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Academic anxiety and a micro-online intervention for enhancing psychological capital

Rambau, Karabo Fellicia

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Academic anxiety and a micro-online intervention for enhancing psychological capital.



"A research project submitted in partial fulfilment of the requirement for the degree of MA by Coursework and Research in the field of Industrial/Organisational Psychology in the Faculty of Humanities, University of the Witwatersrand, Johannesburg, 30 June 2022."

Research by: Karabo Rambau

Student Number: 1097434

Research Supervisor: Ian Siemers

Declaration

"I declare that this research project is my own, unaided work. It has not been submitted before for any other degree or examination at this or any other university."

Signature: Rambau. K. F

Date: 30 June 2022

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Abstract

This study investigates the effectiveness of a Psychological Capital (PsyCap) intervention in reducing students' levels of academic anxiety. In essence, the current study focuses on academic anxiety with the aim of investigating whether a PsyCap intervention is able to reduce students' perceptions of academic anxiety. Regarding this, the current study also aims to enhance students' levels of PsyCap so that students can be able to cope with academic anxiety. This study also utilised the Conservation of Resources (CoR) model to frame the relationship between PsyCap and academic anxiety by arguing that the accumulation of personal resources (i.e., PsyCap) could act as a buffer and reduce the experience of academic anxiety among students. **It is of paramount importance that students are equipped with the necessary resources or skills that are needed in order to survive and excel within higher education**. This is because being a university student can come with countless challenges that are sometimes unbearable. Regarding this**, Rehman (2016)** have argued that students entering the higher education system often come across numerous issues such as, academic anxiety, academic stress, academic depression, as well as socio-economic hardships. The lack of research regarding enhancing students' PsyCap in order to help them cope with academic anxiety has motivated the researcher to engage in this topic. In engaging in this topic, the current study adopted a positive psychology approach which focuses on individual's strengths and capabilities. This study employed a quantitative quasi-experimental research design. Additionally, a non-probability, convenience sampling technique was utilised. Data was collected using a questionnaire, the questionnaire consisted of a self-developed demographic questionnaire, the Psychological Capital Questionnaire (PCQ) (Luthans, Avolio, Avey, & Norman, 2007; Luthans, Youssef, & Avolio, 2007), and the Academic Anxiety Scale (AAS) (Cassady, Pierson & Starling, 2019). The final sample (N=110) consisted of first year Psychology students from the University of the Witwatersrand, Johannesburg, in South Africa. Results of the current study confirm the effectiveness of the PsyCap intervention in enhancing students' level of PsyCap. This implies that the intervention was effective in enhancing students' PsyCap. Nonetheless, the intervention was not effective in reducing students' levels of academic anxiety. The results of the current study also indicated that PsyCap and academic anxiety are related. In this case, a significant, negative relationship was found between PsyCap overall and academic anxiety, in Time 0, Time 1, and in Time 2. The results of the current study were discussed in relation to previous literature and previous research.

Keywords: Psychological Capital, Academic Anxiety, Conservation of Resources model, University students, PsyCap intervention, Quasi-experimental research design

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Introduction

Students often respond to academic demands with different emotions that can have an impact on their academic success. In this regard, students may at times respond to their academic demands through emotions such as academic anxiety. This research project aims to explore the phenomenon of academic anxiety by considering an intervention that can possibly be utilised to reduce academic anxiety. Specifically, an intervention that is aimed at enhancing PsyCap will be discussed. The CoR model will be utilised to frame the relationship between PsyCap and academic anxiety by demonstrating how the acquisition of personal resources could act as a buffer and reduce the experience of academic anxiety. It is important to note that there is a lack of research that focuses specifically at enhancing PsyCap among students, additionally, there is also a lack of research that focuses on reducing academic anxiety through developing students' PsyCap, more especially within the South African context. Therefore, the current study aims to bridge the gap that exists within literature. To address these research gaps, the current study will employ an intervention that is aimed at developing students' PsyCap, the aim of this intervention is to reduce students' level of academic anxiety. This will then enable students to cope and to overcome the challenge of academic anxiety. In developing students' PsyCap, a positive-psychology approach will be followed. This research is underpinned by a quantitative quasi-experimental research design. A non-probability, convenience sampling technique was utilised.

Rationale

Psychological Capital is a critical resource that employees can utilise to cope with stressful events or conditions within the workplace (Avey, Luthans & Jensen, 2009). Similarly, through various interventions, students can develop strategies that can enable them to cope with events that would otherwise result in academic anxiety. In this regard, Riolli, Savicki and Richards (2012) argued that PsyCap is a crucial resource that helps students cope with academic anxiety. This means that PsyCap can be understood as a personal resource that can enable students to manage academic anxiety. This study is therefore important in that it investigates the impact of a PsyCap intervention in reducing academic anxiety among students. Hooda and Saini (2017) argued that academic anxiety can have detrimental effects on students' academic performance and wellbeing thus, different forms of interventions need to be developed to help reduce anxiety among students. **Since academic anxiety has been found to have a negative impact on students' academic performance, the result of this is that most students with**

high levels of academic anxiety end up dropping out of university, because they find it difficult to successfully complete their studies while battling with academic anxiety (Respondek, Seufert, Stupnisky & Nett, 2017). The lack of resources could also be the reason students drop out of university. This is because many institutions lack the necessary resources that are needed to help students cope with academic anxiety. When students drop out of university this brings about an increase in unemployment rates, especially amongst the youth. This is because students who drop out of university often lack the needed qualifications, knowledge, and skills that are required within the workplace. Results of an experimental study that was based on a training program reported that reducing academic anxiety can lead to lower levels of general anxiety and increase academic performance (Aritzeta, Soroa, Ballauerka, Muela, Gorostiaga & Aliri, 2017). **The participants of this specific study were second year psychology students from the University of the Basque Country in Northern Spain (Aritzeta, Soroa, Ballauerka, Muela, Gorostiaga & Aliri, 2017)**. The study indicated that through an intervention or a training program, students can acquire the necessary resources needed to manage their academic environments more effectively. The findings of this research will hopefully inform various institutions' attempts to enhance PsyCap among students and consequently reduce academic anxiety. It is important for academic institutions to prioritise the mental health and academic performance of students, this is because a lot of students often battle with academic anxiety which then negatively affects their well-being as well as their academic performance. Research has revealed that taking care of students' welfare is crucial because this helps institutions to be able to create a healthy studying environment as well as producing productive and healthy graduates (Kanungo, 2022). The COVID-19 pandemic has also unleashed a number of challenges, including a rise in depressive and anxiety disorders among university students (Kanungo, 2022). This has therefore, opened a huge gap or demand, whereby institutions need to intervene in order to help their students cope with the mental health challenges that have been worsened by the COVID-19 pandemic.

Chapter One: Literature Review

Academic Anxiety and Psychological Capital

Academic anxiety has become an important matter within the educational context (Shahrouri, 2016). Marjan and Laflamme (2008) have argued that universities and similar institutions often present students with various demands that put considerable pressure on the students. Some students respond to this pressure in a resilient manner while other students may respond in a negative or ill-adaptive manner (Marjan & Laflamme, 2008). In this regard, students who are unable to cope might present with symptoms of depression, anxiety, stress, panic attacks or similar health outcomes. Related to this, Shahrouri (2016) argues that many undergraduate students often experience some degree of academic anxiety during their years of study. Ottens (1991) notes that academically anxious students frequently engage in maladaptive self-dialogue, which is characterised by harsh self-criticism, self-blame as well as panicked self-talk that brings about anxious feelings and contributes to low self-confidence and disorganised problem-solving.

Ottens (1991) argues that academic anxiety often puts students' health and their academic success at risk. Academic anxiety may negatively influence students' focus and concentration, resulting in reduced motivation towards their studies. Academic anxiety is characterised by misdirected attention, whereby students divert their attention to either external distractors (actions of other students, extraneous noise) or internal distractors (worries, daydreaming) (Ottens, 1991). Relatedly, Shahrouri (2016) argues that students with a high level of academic anxiety often portray less motivation towards their studies as compared to those students with low levels of academic anxiety. Shahrouri (2016) goes on to argue that a high level of academic anxiety also has the potential to interfere with concentration and memory which are important for academic success.

Academic anxiety is defined as a broad construct which covers various forms of anxieties associated with typical academic activities (Cassady, Pierson & Starling, 2019). This means that the concept of academic anxiety is utilised to refer to different forms of specific anxieties experienced by students within the academic context. Cassady, Pierson and Starling (2019) argued that the construct of academic anxiety consists of various specific forms of anxiety which include computer anxiety, test or evaluation anxiety, statistic anxiety, and math anxiety amongst others. This means that the kind of anxiety that students experience is often attached to their academic activities. However, one can also argue that the academic context can be

stressful as a whole in that students can experience academic anxiety that is not necessarily attached to any specific academic activity. For example, a student might experience academic anxiety due to the mere fact of being a university student because this might come with high expectations from parents, family members, and friends. These high expectations might then put a lot of pressure on the student, and as a result, a student might experience some degree of academic anxiety. Additionally, other students might experience academic anxiety by just being inside a lecture hall. This is especially true for first year students who are used to small classrooms from high school. Vitasari, Wahab, Othman and Awang (2010) have argued that pursuing higher education can sometimes be challenging for students as they navigate the process of adapting to new educational and social environments. Additionally, Vitasari, Wahab, Othman and Awang (2010) have also argued that the transition from the school to the university environment can also cause academic, psychological, and social shock due to the differences within the education system in terms of methods of teaching and academic requirements. Moreover, Cassady, Pierson and Starling (2019) have argued that the basic components of academic anxiety include fear of poor performance as compared to one's peers, experiencing stress in the classroom, and worrying about handling responsibilities. One can argue that these components are not linked to a particular academic activity but the experience of being in university as a whole. Overall, it can be argued that students may experience academic anxiety that is related to academic activities, whilst at the same time, students can also experience academic anxiety that is not related to any specific academic activity directly.

For the purpose of this research, we will focus on the more generalised type of academic anxiety rather than on the specific forms of academic anxiety. This means that this research will look more into the kind of academic anxiety that is not related to specific academic activities or tasks. This is crucial in that when we focus more on specific academic anxiety such as test anxiety or exam anxiety, we risk the danger of overlooking other critical contextual factors that contribute to the academic anxiety that students experience. Cassady, Pierson and Starling (2019), argue that focusing on a more general representation of academic anxiety symptoms and behaviours can help university educators and support staff to recognise that university students suffer from academic anxiety in contexts that are beyond merely evaluative situations. This is also important in that as much as other students might perceive certain evaluative situations as threatening and stressful, other students might not perceive them as stressful. It is thus, important to develop an approach that focuses on the general contextual factors that are associated with anxiety in order to attain a full understanding of academic

anxiety. Cassady, Pierson and Starling (2019) argued that a more generalised representation of academic anxiety can also assist educators and support personnel to become more attuned in identifying the negative affective responses by learners in educational contexts that do not have explicit assessment events. Additionally, having an understanding of a more generalised type of academic anxiety can enable support personnel to also develop effective interventions or strategies that will benefit students that are in need of such interventions or strategies. Cassady, Pierson and Starling (2019) have also argued that academic anxiety can be viewed as a contextual anxiety response. This implies that academic anxiety can be viewed as a negative response to one's academic context or one's academic circumstances.

Academic anxiety consists of both facilitative and debilitative features (Cassady, Pierson & Starling, 2019). Facilitative anxiety takes place when there is a low level of anxiety or a manageable degree of anxiety related to an academic situation that brings about drive and motivation which then results in optimal performance among students (Cassady, Pierson & Starling, 2019). In this case, academic anxiety is being viewed as an experience that can motivate students to give their best performance. For example, when faced with academic anxiety, some students might experience a high level of motivation which can then result in academic excellence. Likewise, Shahrouri (2016) argues that without any anxiety, most students would lack the motivation to perform various tasks such as studying for an exam or writing an assignment. Shahrouri (2016) goes on to argue that a moderate degree of anxiety can help with academic performance by creating motivation. Additionally, Hooda and Saini (2017) argue that anxiety is not always negative, this is because some students are often motivated by anxiety. This shows that as much as academic anxiety has a negative impact on students, it can also bring about positive effects. However, in such instances whereby the anxiety level is too high, it can become paralysing instead of motivating students (Shahrouri, 2016).

On the other hand, debilitative anxiety occurs when the level of anxiety exceeds students' coping strategies which then results in students feeling overwhelmed due to the different contextual stressors that they face within the educational environment (Cassady, Pierson & Starling, 2019). This then represents a type of academic anxiety that can affect students in a negative way. In this regard, Shahrouri (2016) argued that academic anxiety is associated with high levels of worry that can have an impact on academic performance. This means that when students are too anxious, too stressed, or too worried, they experience academic anxiety which then leads to negative consequences. Hooda and Saini (2017) argue that a small level of anxiety

can be considered to be normal, however, severe anxiety can lead to serious consequences. Rehman (2016) argues that academic anxiety can be categorised into three types, and these are: severe academic anxiety, moderate academic anxiety, and mild academic anxiety. Severe academic anxiety leads students toward extreme unreal fears (Rehman, 2016). An example of this is when a student believes that they will definitely fail in most of their modules. Students who suffer from severe academic anxiety, often experience negative emotions (Rehman, 2016). On the other hand, moderate academic anxiety is understood as a pre-requisite for successful learning to take place (Rehman, 2016). This type of academic anxiety works as a motivating factor (Rehman, 2016). Lastly, mild academic anxiety mostly works as a de-motivating factor among students (Rehman, 2016). An example of this, is when a student lacks interest in academic activities.

