodology is trustworthy is that it was recommended for qualitative study from a textbook (Maree and Pietersen, 2020), this shows that it has been researched and is a credible source of information.

The sample for this study was chosen in a manner that ensured variation and reduces researcher being a confounding variable. From stating that they must be enlisted in full-time tuition adds to the time that those students spend at their university and in lectures and may increase the workload that these students cope with as it is a full-time and not a part-time degree.

By taking students from various courses of study and various years of study it ensured variation and allowed for the opportunity to observe if the effects of academic stress is a general university phenomenon or course specific. Stress levels may differ with the year of study that a student is in. The decision to use participants of both male and female students allows for a comparison between the two genders to be made and due to the numbers being equal it will be more reliable. My full methodology will be made available for other researchers to replicate this study. Lastly, the study measured what it was intended to measure which displays face validity.

4.2. Presentation of findings

The sample was made up of six undergraduate university students who were all in their first degree, between the ages of 18 and 22, which meant that the students would not be as emotionally mature and have more effective methods of coping with academic stress. These students were all South African citizens. The students were from a variety of years of study in undergraduate and from a variety of degree programmes. One participant was doing a Bachelor of education degree, one participant was doing Civil engineering, there were two Bcom Law students and one student was doing BA international relations and a social science politics, philosophy and economics degree. There was one 1st year student, two 2nd year students, two 3rd year students and one 4th year student. Several themes were identified in the study and these were; the compact nature of the assessment schedules, the student's sleeping habits, the student's eating habits, the student's mood changes when stressed, alcohol consumption in students and their academic performance.

Theme 1 – Assessment schedule

With regards to the compact nature of the degree programmes, the students felt that the institutions that they attend, did not take into account the number of modules that the students are enrolled in and thus make the assessments compact, meaning that the due dates are too close together. This led to students having inadequate time to do the prescribed work. As one student stated "...sometimes, they just wouldn't care, so we'd have like test weeks and stuff and you'd have like 5 or 6 tests in one week and then some days you're writing two tests a day." Another student stated that they "often have deadlines back-to-back."

Theme 2 –Sleep

With regards to the amount of time that students sleep per night, the students all stated that they slept generally well during the semester. However, when the students were stressed, the amount of time that the students slept per night was reduced, and students struggled to sleep or struggled to fall back to sleep. The participants all stated that their sleeping patterns changed when they were stressed academically, either by choice or due to thoughts about the work.

Theme 3 – Eating habits

In terms of the student's eating habits, the students felt that they did not often have adequate time to eat a well-balanced meal and/or they would forget to eat. This was seen in 50% of the sample and in addition to those student's accounts, one of the students stated that they ate as a form of procrastination. In general, five out of the six students stated that they consume unhealthy foods. As one of the participants stated "...sometimes I'm so tired and I'm so weak that a chocolate bar is that boost that can just get me through the next 4 hours, there is a meal I know can do lot more for me, I'd rather just have the treat that can just get me there faster."

Theme 4 – Mood changes

With regards to the student's mood changes when they are stressed. The questions that were asked were in terms of how the participants' moods and emotions were affected by academic stress. The students all noted that they experienced some form of mood alterations and emotional changes. Participant 1 stated "...I just get very Impatient with everything." The students stated that they got more frustrated, impatient and they were more agitated when they were stressed. As well as being more tearful and easily angered.

Theme 5 – Alcohol consumption

When looking at the alcohol consumption of students when they are stressed, the results where similar from all of the participants. The students stated that when they were stressed, they did not drink more alcohol than when they were not stressed. They drank more alcohol after the stress, as a form of stress relief and celebration with their peers. Two of the participants did not consume alcohol at all. The students that stated they consume alcohol after the stressor, they stated that they drank to reduce the feelings of stress with their friends. Which in some cases led to the students binge drinking.

Theme 6 – Academic performance

In terms of the student's academic performance. The results of the study stated that the students had a mixed response in terms of two of the students using the stress to push them to do better and three of the students being negatively impacted by the stress and performing poorly in assessments. Lastly, one of the students stated that academic stress had a 50/50 relationship with academic stress and their academic performance.

4.3. Interpretation of findings

In terms of what the findings are, it was found that from the sample of students from the various tertiary institutions in Cape Town and from a variety of degree programmes, the sample had similar experiences regarding academic stress.

When asking the students about what part of academics they found caused the most amount of stress, nearly all of the students reported that the academic schedule regarding tests, examinations and projects was too tightly placed together. Furthermore, this led to inadequate time to do tasks and/or study for tests and examinations, which all of the participants reported to be a large causative factor to stress at university. This led to cramming the information in a short amount of time and subsequently led to inadequate information intake and increased stress levels and a lack of sleep.