Research that has looked at the correlation between academic anxiety and students' academic performance has found that those students with high levels of anxiety obtained low academic performance as compared to students with low levels of anxiety (Shahrouri, 2016). In this case, one can argue that a high level of academic anxiety is positively related to low academic performance. Additionally, Shahrouri (2016) argued that academic anxiety does not enhance learning among students. Shahrouri (2016) argued that academic anxiety can be caused by factors such as fear of interacting with other students (which might lead to avoidance), fear of what other students, peers, or instructors think of the student, experiencing feelings of worry and nervousness when learning in a second language or a foreign language, and peer competition. These factors represent stressful academic events that are beyond evaluative or testing events. Additionally, Vitasari, Wahab, Othman and Awang (2010) argued that other causes of academic anxiety include identity crises, cultural shock, new roommates, and interpersonal difficulties. With regards to symptoms associated with academic anxiety, Shahrouri (2016) argues that these can include, feeling nervous before class, experiencing an overwhelming sudden fear, lack of concentration, feeling helpless while doing assignments, as well as a lack of interest in challenging subjects. Students also experience physiological symptoms of anxiety which include, palpitations, stomach-ache, sweaty palms, muscle tension, and irritability (Shahrouri, 2016). Ottens (1991) argued that academic anxiety may pervade students' life to a point whereby they experience almost constant dread about their academic work which might also result in students not enjoying campus social activities.

Cassady, Pierson and Starling (2019) have argued that identifying the source or the root cause of academic anxiety can sometimes prove to be difficult and, as such, support personnel need

to explore all possible causes that might have led to a students' academic anxiety. Cassady, Pierson and Starling (2019) argue that in most cases, support personnel often assume that a students' academic anxiety has been caused by taking a test or an examination, however, the reality is that a students' academic anxiety might rest in the classroom setting or even working on a homework in isolation. This then emphasises the need to also pay attention to the general causes of academic anxiety. One can also argue that a general approach to academic anxiety can be helpful especially with what is happening around the world specifically regarding the COVID-19 pandemic. Regarding this, one might find that some students are experiencing academic anxiety which might be cause by general factors such as the inability to adjust from classroom learning to online learning, feeling isolated, or feeling a lack of support from one's lectures as well as from fellow classmates. Such factors can contribute towards feelings of academic anxiety, therefore, it is important to know the exact source or causes of academic anxiety so that students can receive the appropriate help that they need.

With the above causes, symptoms and negative consequences associated with academic anxiety, it would then be important for university institutions to develop various strategies and interventions that would help students to be able to cope with academic anxiety. These strategies and interventions should be aimed at reducing academic anxiety among students. Reducing academic anxiety has been shown to have benefits such as improved academic performance and lower general anxiety levels (Aritzeta, Soroa, Ballauerka, Muela, Gorostiaga & Aliri, 2017). With regards to the health and wellbeing of students, reducing academic anxiety can result in improvements in health, as well as improved psychological wellbeing (Aritzeta, Soroa, Balluerka, Muela, Gorostiaga & Aliri, 2017). One can then argue that these benefits are important in that they can bring about positive academic outcomes among students. One can also argue that not only will students benefit from interventions that will reduce academic anxiety, but university institutions as a whole can also benefit from the development of various strategies and interventions. In this case, university institutions can benefit by gaining a positive image. This is important in that as a university that has high rates of student ill-health and high rates of students who dropout will reflect badly in the eyes of the public and important stakeholders such as the state. Therefore, it is crucial to develop these strategies and interventions. Cassady, Pierson and Starling (2019) have argued that improving the health and well-being of students can be productive not only for the students but for the overall productivity of the institution as well. Likewise, Rehman (2016) has argued that university personnel should be more involved in assisting students to cope with academic anxiety so as to

improve the productivity of the institution as well as to improve the academic performance and success of students. Additionally, Cassady, Pierson and Starling (2019) have argued that most universities are becoming more cognisant of the importance of paying attention to the emotional and psychological needs of their students. This is because university personnel have realised the negative impacts that are associated with psychological issues such as academic anxiety and they have seen the need to assist students to cope with such issues (Cassady, Pierson & Starling, 2019). According to Vitasari, Wahab, Othman and Awang (2010), the prevalence of academic anxiety has been acknowledged by both students and educators across several institutions.

Furthermore, Cassady, Pierson and Starling (2019) have suggested that early intervention efforts can be highly advantageous in that such interventions can enable support personnel within universities to support students who are dealing with potential negative effects and heightened fear responses to academic settings. These early intervention attempts are viewed as having the potential to reduce progressively more severe incidents of academic anxiety for many students as they access support strategies that help them to better cope with stressors in their academic setting (Cassady, Pierson & Starling, 2019). Similarly, Hooda and Saini (2017) have argued that lecturers as well as parents should also learn to recognise the signs of academic anxiety in students. If lecturers and parents assist students to learn to control academic anxiety early, more serious academic problems related to anxiety can be avoided (Hooda & Saini, 2017). Hooda and Saini (2017) have also argued that if academic anxiety is identified on time, it can help to improve students' academic performance. One can also suggest that university institutions should adopt an early intervention, this is because such an intervention can help to raise awareness about the issue of academic anxiety and it can also help to prevent unbearable emotional feelings that are associated with academic anxiety. Regarding this, Cassady, Pierson and Starling (2019) have argued that if early intervention efforts are not successfully achieved on time, growing levels of constant academic anxiety may worsen which might lead to withdrawal, hopelessness, or depression. Similarly, Shahrouri (2016) argued that academic anxiety can become more damaging over time. This then demonstrates the seriousness of academic anxiety as well as the need to intervene at an earlier stage. On the issue of raising an awareness about academic anxiety, Rehman (2016) has argued that there is a need to create awareness among students, lecturers, and parents about academic anxiety, this can be done by organising workshops, seminars, and conferences. One can suggest that such an awareness

should be done at the beginning of the year. In this way, institutions will be able to intervene at an early stage.

One of the strategies that can be applied in order to help students to cope with their academic anxiety would be to enhance students' PsyCap. This is because if we enhance students' PsyCap, we expect there to be a reduction in academic anxiety among students, as students would now have acquired more personal resources that would help them to cope with various stresses that they face in their studies (Providas, 2016). This is, therefore, what this study intends on investigating i.e., does enhancing students' PsyCap reduce students' academic anxiety? The construct of PsyCap is defined as "an individual's positive psychological state of development and is characterised by factors such as hope, self-efficacy, resilience, and optimism" (Riolli, Savicki & Richards, 2012, p. 1203). **Enhancing PsyCap has been found to be effective in enabling employees to cope with stressful conditions that occur within the workplace (Luthans, Luthans & Avey, 2013)**. These psychological capacities or resources are understood as the HERO within (Luthans, Luthans & Avey, 2013). Research indicates that PsyCap has a positive influence on employee's attitudes, behaviours, as well as performance (Luthans, Luthans & Avey, 2013). Research also shows that PsyCap has the ability to empower students with the necessary metal strength that can enable them to cope with adverse circumstances within the academic environment (Riolli, Savicki & Richards, 2012). Thus, enhancing students' PsyCap can benefit students' health and academic performance in that if students are able to cope with factors that would otherwise result in academic anxiety, then we can expect students to perform better than when they are too anxious, or too worried. In addition, we can expect students to have a more positive physical, psychological, and social functioning. Riolli, Savicki and Richards (2012), argued that PsyCap can also assist students to persevere in their studies in a physically and psychologically healthier manner. PsyCap can also be understood as a resource that empowers learning, overcomes uncertainty, and facilitates future goal attainment (You, 2016).

Traditionally, the field of psychology has been dominated by a focus on human dysfunction such as disorders, depression, stress, anger and so forth (Luthans, Luthans & Avey, 2013). This means that psychology was mostly focused on the weaknesses and negative aspects of human beings. Luthans, Luthans and Avey (2013), however, argue that more recently, the focus of the field of psychology has been on positive psychology which focuses more on human beings' positive qualities and traits such as happiness. This implies that the focus is now on human beings' strengths rather than their weaknesses. In this case, Luthans, Luthans and Avey (2013)

argued that the aim of positive psychology has been to promote factors that focus on vitality and health as well as to build on people's strengths instead of focusing more on people's weaknesses. Luthans, Luthans and Avey (2013) also argue that the development of positive psychology has reinforced the idea that psychological strengths and resources can result in the formation of positive attitudes and may also result in desirable outcomes within one's relationships, wellbeing, workplace outcomes, and academic pursuits.

As the primary aim of this research is to explore the effectiveness of an online intervention in reducing academic anxiety, some consideration of the previous use of online interventions seems warranted. Regarding this, Luthans, Avey and Patera (2008) have previously called for the advancement of positive psychology interventions that can supplement traditional interventions. Despite the continuous technological developments as well as the increased knowledge surrounding online interventions, it appears that little work has focused on online positive interventions (Luthans, Avey & Patera, 2008). Nonetheless, an increasingly recommended supplement for traditional methods has been the usage of the internet as a viable media (Luthans, Avey & Patera, 2008). This is especially relevant to this study in that it focuses on enhancing students' PsyCap using an online media platform. A number of studies have examined the effectiveness of online interventions (Luthans, Avey & Patera, 2008). **These studies were based on PsyCap interventions**. The results of these studies suggest that online interventions may in some ways be as effective as traditional interventions, however, for certain types of learning, online interventions can be more effective, than traditional face-to-face classroom interventions (Luthans, Avey & Patera, 2008). Specifically, equivalent outcomes for traditional as well as online techniques were obtained for procedural knowledge, but for declarative knowledge, the online technique was found to be more effective (Luthans, Avey & Patera, 2008). According to Luthans, Avey and Patera (2008), such findings support the usage of the online PsyCap intervention. Luthans, Avey, Avolio, Norman and Combs (2006) have argued that the initial results of the Psychological Capital Intervention (PCI) have suggested that a very brief and focused intervention may be able to enhance participant's PsyCap. In addition, Luthans et al. (2006) have demonstrated that PsyCap can also be developed through an online format. **The PCI model will be discussed shortly as the appropriate model that was adopted within the current study.**

PsyCap can be viewed as going beyond one's economic capital ("what you have"), and one's human capital ("what you know"), as well as one's social capital ("who you know"), and consists of "who you are", and most importantly, "what you can become" (Luthans, Luthans

& Avey, 2013). In this regard, the part of PsyCap that focuses on what one can become, can be understood as pointing to the question of whether or not PsyCap can be developed. PsyCap forms part of positive psychology because it focuses on promoting an individual's positive qualities. Since PsyCap has been found to be associated with positive effects, this then raises the question of how PsyCap can be enhanced or developed. In this regard, Luthans, Luthans and Avey (2013) argued that PsyCap can be developed through relevant training programs; this is because PsyCap is state-like, and it is open for change and development. This implies that PsyCap is flexible, and it can be developed. Positive psychology interventions are therefore defined as intentional activities which are aimed at fostering positive qualities such as positive behaviours, feelings, and cognitions (Luthans, Luthans & Avey, 2013). Therefore, for the purpose of this research, a positive psychology intervention or a PsyCap intervention will be applied with the hope of helping students realise their strengths and full potential. In a similar vein, the PCI model that was developed by Luthans et. al. (2006), which was aimed at increasing the level of PsyCap for performance improvement, found that the PCI was effective in increasing levels of PsyCap in the workplace and in the academic setting (Luthans, Luthans & Avey, 2013). In addition, the PCI model was also applied in a study that was based on undergraduate business students (Luthans, Luthans & Avey, 2013). The results of this study demonstrated that the students in the experimental group showed higher levels of PsyCap as compared to the control group (Luthans, Luthans & Avey, 2013). This study provides support to the notion that PsyCap can be developed using a short training intervention such as that of the PCI (Luthans, Luthans & Avey, 2013) or the one utilised in this study. The findings of their study also argues that business students should benefit from the integration of PsyCap development activities into the business school curriculum (Luthans, Luthans & Avey, 2013). Regarding this, one can recommend that universities should therefore integrate PsyCap development activities into their curriculum and academic training activities. **This is important because it would help promote positive thoughts, as well as positive emotions among students**. Riolli, Savicki and Richards (2012) have argued that higher levels of PsyCap often enable individuals to view events more positively and less negatively, which then result in individuals engaging in more productive coping styles. In pursuit of these outcomes, Luthans et al. (2006) have demonstrated that PsyCap can be developed within short training classroom interventions as well as through an online format.

Many universities or tertiary institutions often have common objectives of developing their students to achieve academic success as well as to produce graduates who have the skills and

knowledge to be successful within their chosen careers (Luthans, Luthans & Avey, 2013). Conventional methods that are utilised to meet these objectives are often centred around a deficiency model that focus on the students' weaknesses (Luthans, Luthans & Avey, 2013). Luthans, Luthans and Avey (2013) have argued that a much overlooked method that could help students to overcome barriers to academic success can be found within the proactive development of students' positive psychological resources. This suggests that universities should focus more on developing methods that are meant to enhance students' strengths instead of developing methods that focus on students' weaknesses. In this case, universities would be adopting a positive psychology approach to enhancing students' learning and development. This approach will also be helpful in terms of addressing students' mental health issues such as academic anxiety. Additionally, Luthans, Luthans and Avey (2013) have argued that deficiency models that focus on students' weaknesses often achieve little results and, in the end, students' weaknesses remain unresolved.