With knowing what part of academics causes the most amount of stress in undergraduate university students in Cape Town, the effects of said stress were examined. It was found that despite the amount of stress that students are under, for large amounts of the year, the participants all reported relatively high hours of sleep per night. The participants reported between six and eight hours of sleep per night. However, when stressed such as, before the midyear and end of year examinations, these numbers decreased. During the periods when the students were under the most amounts of stress, they reported having difficulty sleeping, not having enough time to sleep, feeling too panicked to sleep and they only reported receiving between three and five hours of sleep a night. This lack of sleep impacted their ability to perform the following day. This led to fatigue, physical and emotional exhaustion.

The third theme where it was seen that academic stress had an impact on students was that of their eating habits. Four out of the six students reported that when they are stressed, they eat less food than when they are not stressed. The participants reported that this was partly due to being too busy with studying that they forget to eat, felt that they had no time to eat and/or only wanted to eat after the work had been completed. The remaining students recorded eating more either for energy or as a form of procrastination from doing the work. When looking at what the students ate when they were stressed, the majority reported craving and eating unhealthy foods that are fast and on hand, such foods included sweets and fast food. It was found that the female students were seen to consume more unhealthier foods than men, with all of the female participants stating that they did this.

The fourth theme that was addressed was how their academic stress impacts the students moods and emotions. It was seen that all of the students reported to having significant fluctuations in their moods and emotions. These included feeling impatient, angry, easily annoyed, feeling emotionally low, feeling on edge, frustrated and feeling highly emotional. It was seen that these mood alterations had negative effects on students and some reported that it occasionally impacted their family and friends.

The responses regarding alcohol consumption when stressed academically, were not as conclusive as the other themes. Two of the participants did not consume any alcohol in their lives and the remaining four participants stated that after a stressful event, their alcohol consumption increased due to celebrations after the tests, examinations and/or projects and also as a form of stress relief. Therefore, alcohol consumption was not seen as a way to cope with academic stress or a way to escape the stress. It was simply a de-stress after the event with their peers. And 16.67% of the sample reported drinking an excessive amount of alcohol when they went out with their friends.

Finally, in terms of academic performance, the students also had mixed responses in terms of their experiences. Two of the students reported that they received better results academically when they were stressed. This was due to students feeling that academic stress pushed them to do better and work harder. Three of the students had the opposite experience. These three students reported that their performance was hindered by the academic stress, as they had mental blocks and/or they were simply too stressed to perform well. The final student experienced mixed experiences and they stated that they have had their academic performance both benefitted and hindered by academic stress and therefore, their answers were inconclusive one way or another.

4.4. Findings in context

When relating the findings to what prior research has shown about the various effects of academic stress, the findings for some themes are in agreement with the literature and some in contrast to the literature. In terms of the academic schedule regarding the dates of assessments are too closely placed together, no literature has been found regarding this topic.

When looking at the effects that academic stress has had on the amount of sleep that students receive, the findings are in agreement with the literature. The literature stated that when students are stressed, they experience more restless sleep and/or have difficulty

sleeping (Alapin et al., 2000). This is congruent with what some of the students stated was a problem, as seen with one of the students stating that they are sometimes “too stressed to sleep.” In addition to this, the findings stated that the students sometimes felt that there was no time to sleep. Which according to Dalton & Hammen (2018), was seen to be a problem identified in their study. The study found that when stressed academically, students received an average of six hours of sleep a night, which is in agreement to what the literature showed with students receiving an average of 6.8 hours of sleep a night (Dalton & Hammen, 2018).

When looking at how stress influenced student’s eating habits the findings stated that 66.67% of the students reported eating less when stressed academically, which is in contrast to what the literature stated, which was that students on average eat more when they are stressed academically (Maykrantz & Houghton, 2018). The literature that was congruent with the findings found that students ate more foods that were convenient rather than well balanced meals when they are stressed (Peer et al., 2015). Students also eat more unhealthy foods when they are stressed, five out of the six participants stated that they do this (Papier et al., 2018). Women were seen to eat more unhealthy, high sugar, snack type foods which was in agreement with what the literature stated (Peer et al., 2015). What was not seen was males consuming high calorie foods such as take-out meals (Peer et al., 2015). 50% of the males stated that they do this, which was not representative as there were only two male students in the study.