Hope

As mentioned before, the construct of PsyCap consists of four factors or components. The first component is known as hope (Riolli, Savicki & Richards, 2012). Hope is when a person perseveres towards attaining goals, and when there is a need, redirecting paths towards goals (Riolli, Savicki & Richards, 2012). This implies that the concept of hope is concerned with people's goals and how they can attain those specific goals. In addition, it is concerned with the multiple possible ways of attaining those goals. Luthans et. al. (2006) argued that the construct of hope consists of components such as agency, pathways, and goals. Agency represents an individual's drive and determination to reach a specific goal (Luthans, Luthans & Avey, 2013). For example, when students set their specific goals, they need to be determined about reaching those goals and they also need to tell themselves that they will indeed be able to meet or reach those goals. This also speaks to positive self-talk. Pathways on the other hand, refer to an individual's ability to generate multiple strategies or contingency plans to overcome obstacles (Luthans, Luthans & Avey, 2013). This means that when setting goals, individuals should be aware that they might come across certain obstacles and should consider various strategies and solutions of how they are going to overcome these. Luthans et. al. (2006) have argued that there are often obstacles to almost any goal. These obstacles can act as goal blockers which might lead to negative reactions as well as disengagement from pursuing the goal (Luthans et. al., 2006). Luthans, Luthans and Avey (2013) have argued that high-hope individuals have the capability to forecast barriers that could possibly stand in the way of

achieving their goals. Regarding this, one can argue that high-hope individuals are therefore better able to strategize the different ways that could help them to achieve their goals.

By enhancing PsyCap, one could motivate students to be goal-oriented so that we can develop the hope component of PsyCap. For example, a goal-setting intervention could be developed in which students can identify their academic goals as well as identifying how they are going to achieve those goals. This would also include encouraging students to think of different ways of solving the problems that they might come across when working towards their goals. Using a goals-based, contingency planning framework, Luthans, Luthans and Avey (2013) were able to demonstrate that the hope component is developable. This demonstrates that the hope component can be effectively developed through a goal-setting framework. Additionally, Luthans, Luthans and Avey (2013) argue that due to its association with academic success, hope can enable students to set valued goals and to identify the means to achieve their goals, as well as enabling students to summon the motivation to achieve their set goals.

Self-Efficacy

The second component of PsyCap, self-efficacy, is defined as an individual's belief in his or her ability to be successful in a given task as well as them putting in the needed effort to succeed in the task at hand (Luthans, Luthans & Avey, 2013). Albert Bandura is known as the founding theorist of the concept of self-efficacy (Maddux & Gosselin, 2012). Bandura explained that people often dedicate more effort to tasks where they have higher efficacy than those where they have lower self-efficacy (Luthans, Luthans & Avey, 2013). More importantly, an individual's sense of self-efficacy can play a major role in how he or she approaches tasks, challenges, and goals (Bandura, 1977). For example, if an individual believes that he or she has the ability to succeed in a specific task, then that individual is most likely to approach that task with confidence and a positive mind-set. This will then ensure that the individual succeeds in achieving their task. Luthans, Luthans and Avey (2013), suggest that individuals with low self-efficacy often experience stress and anxiety because they tend to expect to fail. One can argue that these are people who do not believe in themselves and as a result, in every task they perform they always expect to fail. In contrast, individuals with high self-efficacy enter stressful situations with assurance and as a result, are able to resist and withstand stressful reactions (Luthans, Luthans & Avey, 2013). Self-efficacy is also said to influence students' levels of persistence, perseverance, and effort (Luthans, Luthans & Avey, 2013).

Self-efficacy is derived from sources such as mastery experiences, vicarious experiences, verbal persuasion, and emotional and physical experiences (Bandura, 1977). These sources can be utilised to improve and increase one's self-efficacy beliefs and expectations (Bandura, 1977). Mastery experience is considered to be the most influential component of self-efficacy (Bandura, 1977). This source is based on one's past performance. According to Bandura (1977), mastery experiences enhance an individual's self-efficacy beliefs if the past performance was executed successfully, and it further strengthens an individual's beliefs if the successful performance is repeated. Regarding this, one can argue that executing a task successfully can increase one's confidence and, as a result, the individual will most likely be successful if he or she repeats the same task again. The individual will therefore gain a sense of mastery over a task that was completed successfully as well as over a task that was repeated successfully (Chowdhury, 2021). An individual's self-efficacy beliefs can decrease if the past performance was poorly executed and it can further be weakened through occasional failures which can nonetheless be overcome by a performance that is accomplished despite having faced adverse conditions or difficulties (Bandura, 1977). Akhtar (2008) argues that having a resilient sense of self-efficacy requires experience in overcoming difficulties through effort as well as perseverance.

The second source of self-efficacy which is known as vicarious experiences originates from observing others around us, especially people that we can relate to or people that we consider as role models (Chowdhury, 2021). Chowdhury (2021) argues that observing people similar to ourselves succeed or hearing about their success stories can motivate us to believe that we too possess the abilities to master the activities needed for success in that specific area. For example, in order to enhance students' self-efficacy, we could encourage those students who seem to be struggling to cope with their academic work to observe their fellow classmates who are both excelling and coping well with the pressure of being a student. In doing this, students who are struggling to cope can draw some motivation from their fellow classmates who seem to be coping well both academically and mentally. It is also essential for students to think about placing themselves in positive situations and to also find efficacious role models (Luthans, Luthans & Avey, 2013). Regarding this, one can argue that students should find mentors who will guide and motivate them to always believe in their own abilities and to never give up on their dreams. In addition, Bandura (1977) argued that an individual's self-efficacy is reduced if the model's performance has negative outcomes.

The third source of self-efficacy is known as verbal persuasion. This source argues that influential people in one's life such as educators, parents, coaches, or managers can strengthen one's beliefs that he or she has what it takes to succeed (Akhtar, 2008). Therefore, being persuaded that we possess the abilities to master certain activities implies that we are more likely to put in the needed effort and sustain it when difficulties arise (Akhtar, 2008). In order to improve students' self-efficacy, influential people such as lecturers, parents, and tutors could try to persuade or convince the students of their capability to achieve the goals that they have set for themselves. The fourth source of self-efficacy which is known as emotional experiences, argues that an individual's current state will often influence how the individual judges their self-efficacy (Akhtar, 2008). For example, negative emotional states such as anxiety can reduce an individual's confidence in their capabilities (Akhtar, 2008). Positive emotions on the other hand, can help enhance one's confidence in their skills (Akhtar, 2008). This means that students who are experiencing a negative emotional state such as academic anxiety, will often perceive their academic anxiety as a sign of vulnerability to poor performance, as a result, they will lack confidence in their skills and abilities. It is therefore important for university institutions to develop effective ways of addressing this negative emotional state of academic anxiety. Overall, self-efficacy can be understood as a set of beliefs that individuals hold about their own capability to complete a particular task. An individual's sense of self-efficacy often provides the foundation for motivation, well-being, and personal accomplishment (Akhtar, 2008). Individual's beliefs in their capabilities are developed by four main sources of influence, and these are, mastery experiences, vicarious experiences, persuasion, and emotional experiences (Akhtar, 2008). Low self-efficacy has been linked to negative experiences such as stress and anxiety (Luthans, Luthans & Avey, 2013). On the other hand, high self-efficacy is associated with benefits such as resilience to adversity and stress (Akhtar, 2008).

Optimism

As the third component of PsyCap, the construct of optimism is understood as a positive expectation about succeeding now and in the future (Riolli, Savicki & Richards, 2012). Individuals who are optimistic tend to interpret negative situations as being temporary and external (Luthans, Luthans & Avey, 2013). One can then argue that optimistic people do not dwell on negative circumstances or situations because they perceive those situations as temporary. Optimistic individuals also perceive positive situations as having personal and permanent causes (Luthans, Luthans & Avey, 2013). Additionally, optimistic individuals are

also more likely to be motivated to accomplish their goals, this is because they expect a successful outcome (Luthans, Luthans & Avey, 2013).

Seligman (2018) offered specific guidelines which are meant to develop realistic optimism within individuals. This framework for developing one's optimism is referred to as the ABCDE model and it is also designed to change one's internal dialogue (Seligman, 2018). This model argues that individuals first need to reflect, diagnose, and identify self-defeating beliefs when faced with hardships (Seligman, 2018). The next action that individuals should take is to reflect as well as to evaluate the accuracy of their beliefs (Seligman, 2018). Lastly, if an individual's beliefs are questioned they should then be replaced with more realistic, accurate, and constructive beliefs (Seligman, 2018). Within the educational context, we could develop students' optimism by encouraging and motivating students to maintain a positive internal dialogue. In this case, we could also encourage students to remain motivated in pursuing their goals and to be hopeful that they will be successful in achieving those goals. More important, we could also encourage students to avoid self-defeating thoughts because such thoughts can have a negative impact on how students view their personal abilities. In this regard, having self-defeating beliefs could lead to students believing that they are not capable of achieving their goals.

In support of Seligman's arguments for changing an individual's level of optimism, Carver and Scheier (2002) have argued that changing an individual's level of optimism is possible through developmental interventions. This implies that individuals can be trained to become more optimistic. Riolli, Savicki and Richards (2012) have argued that it is important to train students to develop more optimistic explanatory styles because this can help students develop more constructive envisioning of the future and it can also help improve students' long-term health outcomes. This means that enhancing students' level of optimism could help students cope with academic anxiety and it could possibly help to alleviate the negative emotion of academic anxiety among students. Therefore, university institutions are encouraged to develop interventions that are meant to promote a more positive psychological outlook among students (Riolli, Savicki & Richards, 2012).

Resilience

The last component of PsyCap, known as resilience, is characterised by patterns of positive adaptation within the context of adversity, as well as the ability to 'bounce back' from failure, uncertainty, and hardship (Luthans, Luthans & Avey, 2013). Luthans, Luthans and Avey

(2013) also argue that individuals who are resilient are able to cope with failures and setbacks. This means that resilient individuals do not give up easily because whenever they are faced with adversity or setbacks, they are able to regroup and chase their dreams and goals again. Luthans, Luthans and Avey (2013) have argued that resilient individuals also possess positive adaptive behaviours and they also find effective ways of coping with negative thoughts and emotions. One could then argue that it is important for students to remain resilient and to always find effective ways of coping with academic stressors. This is because most students often develop ineffective coping strategies such as poor eating as well as poor sleeping patterns, where such coping strategies are often unhelpful and can be harmful to one's health.

Furthermore, instead of becoming emotionally distracted, individuals who are resilient often take on challenges and recover from mistakes (Luthans, Luthans & Avey, 2013). In order to enhance students' level of resilience, we could encourage students not to dwell on their mistakes or failures but to find ways to quickly recover from their mistakes and to always be willing to take on challenges that might come their way. Strategies that relate to resiliency enhancement include, the asset-focused strategy as well as the risk-focused strategy (Luthans, Luthans & Avey, 2013). The asset-focused strategy emphasises the need for individuals to utilise personal as well as institutional or organisational resources that can increase the probability of desirable outcomes (Luthans, Luthans & Avey, 2013). The risk-focused strategy for resiliency development revolves around avoiding or managing risks in order to increase the chances that undesirable outcomes will be prevented (Luthans, Luthans & Avey, 2013).

Psychological Capital as a Personal Resource and other Personal Strategies

It is important to note that the components of hope, self-efficacy, and optimism are often regarded as proactive constructs, on the other hand, the component of resilience is regarded as a more reactive capacity that individuals draw on when faced with difficulties (Luthans, Luthans & Avey, 2013). Luthans, Avey and Patera (2008) have argued that the constructs of PsyCap are highly related and are also integrated with each other. For example, individuals with high optimism might have a positive viewpoint in general, and when combined with self-efficacy and hope, these individuals might also have the persistence to purse various alternative pathways when needed to achieve their goals as well as their optimistic expectations (Luthans, Avey & Patera, 2008). In this regard, one can argue that the four components of PsyCap act in an interactive and collaborative manner. Additionally, Luthans, Avey and Patera (2008) have argued that PsyCap can therefore, be understood as a core construct in positive psychology.

Moreover, when it comes to psychological symptoms such as stress and other health problems, PsyCap has been found to buffer the impact of stress so that the relationship between stress and negative consequences are reduced (Riolli, Savicki & Richards, 2012). One can then argue that in the academic context, PsyCap can also be expected to act as a buffer to the stressors that would otherwise elicit academic anxiety. Additional strategies that can be drawn from positive psychology for developing PsyCap as well as promoting a sustainable positive mind-set among university students include strategies such as gratitude expressions (Luthans, Luthans & Avey, 2013). Regarding gratitude expressions, students could be asked to keep a journal during the course of the semester, whereby they could be asked to write down all the things they feel grateful about (Luthans, Luthans & Avey, 2013). One could then argue that this strategy can assist students to realise that as much as things might not be going according to how they have planned, but there are nonetheless still certain things that they can still be grateful for. In this regard, this strategy could also assist students to focus their energy on the positive aspects of their lives. Another strategy that can be drawn from positive psychology is to focus on students' physical and mental well-being, by encouraging them to engage in physical exercise and to meditate regularly (Luthans, Luthans & Avey, 2013). This is important because staying physically fit and taking care of one's mental health can be effective in preventing certain disorders and diseases and it can also be effective in assisting students to cope with the different disorders that they might be experiencing. In addition, students are also encouraged to find out what triggers their academic anxiety (Shahrouri, 2016). This is important because it can help students to be aware of the factors that often activate their academic anxiety and will enable the students to properly address their academic anxiety. When faced with academic anxiety, students should find someone with whom they can talk (Shahrouri, 2016). These may include personnel such as academic advisors or academic supervisors (Shahrouri, 2016). Within the University of the Witwatersrand, students can visit the Counselling and Careers Development Unit (CCDU) to get counselling services at no cost. **However, because of COVID-19, students are advised to contact the CCDU through email or by contacting the Unit telephonically. Likewise, students can also receive emergency telephonic counselling by contacting the Wits Student Crisis Line**. This then relates to the asset-focused strategy for resiliency development.

The above section has focused on academic anxiety and its associated negative consequences. This section has also demonstrated the importance of reducing academic anxiety as well as the role that PsyCap can play in reducing academic anxiety among students. The section that

follows focuses on the Conservation of Resources (CoR) model so as to provide an explanatory framework through which the relationship between PsyCap and academic anxiety can be understood.

The Conservation of Resources Model

The CoR model represents a stress model, and the basic assumption of this model is that individuals are often motivated to protect their current resources, and to acquire new resources (Halbesleben, Neveu, Paustian-Undedahl & Westman, 2014). The CoR model argues that what human beings view as threatening is the possibility of losing their valued resources or an actual loss of their resources (Hobfoll, 1989). This shows that this model is centred around the importance of resources and the extent to which people value their resources. Within the academic context, students are most likely to be protective of their resources such as their well-being and they are most likely to feel threatened when they feel that they do not have support from their lecturers or tutors. In this case, if students perceive that they do not have academic support from their lecturers or tutors, this might have a negative effect on their academic success and well-being. This is because a lack of support from important people such as one's lecturers or tutors might lead to students feeling anxious or worried about their academic success, especially if the students are struggling with their academic work. As a result, students might end up not succeeding because they do not have the support they need. Individuals often seek to attain resources such as physical resources, social resources as well as psychological resources (Maslow, 1968, as cited in Halbesleben, Neveu, Paustian-Undedahl & Westman, 2014).

The CoR model also views stress as a major issue that affects people's lives, where stress is understood as being linked with mental and physical health problems (Hobfoll, 1989). Psychological stress is defined as "a reaction to the environment in which there is a threat of a net loss of resources, the net loss of resources, or a lack of resource gain following the investment of resources" (Hobfoll, 1989, p. 516). One can then argue that resources play a crucial role in understanding how individuals come to experience stress. According to Hobfoll (1989), resources are defined as personal characteristics, objects, conditions or energies that are valued by human beings. Personal characteristics are viewed as resources to the extent that they usually aid stress resistance (Hobfoll, 1989). Studies of several personal resources indicate that various personal skills and traits aid stress resistance (Hobfoll, 1989). This implies that personal characteristics can assist individuals to resist stress. In this regard, one could argue that possessing positive emotions such as those associated with PsyCap could help individuals

resist negative emotions and reactions associated with stress. Object resources are valued by individuals because of some aspect of their physical nature or because of their acquiring secondary status value based on their expense and rarity (Hobfoll, 1989). Additionally, object resources are generally associated with socioeconomic status, which has been found to be an important factor in stress resistance (Hobfoll, 1989). Regarding conditions, these are also considered as resources because they are valued by individuals and they are therefore, sought after (Hobfoll, 1989). Tenure, seniority, as well as marriage are considered to be examples of desirable conditions (Hobfoll, 1989). According to Hobfoll (1989), different roles such as being a student, an employee, and a partner are important in understanding individual's stress resistance capacity. In order to understand an individual's stress resistance capacity, we can evaluate the individual's role, and the responsibilities that come with that role, as well as the support system that the individual has. For example, the role of being a student comes with specific responsibilities, if a student is coping well with their responsibilities and they are also receiving support from relevant people, they stand a good chance of being able to resist stress. Additionally, studies have found that being in a good and a healthy social relationship can be considered as a resistance resource (Hobfoll, 1989). Energies are considered to be the last resource category, this category consist of resources such as knowledge, money, and time (Hobfoll, 1989). These kinds of resources are regarded as important in that they assist individuals to attain other kinds of resources (Hobfoll, 1989). For example, money can enable individuals to attain other resources, such as material resources. It is important to note that the value of resources differs between individuals and it is often linked to their personal experiences and situations (Halbesleben, 2014). This means that what other individuals view as valuable might not be valued by other individuals. Hobfoll (1989) argues that there are certain environmental circumstances that may threaten or cause a reduction of people's resources and as a result, these environmental circumstances might threaten people's positions, status, economic stability, self-esteem or basic beliefs. Additionally, the CoR model also identifies other factors such as mastery, learned resourcefulness, self-esteem, employment, and socioeconomic status as the kinds of resources that people value (Hobfoll, 1989). These resources fall under the above mentioned resource categories.

The CoR model aims to move beyond just predictions of stress reactions in that it seeks to understand individual's motivation following the experience of stress as well as individual's motivation or actions when they are not faced with stress (Halbesleben, Neveu, Paustian-Undedahl & Westman, 2014). This is very important in that when applied to settings such as

the academic setting such a model can be applied to develop strategies of what students can do when they are not faced with academic anxiety rather than only focusing on what must be done when students are already faced with academic anxiety. This would also help in preventing the psychological distress that many students face. In this regard, Hobfoll (1989), argued that when individuals are not currently faced with stress, they tend to strive to develop additional resources as a way to avoid the possibility of future loss. This implies that when people are not faced with stress, they make the means to accumulate more resources in order to prevent stress that could result from a future loss of resources or a threat to their resources. Hobfoll (1989) goes on to argue that when individuals develop additional resources, they are more likely to experience positive wellbeing. However, individuals who are ill equipped to gain resources are therefore seen as being vulnerable, as a result, such individuals rely on prevention of resource loss (Hobfoll, 1989). This means that such individuals become protective of their resources to avoid a loss of those resources. In addition, other people acquire more resources by investing other resources (Hobfoll, 1989). On the other hand, when individuals are faced with stress, they strive to minimise net loss of resources (Hobfoll, 1989). According to Hobfoll (1989), both perceived and actual loss of resources or lack of gain are understood as leading to stress. Resources can, therefore, provide us with a basic understanding of stress (Hobfoll, 1989). Within the academic context, it could be argued that universities should make an effort to be aware of the kinds of resources that students value. This is particularly important because knowing the kinds of resources that are valued by students, will enable universities to help students attain and protect those valued resources.

It is worthwhile to note that employing resources for coping can also be stressful in itself (Hobfoll, 1989). Illustrating this point, studies have found that during the coping process, individuals deploy resources sometimes to the point whereby they deplete these resources (Hobfoll, 1989). **Energy is used up, self-esteem is risked, and favours are also used up, all in the process of avoiding loss as well as other potential loss (Hobfoll, 1989)**. In instances whereby the resources expended in coping exceed the resultant benefits, then the outcome of coping is most likely to be negative (Hobfoll, 1989). This implies that the process of coping with difficulties can become exhausting for individuals more especially if a lot of resources are being utilised in the process of coping. Additionally, studies have found that individuals who were required to give support to others, at a time when they themselves needed support, often experienced psychological distress (Hobfoll, 1989). Hobfoll (1989) argues that resources are often not distributed equally, and individuals who lack resources are most likely to be

vulnerable to additional losses. This is particularly relevant to the South African context whereby resources are often distributed unequally. Hobfoll (1989) goes on to argue that through the process of resource replacement, individuals can make use of other resources in order to avoid net loss. This implies that following a loss of certain resources, individuals can replace those resources with other resources.

Furthermore, several studies have examined the ways in which resources are invested following the process of resource losses (Halbesleben et al., 2014). In their paper, Halbesleben et al. (2014) explained a number of corollaries in order to help understand the complexity of the resource investment process (see Figure 1). The first Corollary of the resource investment process states that individuals who possess resources are better able to invest those resources (Halbesleben et al., 2014). Regarding this, Halbesleben et al. (2014) have argued that those with a pool of resources to draw from, have higher chances to invest resources. Corollary 2 argues that as individuals lose their resources, investing resources becomes more difficult, this is known as a resource loss spiral (Halbesleben et al., 2014). This is because individuals might not have enough resources to invest. Corollary 3 argues that as individuals gain resources, they are then better able to invest and gain additional resources, this is known as a resource gain spiral (Halbesleben et al., 2014). This implies that those who possess resources always stand a good chance of gaining even more resources. This is whereby such issues as inequality become more evident. On the other hand, Corollary 4 argues that as individuals lose resources, they then become more defensive about how they invest future resources (Halbesleben et al., 2014). This relates to the action of protecting one's valued resources.

Figure 1

Basic Principles of Conservation of Resource Theory.

Label	Description
Principle 1	Resource loss is considered to be more salient as compared to resource gain.
Principle 2	Individuals are encouraged to invest resources in order to gain resources and to protect themselves from losing resources or to recover from resource loss.
Corollary 1	People with more resources are better able to gain resources. However, people who have less resources are most likely to experience resource losses.
Corollary 2	Initial resource losses can lead to future resource losses.
Corollary 3	Initial resource gains are most likely to lead to future resource gains.
Corollary 4	A lack of resources often leads to defensive efforts to conserve the remaining resources.

Providas (2016) has argued that PsyCap could be considered as one such resource that individuals seek to protect (during times of stress) and develop when resource acquisition is possible. Students that experience increased levels of PsyCap could be argued to have acquired a personal resource that may mitigate against the effects, such as academic anxiety, of stressful university environments. As such, the CoR model provides a theoretical context within which to explain and unpack the expected benefit that improving PsyCap would have upon the academic anxiety levels of students. Hobfoll (1989) argues that people often seek to create a world that will provide them pleasure as well as success. This ties directly with PsyCap and the CoR model. This is because by enhancing PsyCap, we want to ensure that individuals live a fulfilling and enjoyable life through the positive emotions that are associated with PsyCap. Likewise, as a resource-oriented model, CoR encourages individuals to retain, protect, and build the necessary resources that will enable them to live a fulfilling and a successful life.

Regarding the need for such research, there are several important gaps that have been identified within the literature. According to Shahrouri (2016), numerous psychologists within the profession of educational psychology have carried out a number of research on academic anxiety and its associated negative outcomes for different levels of study. These psychologists have acknowledged that this topic needs more attention (Shahrouri, 2016). One can indeed agree with the findings of these psychologists regarding the gap in the literature and more research needs to be done on academic anxiety. This is important because students and educators will have a lot to learn from such a topic, particularly as the intervention put forward in this research stands to benefit students through the promotion of PsyCap.

The above literature review started off by discussing the construct of academic anxiety. It was demonstrated that some students are unable to cope with academic anxiety and as a result, they experience the negative effects that are associated with it. The literature review also raised the argument that a PsyCap intervention will help students cope with academic anxiety. Therefore, this research is aimed at exploring the construct of academic anxiety and to develop a PsyCap intervention that can possibly be used to reduce academic anxiety among students. The CoR model has been discussed to support the idea that enhancing students' PsyCap could possibly alleviate the experience of academic anxiety.

Research Questions

1. What is the relationship between psychological capital and academic anxiety at Time 0, Time 1, and Time 2 of the study?
2. Is the psychological capital intervention effective in reducing levels of academic anxiety?
    a. Sub-questions:
        i. Is there a difference in the pre-and-post-intervention PsyCap scores for the control group?
        ii. Is there a difference in the pre-and-post-intervention PsyCap scores for the experimental group?
        iii. Is there a difference in the pre-and-post-intervention academic anxiety scores for the control group?
        iv. Is there a difference in the pre-and-post-intervention academic anxiety scores for the experimental group?

Chapter Two: Methods

Research Design

This research is a quantitative research study, which is underpinned by a quasi-experimental research design. A quantitative quasi-experimental research design method is appropriate in that the research is aimed at investigating the effectiveness of PsyCap interventions in reducing students' academic anxiety. In doing this, the research developed an intervention aimed at reducing students' level of worry towards their studies. This included the utilisation of a pre-test and a post-test technique whereby students' level of worry was measured before and after the intervention in order to evaluate whether the intervention was effective in reducing academic anxiety among students. Therefore, a research project of this nature can be better addressed through a quantitative quasi-experimental research design. In this regard, Wharrad and Silcocks (2009) argued that if a researcher wants to compare the effectiveness of one or more interventions, then it would be more appropriate to utilise such designs.

Furthermore, a quantitative quasi-experimental research design is also applicable in that there was the manipulation of the IV, there was also an experimental group and a control group. Although random assignment was not utilised as students already belonged to a tutorial programme (see procedure), the tutorial groups were randomly assigned to the control or experimental groups. One of the advantages of a quasi-experimental research design is that it is a useful method for having stronger evidence for causal relationships between variables (Wharrad & Silcocks, 2009). However, such a research design tends to be time consuming (Black, 1998).

Sample and Sampling

The sample consisted of 110 participants. The initial aim was to have 65 students in each group (experimental and control group). A sample size calculator utilising previous effects sizes obtained in previous similar research was utilised to indicate an appropriate sample size for the research. Participants consisted of first year psychology students, from the University of the Witwatersrand, Johannesburg, in South Africa. This sample is appropriate in that the research focuses on enhancing PsyCap among students in order to reduce students' academic anxiety. Since the sample was drawn from a South African university, generalisability might be compromised because the circumstances and experiences of South African students might be different to those students in other countries. This is because South African students are not a representative of students in the whole world, and they are also certainly not a representative

of all the university students in South Africa. Gelo, Braakmann and Benetka (2008) defined generalisability as the extent to which the results of a particular research can be applied to larger populations. Moreover, according to Laher and Botha (2012) bigger samples are more representative of the population which then increases generalisability.

More specifically, the sample consisted of participants aged from 17-65 years (M =19.34, *Median* = 19.00, SD = 3.09) (See Table 1). The participant's ages as well as the associated percentages were as follows: 17 years (0.8%), 18 years (23.6%), 19 years (41.5%), 20 years (16.3%), 21 years (4.5%), 22 years (1.8%), 23 years (1.4%), 24 years (0.2%), 25 years (0.4%), 26 years (0.2%), 29 years (0.4%), the remaining participants who were aged 33 years, 36 years, 38 years, and 65 years each comprised of (0.2%) (See Table 2, in Appendix K). It is therefore evident that the majority of the sample were aged 19 years, followed by those aged 18 years, then followed by those aged 20 years. The rest of the participant's ages fell within the minority. It is important to note that there were a few participants that did not answer the age-related question, this then resulted in the data having a small percentage of missing values within the age category. Since the missing values were only in the age category, there were therefore included in the demographic tables. Also, since it was a small percentage of missing values, the analyses were also not affected by this small percentage.