The next theme that was identified was how academic stress impacts the student’s moods and emotions. The literature indicates more towards students developing altered moods, however the students reported being more agitated, frustrated, easily angered and more emotional. Where the findings were in agreement with the literature was that, under academic stress, students become more irritable and socially isolate themselves (Peer et al., 2015). Finally, according to the findings of my study, the participants have been shown to become more easily angered. Which, if it is related to the theoretical framework of the General Adaptation Syndrome Theory, the student experiences the first stage of the alarm phase, which may cause the student to become stressed by the academic stress, which is then brought under control by the countershock phase, which brings the individual’s resistance to stress back to a normal level (Cunanan et al., 2018). The student experiences the second stage by resisting the stressor and finally, when the student cannot resist the

stressor anymore, they reach the exhaustion phase (Cunanan et al., 2018). This may lead the individual to become agitated, irritable and angry.

According to Maykrantz and Houghton (2018), alcohol consumption has been seen to be a common method of coping with stress in university students. The findings showed that students experienced an increase in drinking after the stressful event as a form of stress release with their peers, which is in opposition to the literature. What is in agreement with the literature is that for 50% of the students, alcohol reduced the negative feelings that are associated with academic stress, as the students celebrated after the stressful situation (Park et al., 2004). Only one of the students gave an explicit account as to what they consumed on an average night out, which was in accordance with the definition of binge drinking from the literature (Maykrantz & Houghton, 2018). It is unknown what amounts of alcohol the other students consumed on a night out.

The final theme that was looked at was academic performance. Two of the students reported that the academic stress placed on them increased pressure on the students to do better academically, which can lead to an increase in academic performance. Three of the students felt that academic stress caused a decrease in performance which is in agreement with what the literature has stated, which is that academic stress can cause a decrease in academic performance (Dalton & Hammen, 2018). Students have been seen to have a negatively impacted academic performance when their academic stress levels are high due to examinations, tests, time pressure and grade pressure (Akgun & Ciarrochi, 2003). This final theme shows the difference of an individual who experiences the exhaustion phase and someone who does not. If the person is unable to maintain the resistance phase, they will enter the exhaustion phase and their academic performance will decrease (McCarthy & Pacak, 2000). If the student is able to resist the stressor for the duration of the event, they will not experience the decrease in academic performance (McCarthy & Pacak, 2000). As it can be seen with this theme, the hypothesis regarding this theme was not fully confirmed nor disproved. This can be said because of two of the students stating that their academic performance increases and one of the students stating that they have mixed responses to academic stress.

5. Conclusion section

5.1. Indication of how research question and goals were answered

This study demonstrated that through the use of in-depth semi-structured, one-on-one interviews the participants all experienced some form of academic stress and the various effects that follow thereafter. The students stated they do experience great amounts of academic stress related to the way in which the academic schedule is structured by the various institutions. Some of the students who experienced academic stress stated that with regards to their moods and emotions, that academic stress makes them more agitated, frustrated, angry and irritable. The individuals stated further that when they are stressed, that the majority of the students said that they do not eat well and some of the students stated that they eat more unhealthy foods and snack type foods.

In terms of alcohol consumption when stressed academically, the students stated to the contrary to what the research had originally proposed. The students stated that when they are stressed, they do not consume alcohol to mitigate the stress, they do however consume alcohol after the stressful situation as a form of celebration and stress relief at that time. This was stated by all students except two who stated that they did not consume alcohol at all.

The students throughout the semester reported having an overall good amount of sleep however, this did not occur when they were academically stressed, the amount of sleep they receive was not adequate and impacted them the following day. In terms of the participant's academic performance, the participants reported mixed responses when academically stressed. Two of the students reported that academic stress pushes them to do better, three reported that it negatively impacts them and lastly one said that their experiences were mixed.

Therefore, the research question has been answered as the students reported experiencing all but one of the effects of academic stress originally proposed and have stated that when the academic schedule does not allow adequate time to complete tasks, the student's stress levels increased. The students experienced the effects of changes in their eating habits, sleeping habits, mood changes and for some academic performance to a large degree. The students on the other hand experienced the effects of alcohol consumption and for some academic performance to a lesser extent, which further answers the research question. The research goal has also been answered as it can be seen that undergraduate university

students in Cape Town experience changes in their eating habits, sleeping habits, moods, emotions and academic performance as a result of academic stress.

5.2 Implications of findings for future practices

The implications of the findings for future practices are as follows. This study can serve as a base line for further research on the topic, where others can do research into the external themes that may contribute to the effects of academic stress as well as other studies. The findings shed a small light on what undergraduate university students in Cape Town experience as a result of academic stress and also what they deem to be the causative factors for their stress. The students in this study although from different universities around Cape Town appear to have had similar experiences and therefore, it serves as a broad observation of the undergraduate programme and what it entails. The findings can be used to assist in further local studies on the topic to assist in understanding what the students experienced at the time that this study was done and to what extent that this occurred.

The tertiary institutions can make use of the findings to reassess the scheduling of academic assessments as well as mental health services at the institutions can put into place better initiatives that help students cope with these effects of academic stress. The findings also have implications for high schools as the teachers can assist the students in better preparing them for the possible effects of academic stress that they might face at university.

5.3. Evaluation of success

It has been seen that this study to a large extent was successful, an in-depth understanding of what undergraduate university students experience as a result of academic stress, which was the aim of this study. The participants expressed how they experience the various themes identified and how it impacts them as well as those individuals around them. Which is more than one would have gained if quantitative analyses were used for this study.

The methods that were used to collect and analyse the data provided insight into the topic at hand. In addition, the study was well conducted in terms of making contact with the participants, informing the participants about all of the aspects of the study in a timeous manner, organising a time to interview the participants according to their schedule, the manner in which the interviews were conducted and the way in which the data was analysed.

An additional theme was identified being, the academic schedule and its busy nature. The objectives were answered. This study was successful as it can be seen that what the study aimed to achieve was successfully achieved.

5.4. Evaluation of possible future actions/research on topic

In future, studies could be done on each of the themes identified to gain an in-depth understanding of each theme individually. A quantitative study could be done in order to determine the main effects of academic stress on this group of students from a quantitative perspective. A quantitative study would provide a different perspective on the topic, as it would not be descriptive, it would be analytical. A study on how external factors impact the themes of this study in relation to how they react to academic stress, this could be done in order to gain a broad understanding of what this group of students is experiencing.

Studies could be done on specific degree programmes and how they experience the above-mentioned effects of academic stress as opposed to other degree programmes. Such as how the medical students respond to stress as opposed to Bachelor of Education Students, by doing this, one can determine the differences in what the various effects of stress are. Studies can be done on individuals from other provinces in the country as well as including international students and even more specific, those students who have children and families to support. Studies on these various groups of students could bring about different results.

5.5. Ethical Implications

There were numerous ethical considerations that needed to be taken into account with this study, they were as follows.

Talking about academic stress and the effects of the stress, which may have made the participants feel more stressed about their situation and academic progress at the time of the interview, to mitigate this, contact information for Lifeline and other services were on hand and if the student's stress levels appeared high, they were asked if they felt they would have liked the numbers or they could email me at a later stage for the various numbers.

Due to the interviews being done online, the interviews were stored in a password protected file on a secure hard drive. The participants were all given an informed consent form outlining what the study involved, what the participants would have to do for the study and information about anonymity and confidentiality.

The participants were informed in the informed consent form and in the interview, that they have the right to withdraw from the study at any time without any consequences and the data that may have been collected would be deleted. Due to the fact that the interviews were needing to be recorded, the participants were given a 'Consent to Record' form prior to the interview. With regards to the participant's anonymity, due to the fact that mental health is a sensitive topic to discuss, the participants identities and details were kept anonymous. They have been referred to using codes (such as student 1).

With regards to the participants confidentiality, the information obtained in the interviews has remained confidential throughout the study. The medium of online video calling that was used is a secure line and was encrypted for security purposes. Obviously, hacking has always been a threat with technology and therefore, it was ensured that the computer used for the entirety of this study had an up to date virus protection and was scanned frequently. Lastly, ethical clearance was obtained prior to any form of data collection from the participants.

5.6 . Limitations of the study

The limitations of this study are numerous. Due to the strict time constraints put in place for this study, obtaining a representative sample was not possible, this was due to the lack of time that was needed to collect and analyse the data. In addition to the time constraints, there was a lack of additional personnel needed to analyse and collect data from enough participants to make up a representative sample. A sample of six students was used instead of a sample of twenty. In order to mitigate this limitation, students from a variety of tertiary institutions were used to allow for a variety of responses.

A second limitation with the same solution as abovementioned, was the inability to generalise the results to a broader population. This was due to having a small sample size, caused by a lack of research assistance and a lack of funding. This study has only been conducted at honours level in this case and therefore, there was a lack of access to participants and to the resources needed to conduct a study that is inclusive and broad enough for a generalisable study to be conducted.

There are multiple external factors that this study did not take into account that may have contributed to these effects of academic stress. These are, home life stressors, financial stressors, work stressors and many more. Due to this, it is uncertain whether academic

stress was the sole causative factor in the negative effects that the students are experiencing.