The sample also consisted of 76.4% of females, making up the majority of the sample, and 15.2% of males, those who fell within the "Other" category made up 0.8%; making up the minority of the sample (See Table 3). Regarding racial ethnicity, 56.1% of the sample were Black African, 14.6% of the sample were White, 12.6% were Indian, 7.1% were Coloured, 0.4% were Asian, those who fell within the "Other" category made up 1.0% (See Table 4). With regards to the participant's home languages, the percentages were as follows: Those who had English as their home language made up 38.4%, those who had Afrikaans as their home language made up 1.6%, those who had IsiZulu as their home language made up 19.3%, those who had Sesotho as their home language made up 4.5%, those who had Tshivenda as their home language made up 1.8%, those who had Setswana as their home language made up 6.7%, those who had IsiXhosa as their home language made up 7.7%, those who had Sepedi as their home language made up 3.1%, the "Other" category comprised of 8.7% (See Table 5). In terms of faculty, 78.7% of the participants were registered with the faculty of Humanities, 8.1% of the participants were registered with the Science faculty, and those who were registered with the faculty of Commerce, Law, and Management made up 4.5% (See Table 6). The number of years that the participants have been at the university ranged from 1 to 6 years, and the

percentages are as follows: those that have been at the university for 1 year made up 79.7%, those that have been at the university for 2 years comprised of 7.9%, those that have been at the university for 3 years made up 0.8%, those that have been at the university for 4 years made up 1.0%, those that have been at the university for 5 years comprised of 0.4%, and those that have been at the university for 6 years comprised of 0.2% (See Table 7).

This research utilised a non-probability, convenience sampling. Participants volunteered to be part of the study. According to Laher and Botha (2012) convenience sampling is a technique in which the researcher selects the sample based on individuals or people who are readily available. In this research, first year psychology students who were readily available made part of the research. Convenience sampling is cost efficient and simple to implement (Stangor, 2011). However, convenience samples are not representative of the broader population (Laher & Botha, 2012). Additionally, this study can be classified as longitudinal in nature with 3 time points (Time 0, Time 1, and Time 2).

Table 1

Sample Demographic Characteristic: Age

Mean	19.34
Median	19.00
Standard Deviation	3.09
Minimum	0
Maximum	65
Total	110
Missing	39

Table 3

Sample Demographic Characteristic: Gender

Gender	Frequency	Percentage (%)
Female	388	76.4
Male	77	15.2
Other	4	.8
Total	469	92.4
Missing	359	7.7
Total	110	100.0

Table 4

Sample Demographic Characteristic: Racial Ethnicity

Racial Ethnicity	Frequency	Percentage (%)
Black African	285	56.1
White	74	14.6
Indian	64	12.6
Coloured	36	7.1
Asian	2	.4
Other	5	1.0
Total	466	91.8
Missing	356	8.3
Total	110	100.0

Table 5

Sample Demographic Characteristic: Home Language

Home Language	Frequency	Percentage (%)
English	195	38.4
Afrikaans	8	1.6
IsiZulu	98	19.3
Sesotho	23	4.5
Venda	9	1.8
Setswana	34	6.7
IsiXhosa	39	7.7
Sepedi	16	3.1
Other	44	8.7
Total	466	91.8
Missing	356	8.3
Total	110	100.0

Table 6

Sample Demographic Characteristic: Faculty

Faculty	Frequency	Percentage (%)
Humanities	400	78.7
Science	41	8.1
Commerce, Law, & Management	23	4.5
Total	464	91.3
Missing	354	8.7
Total	110	100.0

Table 7

Sample Demographic Characteristic: Years at University

Years at University	Frequency	Percentage (%)
0	12	2.4
1	405	79.7
2	40	7.9
3	4	.8
4	5	1.0
5	2	.4
6	1	.2
Total	469	92.4
Missing	359	7.7
Total	110	100.0

Procedure

The first thing that I did was to apply for an ethics clearance from the University of the Witwatersrand's Human Research Ethics Committee (Non-Medical). Since I utilised students as a sample, I was obliged to get a permission letter from the course coordinator and from the Dean of Students. I therefore, sent a letter requesting permission to access the student sample (See Appendix B). Permission was obtained for the first-year tutorial programme for all students in the programme to be exposed to the PsyCap intervention and the time management intervention. As such, participation in the project involved the completion and submission of the questionnaire. Students were approached during their online tutorial programme. In this case, I explained the research to the students, and I also explained what was required from them. Tutorial groups were randomly assigned to the experimental group and the control group. A participation information sheet was utilised to obtain students' consent to participate in the study (See Appendix C). The participation information sheet was sent to students via ULWAZI (the Wits student portal). After giving their consent, students then participated in the intervention. The intervention took place online via a Microsoft Teams meeting.

A week before the intervention, students received the information participation sheet, the demographic questionnaire, the Academic Anxiety Scale, as well as the PsyCap questionnaire.

In the week after the completion of the demographic questionnaire (See Appendix D), the Academic Anxiety Scale (See Appendix J), and the PsyCap questionnaire (See Appendix E), students then participated in a live online micro-intervention session of either the PsyCap micro-intervention (See Appendix G) or the time management micro-intervention (See Appendix I). It is important to note that these interventions formed part of students' tutorial programme. This means that students who did not participate in the study also received the intervention. This is because both the PsyCap and the time management interventions were posted on the Wits student portal following the presentation of both interventions. However, participation in this study was voluntary. Each intervention included an exercise that students had to engage with.

Wharrad and Silcocks (2009) have argued that having a control group might sometimes be considered unethical. To combat this issue, this research made use of a waitlist design. Based on this, the control group also got a chance to receive the PsyCap intervention at a later stage in the study. This means that there were two phases with regards to the intervention, in the first instance, the pre-test and post-test technique was applied whereby only the experimental group received the PsyCap intervention. In the second instance, the control group got an opportunity to receive the PsyCap intervention as well.

The PsyCap intervention was 45 minutes long (Appendix H) and it was administered through a live session on Microsoft Teams. This intervention started off by explaining the main ideas around the construct of PsyCap. Following this, participants engaged in a written exercise which was aimed at enhancing all the four components of PsyCap (hope, self-efficacy, optimism, and resilience). This intervention was based on 8 steps; in the first step, participants were encouraged to think of an academic-related challenging situation with which they are currently faced. In the second step, participants were provided with an explanation of how they should reflect on their mind-set, in this instance, participants had to take a minute to understand the nature of their mind-set when the situation first occurred, and when they initially assessed the risk, as well as the way in which they responded (Knudson, 2019). The third step required the participants to frame the situation again in terms of its actual impact. Thereafter, in step four, participants had to identify and list helpful skills and resources (this included, knowledge, time management, classmate networks, ideas from others, creativity, as well as past experience) that could be helpful in responding to the challenge (Knudson, 2019). Step five required the participants to set one specific goal, this goal had to be directly related to overcoming the academic-related challenge that was mentioned above. This had to be a S.M.A.R.T. (Specific,

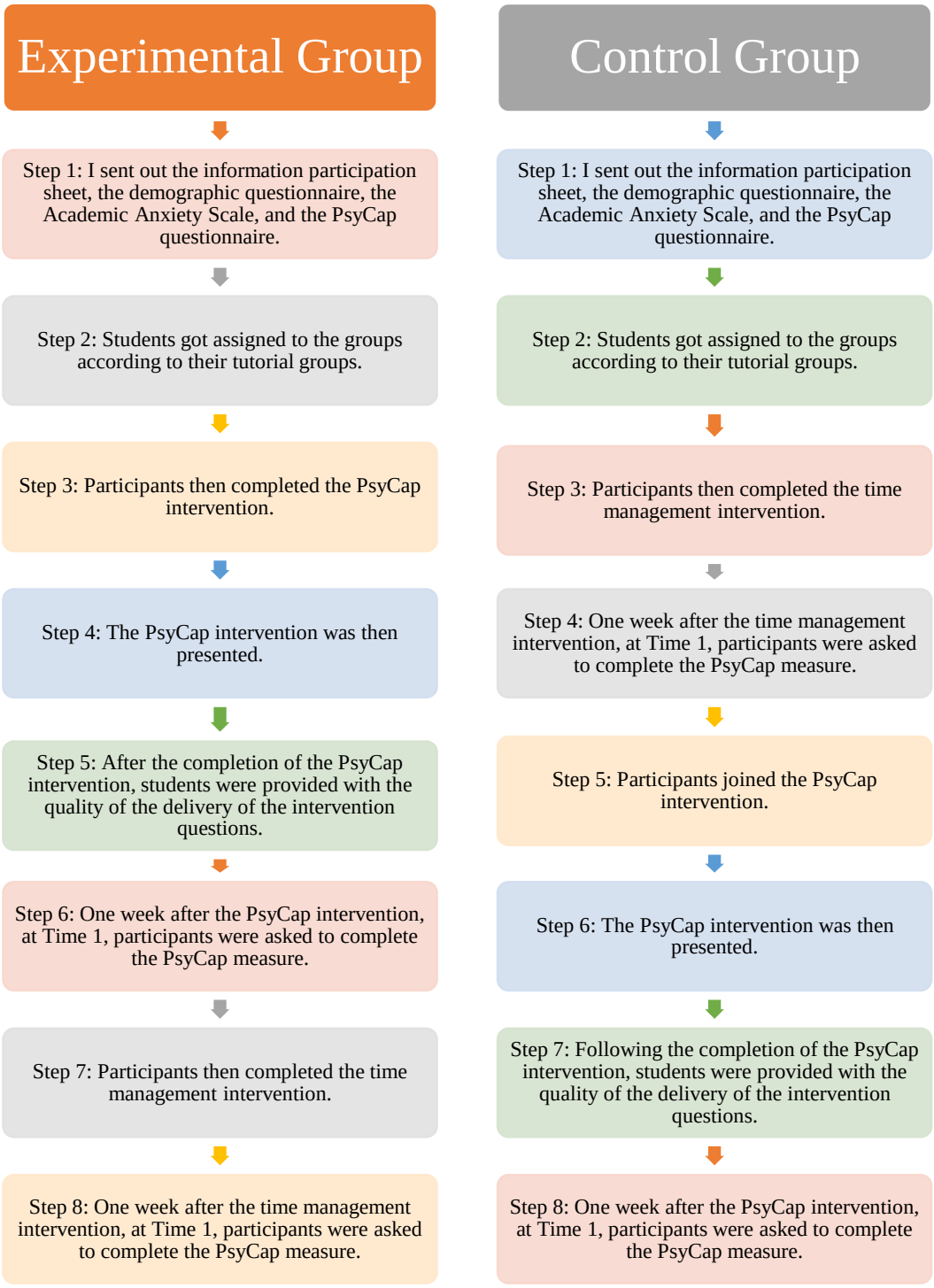
Measurable, Attainable, Relevant, and Timely) goal. However, if the goal was big, it had to be broken down into more manageable tasks.

In the sixth step, participants identified the various ways in which they can achieve their goal. Related to this, participants had to mention all the possible paths to achieve their goal, as well as the different skills and resources that were needed for each pathway (Knudson, 2019). Step seven required the participants to identify and plan ways to overcome potential obstacles that could get in the way of each path they identified in step 6. Lastly, participants had to set aside 10 minutes every day and think through the steps above and visualise their success. In this case, they were asked to imagine using their resources to navigate the different paths toward their goal (Knudson, 2019).

The participants in the control group received a placebo treatment in the form of a time management micro-intervention. The time management intervention made use of a technique known as a Pomodoro technique. A Pomodoro technique is a method that allows individuals to focus their time in short burst on one specific task at a time (Giesbrecht, 2015). I began this intervention by introducing the Pomodoro time management technique as well as providing the students with some background information. Participants were required to draw up their own Pomodoro schedule which they could also use when studying for examinations. I also engaged in an interactive discussion with the students on whether they think that this intervention will be useful for them in their studies. The time management intervention lasted for 45 minutes (Appendix I).

After one week, participants were sent an email and once again they were asked to complete the PsyCap questionnaire. In this case, participants from the PsyCap intervention group were invited to take part in the time management intervention and participants from the time management intervention were invited to take part in the PsyCap intervention. After two weeks, participants were again sent an email that asked them to fill in the PsyCap questionnaire on survey google forms. The participants filled in the demographic questionnaire, the Psychological Capital Questionnaire (PCQ), and the Academic Anxiety Scale. This took about 15-20 minutes.

A diagram representing the timeline for the experimental and the control group.