The study was cross-sectional and therefore only recorded the effects of academic stress that the students were experiencing at a single time in the semester and hence could not be a comprehensive account of the effects of academic stress. Ideally the study would have been longitudinal and conducted at various points in the semester to obtain an accurate account from each point in the semester being at low stress and high stress points. Another limitation of this study is that due to the study being qualitative in design, obtaining reliability was difficult as each response that a person gave was unique and not repeatable.

Due to COVID-19 disrupting the academic year, some of the students were in their first year of university and therefore their experiences of academic stress pre-COVID-19 were limited.

6. Conclusion

This study was aimed at determining the effects of academic stress on undergraduate university students in Cape Town. Based on previous research, questions were asked about how academic stress impacts the way that they eat and sleep, whether they consume more alcohol when stressed, whether their moods and emotions change and whether or not their academic performance is affected by academic stress. It was determined that this group of students experienced inadequate sleep, they did not eat adequate amounts of food, they did not drink alcohol when stressed, only after the event, the students experienced feelings of irritability and anger and they had mixed reactions in terms of their academic performance.

7. Reference List

Akgun, S., & Ciarrochi, J. (2003). Learned resourcefulness moderates the relationship between academic stress and academic performance. *Educational Psychology*, 23(3), 287-294. doi: 10.1080/0144341032000060129

Alapin, I., Fichten, C., Libman, E., Creti, L., Bailes, S., & Wright, J. (2000). How is good and poor sleep in older adults and college students related to daytime sleepiness, fatigue, and ability to concentrate?. *Journal of Psychosomatic Research*, 49(5), 381-390. doi: 10.1016/s0022-3999(00)00194

Ang, R. & Huan, V., (2006). Relationship between academic stress and suicidal ideation: testing for depression as a mediator using multiple regression. *Child Psychiatry and Human Development*, 37(2), pp.133-143.

Bezuidenhout, R., & Cronje, F. (2018). Qualitative data analysis. In F. du Plooy-Cilliers, C. Davis & R. Bezuidenhout, *Research Matters*. Cape Town South Africa: Juta.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi: 10.1191/1478088706qp063oa

Busari, A. (2012). Identifying difference in perceptions of academic stress and reaction to stressors based on gender among first year university students. *International Journal of Humanities and Social Science*, 2(14), 138-146.

Cunanan, A., DeWeese, B., Wagle, J., Carroll, K., Sausaman, R., & Hornsby, W., Haff, G., Triplett, N., Pierce, K., Stone, M. (2018). The General Adaptation Syndrome: A Foundation for the Concept of Periodization. *Sports Medicine*, 48(4), 787-797. doi: 10.1007/s40279-017-0855-3

Chaudhury, S., Menon, P., Saldanha, D., Sahu, S., Singh, V., & Pathak, V. (2018). Stress levels and its association with self-harm and risk-taking behaviour in medical undergraduates. *Industrial Psychiatry Journal*, 27(1), 41. doi: 10.4103/ipj.ipj_31_18

Chenail, R.J. (2012). Conducting qualitative data analysis: Reading line-by-line but analysing by meaningful qualitative units. *The Qualitative Report*. 17 (1), 265-269.

Chowdhury, M. (2014). Interpretivism in aiding our understanding of the contemporary social world. *Open Journal of Philosophy*, 04(03), 432-438. doi: 10.4236/ojpp.2014.43047

Dalton, E., & Hammen, C. (2018). Independent and relative effects of stress, depressive symptoms, and affect on college students' daily health behaviours. *Journal of Behavioural Medicine*, 41(6), 863-874. doi: 10.1007/s10865-018-9945-4

Dawson, D., Grant, B. & Ruan, W. (2005). The association between stress and drinking: modifying effects of gender and vulnerability. *Alcohol and Alcoholism*, 40(5), pp.453-460.

du Plooy- Cilliers, F; Davis, C. & Bezuidenhout, R (2018). *Research Matters*. Cape Town: Juta.

Halme, J., Seppä, K., Alho, H., Pirkola, S., Poikolainen, K., Lönnqvist, J., & Aalto, M. (2008). Hazardous Drinking: Prevalence and associations in the Finnish general population. *Alcoholism: Clinical and Experimental Research*, 32(9), 1615-1622. doi: 10.1111/j.1530-0277.2008.00740.

Hystad, S., Eid, J., Laberg, J., Johnsen, B., & Bartone, P. (2009). Academic stress and health: Exploring the moderating role of personality hardiness. *Scandinavian Journal of Educational Research*, 53(5), 421-429. doi: 10.1080/00313830903180349

Judd, M.J., Dorozenko, K.P. & Breen, L.J. (2017). Workplace stress, burnout and coping: a qualitative study of the experiences of Australian disability support workers. *Health and Social Care in the Community*. 25 (3), 1111.

Kail, R., Cavanaugh, J. & Muller, J. (2019). *Human Development: A Life-Span View*. 1st ed. South Africa: Cengage.

Karaman, M., Lerma, E., Vela, J. & Watson, J. (2019). Predictors of academic stress among college students. *Journal of College Counselling*, 22(1), pp.41-55.

Khandkar, S. H. (2009). Open coding. *University of Calgary*, 23, 2009.

Kumaraswamy, N. (2012). Academic stress, anxiety and depression among college students- A brief review. *International Review of Social Sciences and Humanities*, 5(1), 135-143.

Lee, B. (2018). *The moderating effects of college stress on the relationship protective behavioural strategies has with hazardous alcohol consumption and negative consequences*. Honours. The University of Southern Mississippi.

Longhurst, R. (2003). Semi-structured interviews and focus groups. *Key methods in geography*, 3(2), 143-156.

Maree, K. & Pietersen, J. (2020). Sampling. In: Maree, K. *First Steps in Research*. 3rd ed. Pretoria, South Africa: Van Schaik Publishers. 213-224.

Marshall, M. (1996). Sampling for qualitative research. *Family Practice*, 13(6), 522-526.
doi: 10.1093/fampra/13.6.522

Maykrantz, S. & Houghton, J. (2018). Self-leadership and stress among college students: Examining the moderating role of coping skills. *Journal of American College Health*, 68(1), pp.89-96.

McCarty, R., & Pacak, K. (2000). *Alarm phase and General adaptation syndrome*. G, Fink (Ed). In *Encyclopaedia of Stress* (1st ed., pp. 126-129). United Kingdom: Academic press.

Misra, R., & Castillo, L. (2004). Academic stress among college students: comparison of American and international students. *International Journal of Stress Management*, 11(2), 132-148. doi: 10.1037/1072-5245.11.2.132

Nieuwenhuis, J. (2020). *Introducing qualitative research*. K, Maree (Ed.). *First steps in research* (3., pp 55-77). South Africa: Van Schaik Publishers.

Nowell, L.S., Norris, J.M., White, D.E & Moules, N.J. (2017). Thematic Analysis: striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*.

Papier, K., Ahmed, F., Lee, P. & Wiseman, J. (2015). Stress and dietary behaviour among first-year university students in Australia: Sex differences. *Nutrition*, 31(2), pp.324-330.

Park, C., Armeli, S., & Tennen, H. (2004). The daily stress and coping process and alcohol use among college students. *Journal of Studies on Alcohol*, 65(1), 126-135. doi: 10.15288/jsa.2004.65.126

Peer, J., Hillman, S., & Van Hoet, E. (2015). The effects of stress on the lives of emerging adult college students: An Exploratory Analysis. *Adult span Journal*, 14(2), 90-99. doi: 10.1002/adsp.12007

Robinson, O. (2013). Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide. *Qualitative Research in Psychology*, 11(1), 25-41. doi: 10.1080/14780887.2013.801543

Shelton, I. (2017). *A generic qualitative investigation of academic stress in college students in the 21st century*. Doctorate. Capella University.