Instruments

This research made use of a self-developed questionnaire which consisted of the demographic information of gender, age, race, and level of study of the participants. This demographic information was required for the purpose of making a basic comparison of results for example, across gender, age, and race. Additionally, in order to be able to identify the participants in Time 1 and Time 2, the participants were asked to fill in their student number in the demographic questionnaire. At the end, the student numbers were then deleted for anonymity. PsyCap was measured using the Psychological Capital Questionnaire (PCQ) (Luthans, Avolio, Avey, & Norman, 2007; Luthans, Youssef, & Avolio, 2007). The PCQ consisted of 24 items that were scored on a 6-point Likert-type scale. This scale comprises of four subscales; each subscale consists of 6 items. The response choices of this questionnaire were as follows: 1= Strongly disagree, 2= Disagree, 3= Somewhat disagree, 4= Somewhat agree, 5= Agree, and 6=Strongly agree (Luthans, Avolio, Avey & Norman, 2007). Some of the items from this questionnaire included, "I can think of many ways to reach my current academic goals", and "When I have a setback at university, I have trouble recovering from it or moving on". It is important to note that the PCQ was originally developed to suite the work environment, therefore, for the purpose of this study, the PCQ was adapted to suite the academic environment. Academic anxiety was measured using the Academic Anxiety Scale (AAS) (Cassady, Pierson & Starling, 2019). This scale is aimed at investigating students' perceptions about their level of worry towards their studies. The scale consists of 11 items and was scored on a 4-point Likert scale. The response options of this scale were as follows: 1= Not at all typical of me, 2= Somewhat typical of me, 3= Quite typical of me, and 4= Very typical of me (Cassady, Pierson & Starling, 2019). Some of the items from this scale included, "I often worry that my best is not as good as expected at university", and "I tend to put off doing schoolwork because it stresses me". One of the advantages of a questionnaire is that it can be administered to many participants (Wright, 2015). However, when using a questionnaire, some participants might leave some questions unanswered (Wright, 2005).

With regards to the reliability of the PCQ, it has been found that this instrument is reliable. Related to this, Luthans, Avey and Patera (2008) argue that each component of PsyCap showed acceptable reliability in their study (hope= .87, self-efficacy= .92, optimism= .77, and resilience= .83). The overall PsyCap was found to have a Cronbach alpha of =.93 (Luthans,

Avey & Patera, 2008). Before any analysis could be conducted, items 13, 20, and 23 had to be reversed scored. It is also important to note that the reliability of the PCQ was calculated at each time point. Therefore, within the current study, the subscale of self-efficacy was found to have a Cronbach alpha of .78, .81, and .89, in Time 0, Time 1, and Time 2, respectively. The subscale of hope was found to have a Cronbach alpha of .83, .86, and .90, in Time 0, Time 1, and Time 2, respectively. With regards to resilience, a Cronbach alpha of .64, .71, and .77 was found for Time 0, Time 1, and Time 2, respectively. In terms of optimism, a Cronbach alpha of .76, .78, and .76 for Time 0, Time 1, and Time 2, respectively. The overall PsyCap was found to have a Cronbach alpha of .90, .92, and .94 for Time 0, Time 1, and Time 2, respectively. It is important to note that for the PCQ, the current study only included three sample items. This is due to copyright as well as ethical issues. Also, in order to utilise the PCQ, permission had to be obtained from www.mindgarden.com (See Appendix F).

In the original study, the Academic Anxiety Scale was found to be reliable with a Cronbach alpha of =.90 (Cassady, Pierson & Starling, 2019). Likewise, the current study has also found this scale to be reliable, with a Cronbach alpha of .89, .90, and .92 in Time 0, Time 1, and Time 2, respectively. Table 8 below contains the Cronbach alphas for all of the variables.

Table 8

Cronbach Alpha Coefficients for all of the Variables at each time point

Variable	N of Items	Cronbach's Alpha
Self-Efficacy Subscale at Time 0	6	.78
Self-Efficacy Subscale at Time 1	6	.81
Self-Efficacy Subscale at Time 2	6	.89
Hope Subscale at Time 0	6	.83
Hope Subscale at Time 1	6	.86
Hope Subscale at Time 2	6	.90
Resilience Subscale at Time 0	6	.64
Resilience Subscale at Time 1	6	.71
Resilience Subscale at Time 2	6	.77
Optimism Subscale at Time 0	6	.76
Optimism Subscale at Time 1	6	.78
Optimism Subscale at Time 2	6	.76
PsyCap Overall at Time 0	24	.90
PsyCap Overall at Time 1	24	.92
PsyCap Overall at Time 2	24	.94
Academic Anxiety Scale at Time 0	11	.89
Academic Anxiety Scale at Time 1	11	.90
Academic Anxiety Scale at Time 2	11	.92

Ethical Considerations

The following section highlights the important ethical considerations that underpinned the current study. I applied for an ethics clearance which was then approved by the University of the Witwatersrand's Human Research Ethics Committee (See Appendix A). A participation information sheet was distributed to the participants to ensure that they are aware of all aspects of the study. Informed consent and confidentiality were guaranteed. With regards to informed consent, the participation information sheet that was distributed which described what participating in this study entails, was the one that ensured that informed consent is guaranteed. In addition, the completion and the submission of all the required questionnaires also served as a way of obtaining informed consent. In terms of confidentiality, any information that the

participants did not want me to disclose was not disclosed. Anonymity was also guaranteed in that students' identifiable information such as student numbers, were deleted following data analysis. Moreover, during and after the research, data was kept in a password protected file. The people who had access to the research results was myself and my supervisor. After the completion of all the relevant tasks, any identifiable information about the participants was then deleted. No harm or foreseeable risks or danger was experienced by any participant who participated in this research. Participation was completely voluntary; the participants had the right to withdraw from the study while filling in the questionnaire or prior to the final submission of the questionnaire without any consequences.

Data Analysis

The participants received the questionnaire via ULWAZI (the Wits student portal). From ULWAZI, the data was then extracted and captured into excel. Thereafter, data was cleaned and a listwise deletion of missing data was utilised. In this regard, participants with missing data were deleted from the data and therefore excluded from the analysis. In doing this, I calculated and identified the number of participants that completed the questionnaires in Time, 0, Time 1, and in Time 2. Participants that did not complete the questionnaires in Time 2, were then deleted. Likewise, participants that did not fill enough of Time 1 and Time 2, were also deleted. This means that those participants that filled enough for Time 0, and those that completed the questionnaires in Time 1, and Time 2 remained in the study, as they provided enough information to conduct the analysis. Data was then coded and thereafter, the data was analysed using the Statistical Package for the Social Sciences (SPSS) (version 28). Afterward, the data was interpreted.

Descriptive Statistics and Normality

Descriptive statistics was utilised in order to determine the trends in the data set as well as to give 'a quantitative summary of the data set' (Thompson, 2009). Moreover, Groeneveld and Meeden (1984) argued that several tests such as skewness coefficients, kurtosis, Shapiro Wilks, Kolmogorov-Smirnov, and histograms can be utilised to determine the normality of a data set. Therefore, in order to determine normality, skewness and kurtosis were interpreted from the descriptive statistics table. In addition, histograms were also interpreted in order to determine normality.

Frequencies

With regards to frequencies, I ran frequencies for the following demographic components of the sample: gender, age, racial ethnicity, home language, faculty, and years at university.

Pearson's Correlation

The statistical analysis of Pearson's correlation was utilised in order to determine whether there is a relationship between PsyCap and academic anxiety. In this regard, I ran correlations between PsyCap overall and academic anxiety. In doing this, I ran three separate correlations for each time point (i.e., for time 0, 1, and 2). Sedgwick (2012) argues that Pearson's correlation is utilised to measure the strength of the linear relationship between two numerical variables. This type of analysis demonstrates how strongly two variables are linearly related (Sedgwick, 2012). In order to run a Pearson's correlation, a few assumptions had to be met, and these are: level of measurement, related pairs, normality of variables, absence of outliers, linearity, as well as homoscedasticity (Sedgwick, 2012).

Mixed-Model ANOVA

This study utilised a Mixed-Model ANOVA 'to determine whether there is an interaction between the within-subjects factor and the between-subjects factor on the dependent variable' (Ayres & Thomas, 1990). Since this research consisted of two IVs and one DV, a Mixed-Model ANOVA was the most relevant analysis for this research. In order to run a Mixed-Model ANOVA, the following assumptions had to be met: the DV should either be an interval or ratio scale of measure, the within-subjects factor must consist of at least two categorical, matched pairs, the between-subjects factor should each consist of at least two categorical, independent groups, the data should be normally distributed, there should also be homogeneity of variance, and sphericity should be established (Ayres & Thomas, 1990). In running the Mixed-Model ANOVA, I ran two Mixed-Model ANOVAs, one for PsyCap and one for academic anxiety.

Reliability

According to Bannigan and Watson (2009) reliability refers to the stability, dependability and consistency of a given instrument. Bannigan and Watson (2009) go on to argue that reliability can be assessed in three different ways, i.e., through internal consistency, stability, and through equivalence. However, this research only focused on internal consistency. Internal consistency is defined as the extent to which the different items on a scale measure the same thing (Bannigan & Watson, 2009). Furthermore, Cronbach alpha was calculated and interpreted in order to determine the internal consistency of the PCQ and the Academic Anxiety Scale (AAS).

In this regard, the reliability of both instruments were checked through the interpretation of the Cronbach alpha. Since the PCQ consisted of four sub-scale (i.e., self-efficacy, hope, resilience, and optimism), the reliability of each sub-scale was calculated. The reliability of both the PCQ and the Academic Anxiety Scale were calculated at each time point. Additionally, the Means for each sub-scale, PsyCap overall, and academic anxiety were calculated at each time point.

Chapter Three: Results

This chapter contains a description of the statistical results that were obtained from the analysed data. It is important to note that before any analyses could be conducted, data was cleaned for errors and problematic missing data.

Descriptive Statistics and Normality

In order to evaluate the normality of the data set, statistical analyses such as descriptive statistics, skewness coefficients, as well as kurtosis coefficients were obtained for each variable and at each time point (See Tables 9). Histograms were also calculated and interpreted in order to examine the normality of the data set (See Appendix L, Figures 2 to 19). The descriptive statistics results indicated that both the skewness coefficients and kurtosis coefficients fell within acceptable ranges. This is because most of the coefficient values fell between the ranges of -1 to +1. Regarding this, Groeneveld and Meeden (1984) have argued that skewness coefficients and kurtosis coefficients that fall between the ranges of -1 to +1 are regarded as indicating a normal distribution of the data set. Additionally, most of the histograms also demonstrated that the data set was normally distributed. The few histograms that were not normally distributed did not affect the whole data set, thus, the data set was determined to be normally distributed. Therefore, a parametric analysis was utilised to address the study's research questions.

Table 9

Descriptive Statistics for all of the Variables at each time point

Variable	N	Mean	Standard Deviation	Skewness	Kurtosis
Time 0_Self-Efficacy	110	4.26	.83	-.34	-.36
Time 1_Self-Efficacy	110	4.21	.82	-.46	-.55
Time 2_Self-Efficacy	110	4.37	.86	-.59	.27
Time 0_Hope	110	4.30	.81	-.44	.41
Time 1_Hope	110	4.30	.86	-.57	.45
Time 2_Hope	110	4.47	.88	-.94	1.49
Time 0_Resilience	110	4.14	.70	-.18	-.02
Time 1_Resilience	110	4.19	.72	-.32	.57
Time 2_Resilience	110	4.25	.74	-.24	-.09
Time 0_Optimism	110	4.00	.79	-.41	.33
Time 1_Optimism	110	3.99	.81	-.41	.89
Time 2_Optimism	110	4.11	.78	-.40	1.08
Time 0_PsyCap Overall	110	4.17	.63	-.32	.25
Time 1_PsyCap Overall	110	4.17	.69	-.41	.76
Time 2_PsyCap Overall	110	4.30	.70	-.49	.29
Time 0_Academic Anxiety	110	2.34	.67	.20	-.70
Time 1_Academic Anxiety	110	2.32	.73	.35	-.76
Time 2_Academic Anxiety	110	2.22	.72	.39	-.52

Pearson's Correlation

The statistical analysis of Pearson's correlation was calculated in order to evaluate the relationship between PsyCap Overall and academic anxiety at Time 0, Time 1, and at Time 2 (See Tables 10, 11 and 12 respectively). Following the evaluation of the assumptions of the Pearson's Correlation test, it was determined that the assumptions of this test were met, hence, this study was justified in running and interpreting the results of this test. In Time 0, PsyCap Overall was found to be significantly and negatively related to academic anxiety (r = -.523, p = <,001). Regarding Time 1, PsyCap Overall was also found to be significantly and negatively related to academic anxiety (r = -.636, p = <,001). In Time 2, PsyCap Overall was again found

to be significantly and negatively related to academic anxiety (r = -.521, p = <,001). It is therefore evident that PsyCap and academic anxiety are related.

Table 10

Pearson's Correlation for PsyCap Overall and Academic Anxiety in Time 0

		Time 0 PsyCap	**Time 0 Academic Anxiety**
Time 0 PsyCap	**Pearson Correlation**	1	-.523**
	Sig. (2-tailed)		<, 001
	N	110	110
Time 0 Academic Anxiety	**Pearson Correlation**	-.523**	1
	Sig. (2-tailed)	<,001	
	N	110	110

**. Correlation is significant at the 0.01 level (2-tailed).

Table 11

Pearson's Correlation for PsyCap Overall and Academic Anxiety in Time 1

		Time 1 PsyCap	**Time 1 Academic Anxiety**
Time 1 PsyCap	**Pearson Correlation**	1	-.636**
	Sig. (2-tailed)		<,001
	N	110	110
Time 1 Academic Anxiety	**Pearson Correlation**	-.636**	1
	Sig. (2-tailed)	<,001	
	N	110	110

**. Correlation is significant at the 0.01 level (2-tailed).

Table 12

Pearson's Correlation for PsyCap Overall and Academic Anxiety in Time 2

		Time 2 PsyCap	Time 2 Academic Anxiety
Time 2 PsyCap	**Pearson Correlation**	1	-.521**
	Sig. (2-tailed)		<,001
	N	110	110
Time 2 Academic Anxiety	**Pearson Correlation**	-.521**	1
	Sig. (2-tailed)	<,001	
	N	110	110

**. Correlation is significant at the 0.01 level (2-tailed).

Mixed Model ANOVA

A Mixed Model ANOVA with PsyCap as the dependent variable was run in order to determine whether the PsyCap scores had changed following the interventions. Following the evaluation of the assumptions of the Mixed Model ANOVA, it was determined that most of the assumptions of this particular test were met, therefore, this study was justified in running and interpreting the results from this test. Mauchly's Test of Sphericity demonstrated that the assumption of Sphericity had been violated. This is because a significant result was found $X^2(2) = 27.39$, p<,001. A Huynh-Feldt correction was therefore utilised (See Table 13). The Huynh-Feldt test revealed that, overall, no main effect of time on PsyCap scores was identified ($F_{(1.67, 180.19)} = 1.26$; p = .283; partial $n^2 = .01$) (See Table 14). This then implies that Time 0, Time 1, and Time 2 all have the same Means. Levene's Test of Equality of Error Variances indicated that there were no significant p values (of less than 0.05) for PsyCap, in Time 0, Time 1, and Time 2. This means that there was no significant Levene's Test, which implies that there was homogeneity of variance for the main effects (See Table 15). The Tests of Between-Subjects Effects demonstrated a non-significant main effect of Group on PsyCap scores ($F_{(1, 108)} = .01$, p = .946, partial $n^2 = .00$) (See Table 16). This then means that there was no main effect of group on PsyCap scores. Nonetheless, looking at Tests of Within-Subjects Effects, it is evident that there was a significant Time by Group interaction for PsyCap scores, $F_{(1.67,180.19)} = 3.99$; p = .027; partial $n^2 = .04$ (See Table 14).