Appendices

Appendix A Summary page

Research Purpose/Objective	Primary Research Question	Research Rationale	Seminal Authors	Conceptual Framework	Paradigm	Approach	Data Collection Method	Ethics	Key Findings	Recommendations
To determine to what extent undergraduate university students in Cape Town experience the various effects of academic stress	To what extent do undergraduate students in Cape Town experience the effects of academic stress, namely; mood changes, eating more or less food, drinking large quantities of alcohol, sleeping too much or too little, and experience a decrease in academic performance?	University students are under large amounts of academic stress. Not much is known about the South African perspective.	Elizabeth D. Dalton, Constance L. Hammen Justin W. Peer, Stephen B. Hillman, & Emma Van Hoet. Kumaraswamy, M.	<u>Theme 1:</u> Eating habits <u>Theme 2:</u> Alcohol consumption <u>Theme 3:</u> Sleeping habits <u>Theme 4:</u> Academic Performance fluctuates <u>Theme 5:</u> Academic schedule <u>Theme 6:</u> Mood Changes	Interpretivism Because the participant's individual experience of stress requires a more in-depth analysis rather than just being quantified	Qualitative Population Undergraduate university students In first degree, South African Citizens Full-time tuition Between 18 and 22 years old, Mix of gender, race and degree programmes	In-depth semi-structured, one – on – one online interviews Recorded and transcribed	Confidentiality, anonymity was ensured. Contact details for free psychological services on hand Consent forms, secure storage of information, right to withdraw, secure online calling system, ethical clearance was obtained	Students ate less and ate more unhealthy foods, didn't sleep well, had mood changes, did not consume more alcohol but consumed after the stressor, mixed experiences with academic performance	Larger sample, focus groups, address external factors leading to these effects. Qualitative study, longitudinal study.
Research Problem	Secondary questions/Hypotheses/Objectives	Key Concepts	Key Theories			Sampling	Data analysis method	Limitations	Key contributions	
University students are under large amounts of academic stress and the various effects of the stress require further understanding	Do undergraduate university students sleep less, eat more and/or less, drink more alcohol, have a lower academic performance and mood changes when they are experiencing academic stress. <u>Hypotheses</u> - Students will experience a decrease in academic performance, receive inadequate hours of sleep, overeat & eat unhealthy foods, drink more alcohol and have mood changes when stressed academically	Academic stress Hazardous drinking Disordered eating habits Mood changes Lower academic performance	The General Adaptation Syndrome Theory			-Non-probability sampling -Convenience and snowball -6 participants	Line- by-line coding and thematic analysis	Accessibility to students, COVID-19, time, first year students, number of participants, length of interviews	Contributing to filling a gap in psychological research in terms of helping students who experience high levels of academic stress and provide a local perspective as well as providing information for future additional support	



HONOURS RESE, RESM and RMET ETHICS CHECKLIST

Student name: Megan Coldbeck

Student number: 17229489

Title of the research: A qualitative study to determine the effects of academic stress on undergraduate university students in Cape Town

	Yes	No	Comment: supervisor/ navigator/lecturer
I am not using human subjects: i.e. I use visual artefacts or visual observation		X	
I intend to use human subjects - I understand that I will not conduct research with human subjects under the age of 18 and other vulnerable groups. - I understand I can only proceed once I receive an ethical clearance letter.			
Interviews/ Focus groups An example of the <i>written consent form</i> I intend to use is attached.	X		
I will record the interview/focus groups and the sample of the letter where I ask for permission to do so is attached.	X		
I plan to use an interview schedule: The example of my research instrument is attached.	X		
I plan to use a questionnaire: The example of my research instrument is attached.		X	
I plan to use a gate-keepers letter: The example of my letter is attached.		X	
I plan to do research on an IIE site/with IIE students/staff/artefacts and I filled in the application for permission to do so. The application is attached. I understand I can only proceed once I receive IIE Approval for this.		X	

Signed: student.....



CONSENT FORM

Explanatory information sheet and consent form for participants To whom it may concern, My name is Megan Coldbeck and I am a student at the IIE's Varsity College. I am currently conducting research under the supervision of Dr Sarah Heany about the effects of academic stress on undergraduate university students in Cape Town. The aim is to gain an in-depth understanding of to what extent academic stress effects undergraduate students in Cape Town. I hope that this research will enhance our understanding of what impact academic stress has on students. I would like to invite you to participate in my study. In order to explain to you what your participation in my study will involve, I have formulated questions that I will try to fully answer so that you can make an informed decision about whether or not to participate. If you have any additional questions that you feel are not addressed or explained in this information sheet, please do not hesitate to ask me for more information. Once you have read and understood all the information contained in this sheet and are willing to participate, please complete and sign the consent form below.
What will I be doing if I participate in your study? I would like to invite you to participate in this research because as an undergraduate university student in Cape Town, you will serve great value in providing insight into the effects of academic stress that undergraduate university students experience. If you decide to participate in this research, I would like you to partake in an in-depth online video interview answering open-ended questions on the topic of the effects of academic stress. You can decide whether or not to participate in this research. If you decide to participate, you can choose to withdraw at any time or to decide not to answer particular interview questions.
Are there any risks/ or discomforts involved in participating in this study? Whether or not you decide to participate in this research, there will be no negative impact on you. There are no direct risks or benefits to you if you participate in this study. You might, however, indirectly find that it is helpful to talk about your feelings about your feelings regarding the effects of academic stress. If you find at any stage that you are not comfortable with the line of questioning, you may withdraw or refrain from participating.
Do I have to participate in the study? • Your inclusion in this study is completely voluntary; • If you do not wish to participate in this study, you have every right not to do so; • Even if you agree to participate in this study, you may withdraw at any time without having to provide an explanation for your decision.
Will my identity be protected?