Given the significant interaction effect, pairwise comparisons were conducted to determine the nature of this effect. Regarding the Pairwise Comparison results, this test revealed that for the experimental group the PsyCap scores were significantly different between Time 0 and Time 1(M = -.107*; SE = .046; p = .022) (See Table 17). This test also revealed that for the experimental group, the PsyCap scores were significantly different between Time 0 and Time 2 (M = -.144*; SE = .071; p = .045) (See Table 17). Lastly, this test revealed that the PsyCap scores were not significantly different between Time 1 and Time 2 (M = -.037; SE = .534; p = 0.540) (See Table 17), this was for the experimental group.

Regarding the control group, the PsyCap scores were found to be significantly different between Time 0 and Time 1 (M = .125*; SE = .048; p = .010) (See Table 17). This test showed that for the control group, the PsyCap scores were not significantly different between Time 0 and Time 2 (M = .036; SE = .074; p = .628) (See Table 17). Similarly, this test revealed that the PsyCap scores were also not significantly different between Time 1 and Time 2 (M = -.089; SE = .062; p = .151) (See Table 17).

In addition, looking at the PsyCap graph, it is evident that the participant's PsyCap level was low for the experimental group in Time 0, and in Time 1, the participant's level of PsyCap then increased, and again in Time 2, the participant's level of PsyCap increased to a higher level (See Figure 20). Regarding the control group, in Time 0, the participant's level of PsyCap was at a high level, it then decreased in Time 1, and in Time 2, the participant's level of PsyCap increased (See Figure 20). Overall, it can be argued that the PsyCap intervention was effective in improving levels of psychological capital.

Table 13

Mauchly's Test of Sphericity[a]

Measure: PsyCap

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	Df	Sig.	Greenhouse-Geisser	Epsilon[b] Huynh-Feldt	Lower-bound
Time	.77	27.39	2	<,001	.82	.83	.50

Tests the null hypothesis that the error covariance matrix of the orthonormalised transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Group
   Within Subjects Design: time
b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Table 14

Tests of Within-Subjects Effects

Measure: PsyCap

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Time	**Sphericity Assumed**	.26	2	.13	1.26	.287	.01
	Greenhouse-Geisser	.26	1.63	.16	1.26	.283	.01
	Huynh-Feldt	.26	1.67	.15	1.26	.283	.01
	Lower-bound	.26	1.00	.26	1.26	.265	.01
Time*Group	**Sphericity Assumed**	.81	2	.41	3.99	.020	.04
	Greenhouse-Geisser	.81	1.63	.49	3.99	.028	.04
	Huynh-Feldt	.81	1.67	.49	3.99	.027	.04
	Lower-bound	.81	1.00	.81	3.99	.048	.04
Error (Time)	**Sphericity Assumed**	21.97	216	.10			
	Greenhouse-Geisser	21.97	176.21	.13			
	Huynh-Feldt	21.97	180.19	.12			
	Lower-bound	21.97	108.00	.20			

Table 15

Levene's Test of Equality of Error Variances[a]

		Levene Statistic	df1	df2	Sig.
Time 0 PsyCap Mean	**Based on Mean**	1.33	1	108	.252
	Based on Median	1.18	1	108	.280
	Based on Median and with adjusted df	1.18	1	101.51	.280
	Based on trimmed mean	1.23	1	108	.269
Time 1 PsyCap Mean	**Based on Mean**	.01	1	108	.942
	Based on Median	.03	1	108	.859
	Based on Median and with adjusted df	.03	1	107.04	.859
	Based on trimmed mean	.01	1	108	.913
Time 2 PsyCap Mean	**Based on Mean**	.67	1	108	.415
	Based on Median	.48	1	108	.492
	Based on Median and with adjusted df	.48	1	103.93	.492
	Based on trimmed mean	.58	1	108	.446

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Group
   Within Subjects Design: Time

Table 16

Tests of Between-Subjects Effects

Measure: PsyCap

Transformed Variable: Average

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	6035.53	1	6035.53	4607.09	<,001	.98
Group	.01	1	.01	.01	.946	.00
Error	141.49	108	1.31			

Table 17

Pairwise Comparisons

Measure: PsyCap

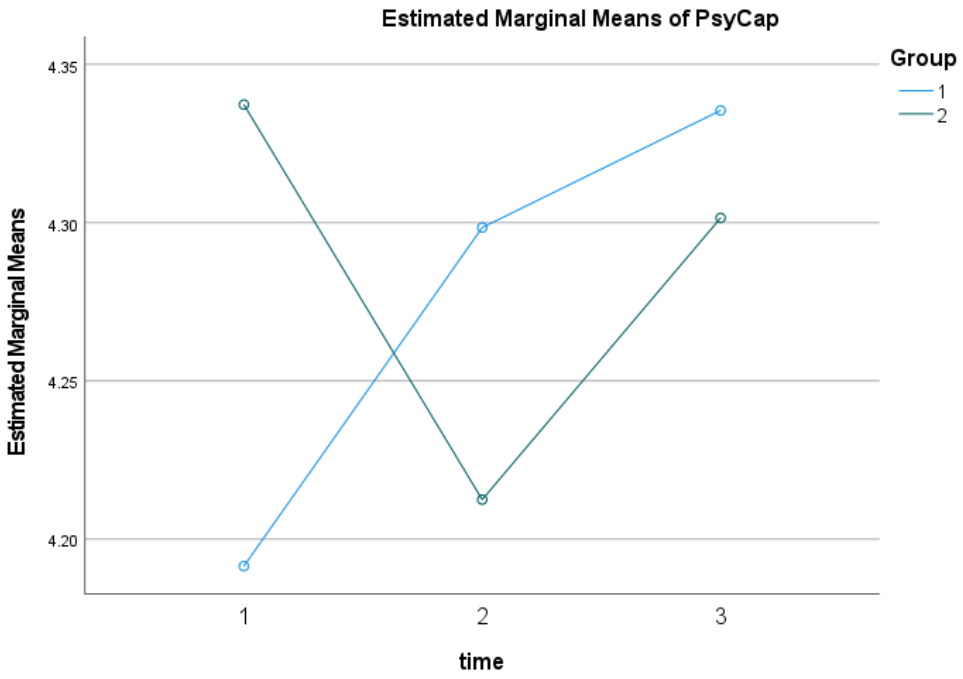
Group	(I) factor1	(J) factor1	Mean Difference (I-J)	Std. Error	Sig.[b]	Lower Bound	Upper Bound
1	0	1	-.107*	.046	.022	-.198	-.016
		2	-.144*	.071	.045	-.285	-.003
	1	0	.107*	.046	.022	.016	.198
		2	-.037	.059	.534	-.155	.081
	2	0	.144*	.071	.045	.003	.285
		1	.037	.059	.534	-.081	.155
2	0	1	.125*	.048	.010	.030	.220
		2	.036	.074	.628	-.110	.182
	1	0	-.125*	.048	.010	-.220	-.030
		2	-.089	.062	.151	-.211	.033
	2	0	-.036	.074	.628	-.182	.110
		1	.089	.062	.151	-.033	.211

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Figure 20



Mixed Model ANOVA (Academic Anxiety)

A Mixed Model ANOVA with academic anxiety as the dependent variable was run in order to determine if the academic anxiety scores had changed after the interventions. Mauchly's Test of Sphericity indicated that the assumption of Sphericity was not violated. This is due to the fact that a non-significant result was found $X^2(2) = .73$, p=.694 (See Table 18). The ANOVA test demonstrated that, overall, no main effect of time on academic anxiety scores was identified ($F_{(2, 216)} = 2.38$; p= .095; partial $n^2 = .02$) (See Table 19). This then implies that Time 0, Time 1, and Time 2 all have the same Means. Regarding Levene's Test of Equality of Error Variances, this particular test demonstrated that there were no significant p values (of less than 0.05) for academic anxiety, in Time 0, Time 1, and Time 2 (See Table 20). This then indicates that there was no significant Levene's Test, which means that there was homogeneity of variance for the main effects. The Tests of Between-Subjects Effects indicated a non-significant main effect of Group on academic anxiety scores ($F_{(1, 108)} = .07$, p= .796, partial $n^2 = .00$) (See Table 21). The Tests of Within-Subjects Effects indicated that there was a non-significant Time by Group interaction, $F_{(2, 216)} = .82$; p= .440; partial $n^2 = .01$ (See Table 19). Although the level of academic anxiety decreased in Time 1 and in Time 2, for both the

experimental group and the control group, this decrease did not reach the required level of significance. Hence, the intervention was not effective in reducing levels of academic anxiety.

Table 18

Mauchly's Test of Sphericity[a]

Measure: AcAnx

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	Df	Sig.	Greenhouse-Geisser	Epsilon[b] Huynh-Feldt	Lower-bound
Time	.99	.73	2	.694	.99	1.00	.50

Tests the null hypothesis that the error covariance matrix of the orthonormalised transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Group
   Within Subjects Design: Time
b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Table 19

Tests of Within-Subjects Effects

Measure: AcAnx

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Time	**Sphericity Assumed**	.38	2	.19	2.38	.095	.02
	Greenhouse-Geisser	.38	1.99	.19	2.38	.095	.02
	Huynh-Feldt	.38	2.00	.19	2.38	.095	.02
	Lower-bound	.38	1.00	.38	2.38	.126	.02
Time*Group	**Sphericity Assumed**	.13	2	.07	.82	.440	.01
	Greenhouse-Geisser	.13	1.99	.07	.82	.440	.01
	Huynh-Feldt	.13	2.00	.07	.82	.440	.01
	Lower-bound	.13	1.00	.13	.82	.366	.01
Error (Time)	**Sphericity Assumed**	17.28	216	.08			
	Greenhouse-Geisser	17.28	214.54	.08			
	Huynh-Feldt	17.28	216.00	.08			
	Lower-bound	17.28	108.00	.16			

Table 20

Levene's Test of Equality of Error Variances[a]

		Levene Statistic	df1	df2	Sig.
Time 0 Academic Anxiety Mean	**Based on Mean**	.11	1	108	.746
	Based on Median	.06	1	108	.812
	Based on Median and with adjusted df	.06	1	107.45	.812
	Based on trimmed mean	.09	1	108	.756
Time 1 Academic Anxiety Mean	**Based on Mean**	1.58	1	108	.212
	Based on Median	1.85	1	108	.177
	Based on Median and with adjusted df	1.85	1	105.21	.177
	Based on trimmed mean	1.67	1	108	.199
Time 2 Academic Anxiety Mean	**Based on Mean**	.25	1	108	.620
	Based on Median	.21	1	108	.646
	Based on Median and with adjusted df	.21	1	107.95	.646
	Based on trimmed mean	.27	1	108	.607

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Group
   Within Subjects Design: Time

Table 21

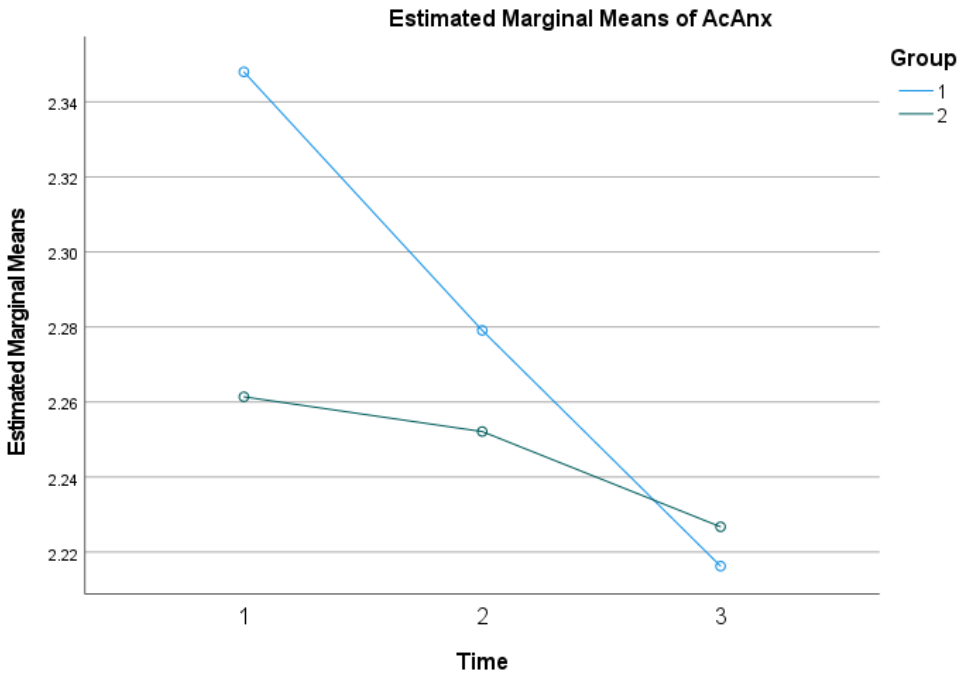
Tests of Between-Subjects Effects

Measure: AcAnx

Transformed Variable: Average

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	1689.17	1	1689.17	1167.93	<,001	.92
Group	.09	1	.09	.07	.796	.00
Error	156.19	108	1.45			

Figure 21


Estimated Marginal Means of AcAnx
Group
1
2
Estimated Marginal Means
2.34
2.32
2.30
2.28
2.26
2.24
2.22
1
2
3
Time

Chapter Four: Discussion

The purpose of this study was to investigate the impact of a PsyCap intervention in reducing academic anxiety among students. In essence, the main objective was to investigate whether PsyCap can be enhanced or developed through a micro-online intervention and to investigate whether an increase in PsyCap results in the reduction of academic anxiety among students. The CoR model was utilised to support the idea that enhancing or developing PsyCap can possibly be helpful in reducing the experience of academic anxiety. The current chapter will discuss the overall results that have been obtained from this study. In doing this, the chapter will make reference to previous results or findings as well as previous literature. This chapter will discuss the research questions that underpin the current study. Furthermore, the chapter will also discuss the theoretical contributions as well as the practical implications of the overall study. Lastly, the limitations of the current study as well as the directions for future research will also be discussed.