I promise to protect your identity. I will not use your name in any research summaries to come out of this research and I will also make sure that any other details are disguised so that nobody will be able to identify you. I would like to ask your permission to record the interviews, but only my supervisor, I and possibly a professional transcriber (who will sign a confidentiality agreement) will have access to these recordings. Nobody else, including anybody Varsity College, will have access to your interview information. I would like to use quotes when I discuss the findings of the research, but I will not use any recognisable information in these quotes that can be linked to you.

What will happen to the information that participants provide?

Once I have finished all interviews, I will write summaries to be included in my research report, which is a requirement to complete my Honours in Psychology degree. You may ask me to send you a summary of the research if you are interested in the final outcome of the study.

What happens if I have more questions about the study?

Please feel free to contact me or my supervisor should you have any questions or concerns about this research, or if there is anything you need to know before you decide whether or not to participate.

You should not agree to participate unless you are completely comfortable with the procedures followed.

My contact details are as follows:

Megan Coldbeck

The contact details of my supervisor are as follows:

Dr Sarah Heany

Signature:

Date:

Appendix D

Consent to record

Consent form for participants	
I, _____, agree to allow Megan Coldbeck to audio record my interviews as part of the research about the effects of academic stress on undergraduate university students in Cape Town. This research has been explained to me and I understand what participation in this research will involve. I understand that: • My confidentiality will be ensured. My name and personal details will be kept private. • The recordings will be stored in a password-protected file on the researcher's computer. • Only the researcher, the researcher's supervisor and possibly a transcriber (who will sign a confidentiality agreement) will have access to these recordings.	
Signature	Date

Appendix E

Interview Schedule

Each of these questions will result in roughly a five to ten-minute discussion

Introduction	-What is your name? -What is your age? -What year of study are you currently enrolled in?
Academic Stress	-What aspects of academics cause you the most stress?
Sleep	- In what ways do you find that academic stress impacts your sleep during the semester? -How many hours of sleep do you receive a night?
Eating habits	- Academic stress has been shown to alter the way that students eat. Do your eating habits change when you are stressed? -What types of foods do you eat when you are stressed?
Hazardous drinking	- Do you consume alcohol - In what ways do your drinking habits change when you are stressed academically? -(If answer indicates alcohol increases), how many bottles of what beverages do you consume in a day?
Mood changes	-In what ways does academic stress alter your mood and emotions? Please elaborate.
Academic performance	-Academic stress can take its toll on student's academic performance in what ways is your academic performance affected by academic stress?
Additional questions	- How many hours outside of university do you spend working on university work? - Do you or did you have a part time job? - Do you have any additional points regarding this topic that you would like to discuss?
Conclusion	-Do you have any problems with the questions that you would like to bring up?

Appendix F



30 June 2020

Student name: Megan Coldbeck

Student number: 17229489

Campus: Varsity College Cape Town

Re: Approval of Honours in Psychology Proposal and Ethics Clearance

HONOURS ETHICAL CLEARANCE LETTER

Your research proposal and the ethical implications of your proposed research topic were reviewed by your supervisor and the campus research panel, a subcommittee of The Independent Institute of Education's Research and Postgraduate Studies Committee.

Your research proposal posed no significant ethical concerns and your supporting documents and instruments are in order to proceed. We hereby provide you with permission to proceed with your research.

In the event of you deciding to change your research methodology in any way, kindly consult your supervisor to ensure all ethical considerations are adhered to and pose no risk to any participant or party involved. A revised ethical clearance letter will be issued.

We wish you all the best with your research!

Supervisor: Dr Sarah Heany

Campus Postgraduate Coordinator (CPC): Dr Marizanne Grundlingh

GENERAL CONDITIONS TO BE FULFILLED IN RELATION TO RESEARCH

Permission is granted to proceed with the above study subject to the conditions listed below being met and may be withdrawn should any of these conditions be flouted.

Please note: The panel has not considered the merits, accuracy or ethical soundness of the research. The only merits examined are the use of The IIE as a sample.

Permission is granted subject to the following conditions:

1. The researcher(s) will need to obtain informed consent in writing from all of the participants in his/ her sample if the study is not anonymous.
2. The researcher(s) may only use the data collected for research purposes and in no other way.
3. Photographs of human subjects may only be taken if relevant to the research, informed consent was obtained, and even with informed consent, the photographs may not be published on any online platforms.
4. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
5. No names or identifying information of participants may be used within the research and the research must be voluntary.
6. Please make it clear that the information will not be used punitively in any way and participants may in no way be counselled/advised based on this.