With regards to Pearson's correlation, PsyCap Overall was found to be significantly and negatively related to academic anxiety at Time 0 (r = -.523, p = <,001), at Time 1 (r = -.636, p = <,001) and at Time 2 (r = -.521, p = <,001). These results or findings relate to research question one. These findings suggest that an increase in PsyCap may be related to lower levels of academic anxiety. This is therefore similar to other studies that indicated that the development or enhancement of PsyCap can result in a reduction of different negative emotions such as academic anxiety (Liran & Miller, 2019; Bauman, 2014; Luthans, Luthans & Jensen, 2012). Regarding this, Luthans, Luthans and Jensen (2012) have argued that PsyCap development could assist students to overcome various obstacles that could hinder their academic achievement, such obstacles include, high levels of stress, burnout, and anxiety. Similarly, Bauman (2014) has suggested that a brief PsyCap intervention can bolster students' ability to deal with the environmental challenges that they often face within university. The results obtained from this study are supported by previous findings. In their study, Liran and Miller (2019) found that increased levels of PsyCap were associated with enhanced levels of positive emotions that resulted in the reduction of academic anxiety as well as academic stress and brought about improved well-being. These scholars concluded that PsyCap underlies the creation of different positive emotions and also helps students to better cope with academic anxiety (Liran & Miller, 2019). This then ensures that students elevate their achievements and experience enhanced levels of well-being (Liran & Miller, 2019). Bauman (2014) complements these findings by arguing that the enhancement of students' strengths and psychological

resources can enable university personnel to address the rapid rise in the prevalence of psychological problems that exist within university campuses.

The current study extends previous research findings as well as previous research literature by evaluating the effectiveness of the PsyCap intervention as well as its capability to reduce levels of academic anxiety and is built upon a positive psychology approach as well as the CoR model. The current study's results can also be linked to the CoR model, specifically with regards to the CoR model's assumption which argues that human beings are always motivated to protect their current resources as well as acquiring new resources (Halbesleben et al., 2014). Within the current study, students were encouraged to be conscious of their competencies as well as their personal resources (i.e., PsyCap). In doing this, students were encouraged to work towards developing their PsyCap as well as to acquire this personal resource so that they would be able to cope with stressful, as well as anxiety triggering, situations. The PsyCap intervention made the students aware of the personal resources that they need to acquire in order to survive the different challenges that they face within their university. The CoR model argues that losing one's valued resources can be psychologically damaging (Halbesleben et al., 2014). Therefore, this explains why students should acquire and protect their personal resource or PsyCap. This also explains why the absence of PsyCap could make students more vulnerable to academic anxiety or any other disorders that students often experience, which therefore justifies the need to enhance students' PsyCap. Individuals often acquire valued resources so that they can be able to store these resources and access them in times of need (Hobfoll, 1989). This is consistent with the current study's results in that the development of students' PsyCap could encourage the students to store this personal resource and utilise it in times of need. Therefore, acquiring and storing a personal resource such as PsyCap, helps students to have something they can rely on during difficult times.

Since the findings from the Pearson's correlation have found a significant correlation between PsyCap and academic anxiety, one can then argue that intervening to improve PsyCap may be important as it has a positive influence on a number of factors. Luthans, Luthans and Jensen (2012) argue that it is important to improve students' PsyCap levels, this is because an improved PsyCap is considered to be crucial for student related outcomes such as student development, retention, and success. You (2016) argues that the proactive approach of developing students' psychological resources can promote the psychological strengths that stimulate learning, and can also assist in overcoming the barriers to academic success. The significant relationship that was obtained between PsyCap and academic anxiety is of

importance because this finding suggest that improving PsyCap through an intervention could lead to a reduction of academic anxiety.

Was the intervention effective at improving psychological capital?

A Mixed Model ANOVA which consisted of PsyCap as the dependent variable, demonstrated a significant interaction effect ($F_{(1.67,180.19)} = 3.99$; $p = .027$; partial $n^2 = .04$). This finding addressed sub-research question (i) and (ii). Considering that the interaction effect was significant, we can conclude that there is some evidence to support the effectiveness of the intervention. Specifically, the Pairwise Comparisons conducted demonstrated that there was a significant difference in the pre-and-post-intervention PsyCap scores for the experimental group with scores increasing from Time 0 to Time 1. The PsyCap scores for the control group decreased between Time 0 and Time 1 and increased again after they had received the PsyCap intervention (although not to the point of statistical significance). In addition, there was no difference in the Time 1 and Time 2 scores for either group which suggests, at least for the experimental group, that the improvement that followed the psychological capital intervention appeared to remain consistent 3 weeks post the intervention (See Figure 20).

This is consistent with a previous study which measured the students' PsyCap levels, before and after the experimental and control interventions (Luthans et al., 2006). The results of Luthans et al's (2006) revealed that the experimental intervention significantly increased the students' level of PsyCap (Luthans et al., 2006). The control group on the other hand, received a different intervention, and the results indicated that this group demonstrated no increase in their level of PsyCap (Luthans et al., 2006). This suggests that PsyCap interventions are able to enhance students' or participant's PsyCap levels. A different study comparing the results of the experimental group and the control group, found that the experimental group experienced higher levels of PsyCap after the PsyCap intervention (Lupsa, Virga, Maricutoiu & Rusu, 2020). More specifically, these scholars found that the effectiveness of the PsyCap interventions on performance and well-being was significant (Lupsa et al., 2020). This suggests that higher levels of PsyCap are associated with improved well-being as well as improved academic performance. Since the experimental group in Lupsa's study experienced higher levels of PsyCap, this group may also experience increased well-being and increased performance.

The findings of Lupsa's study also suggest that there was a difference in the pre-post-intervention PsyCap levels for the experimental group. This is because the PsyCap scores for

the experimental group significantly increased after the intervention. The results of the current study are also relevant to previous findings that utilised a pretest, posttest experimental design in order to evaluate the effect of the PsyCap intervention (Luthans, Avey & Patera, 2008). The findings demonstrated that the treatment group experienced a significant increase in their PsyCap scores, on the other hand, the randomly assigned control group that received a different but relevant intervention did not portray a significant increase in their levels of PsyCap (Luthans, Avey & Patera, 2008). As mentioned in the literature review, PsyCap has been found to be state-like, and it has also been found to be open to change (Luthans, Luthans & Avey, 2013). This means that PsyCap is flexible, and it can be developed. Luthans, Luthans and Avey (2013) argued that PsyCap can be developed through relevant training programs. This implies that PsyCap can be developed through a short intervention. The current study has partially demonstrated the effectiveness of a micro-online intervention in improving levels of PsyCap among students. Luthans, Avey and Patera (2008) have argued that PsyCap interventions are often effective in developing or improving psychological capital.

The results of this study are similar to other studies that were able to enhance PsyCap through a brief micro-online intervention (Luthans, Luthans & Jensen, 2012; Dello & Stoykova, 2019; Luthans, Luthans & Avey, 2013). Such studies showed that students' academic PsyCap can be positively affected by a short training intervention that is aimed at developing PsyCap (Luthans, Luthans & Avey, 2013). The findings of this study are again consistent with previous literature which supports the idea that students who are unable to cope with academic challenges could benefit from PsyCap development interventions (Luthans, Luthans & Jensen, 2012). Luthans, Luthans and Jensen (2012) suggested that a series of focused micro-training interventions could be implemented in order to develop the levels of school-related PsyCap among students throughout their academic programs. The development of PsyCap could then provide students with additional tools needed for overcoming barriers to academic success such as, increased school demands, stress, and anxiety (Luthans, Luthans & Jensen, 2012). The current study's findings are also consistent with a previous quasi-experimental study that consisted of a pre-test-post-test and a control group (da Costa, Pinto, Martins & Vieira, 2021). The results of da Costa's study confirmed the effectiveness of the educational intervention in enhancing students' PsyCap (da Costa, Pinto, Martins & Vieira, 2021). da Costa's study also found that enhancing students' PsyCap can also influence their academic performance (da Costa, Pinto, Martins & Vieira, 2021). More specifically, the findings of this study indicated that the experimental group showed increased levels of PsyCap as compared to the control

group (da Costa, Pinto, Martins & Vieira, 2021). Regarding this, the control group showed lower levels of PsyCap after the implementation of the intervention (da Costa, Pinto, Martins & Vieira, 2021). These scholars concluded that positive and personal competencies or resources can be developed during higher education through formal training (da Costa, Pinto, Martins & Vieira, 2021).

Hobfoll (1989) also emphasizes the importance of other different resources within one's environment, in this case, Hobfoll points to the fact that the availability of other resources can help individuals acquire valued resources. For example, within the academic context, the availability of resources such as, lecture's and parent's support as well as counselling facilities within the university can assist students to maintain a positive mind-set which could then lead to students being motivated to enhance their PsyCap with the help of the above mentioned personnel (i.e., lectures, parents, tutors, and university counsellors) and through the utilisation of PsyCap training programs or interventions. Therefore, the CoR model demonstrates the need for university personnel to create an environment that will allow students to be able to acquire and enhance their PsyCap. This can be done through creating an environment that supports students in times of need as well as creating an environment that aims to protect the mental health of students i.e., through increasing access to university counselling facilities. Since academic anxiety is mostly triggered or caused by factors within the university environment, it therefore, becomes more important to identify and reduce those factors that are identified as the main cause of academic anxiety. This will then ensure that students are learning within an environment that does not negatively impact their mental health. Such an environment would then bring about the academic success of students.

Was the intervention effective at reducing levels of academic anxiety?

For the second Mixed Model ANOVA with academic anxiety as the dependent variable no significant effect was found for the main effect of time ($F_{(2, 216)} = 2.38$; $p = .095$; partial $n^2 = .02$), for the main effect of group ($F_{(1, 108)} = .07$, $p = .796$, partial $n^2 = .00$), and for the interaction effect of group by time ($F_{(2, 216)} = .82$; $p = .440$; partial $n^2 = .01$). This finding addressed sub-research question (iii) and (iv). This finding indicates that there is no difference in the pre-and-post-intervention academic anxiety scores for both the control group and the experimental group. **These results also suggest that the PsyCap intervention was more effective in enhancing PsyCap scores rather than reducing levels of academic anxiety**. Therefore, this also suggests that within the current study, the PsyCap intervention did not decrease the

academic anxiety scores, which specifically relates to sub-research question (iii) and sub-research question (iv) of research question 2. These findings are thus inconsistent with previous literature that states that the presence of PsyCap usually leads to the reduction of stress as well as other associated negative outcomes (Riolli, Savicki & Richards, 2012).

Whilst the trend in the graphs is in the expected direction, the magnitude of change was found to be insufficient to reach statistical significance. Although there was a significant relationship between PsyCap and academic anxiety found in the correlations, the intervention was nonetheless not effective at reducing academic anxiety. This could be due to the fact that the intervention was too short to increase PsyCap enough to have an effect on academic anxiety. It could also have been that there was a lag effect and that could cause the increased PsyCap to only reduce academic anxiety at a later stage. Although the intervention was not effective in reducing academic anxiety, one could still recommend the development and the implementation of PsyCap interventions. This is because there a number of studies that have found a positive relationship between PsyCap interventions and students' well-being as well as students' academic performance. A study conducted by Riolli, Savicki and Richards (2012) revealed that PsyCap mediated between academic anxiety and indices of physical and psychological well-being. Regarding health problems as well as psychological symptoms, PsyCap was found to have reduced the negative consequences that are associated with academic anxiety as well as academic stress (Riolli, Savicki & Richards, 2012). In terms of satisfaction with life, PsyCap was found to be associated with a positive psychological outcome (Riolli, Savicki & Richards, 2012). The findings of these scholars therefore, suggests that a PsyCap intervention that is aimed at enhancing PsyCap among students can be associated with positive well-being outcomes. Additionally, previous literature that looked at the impact of PsyCap as well as positive emotions such as happiness, explained that students can utilise PsyCap and happiness as coping strategies that will help them to deal with academic stressors (Okafor, 2016). Okafor (2016) also added that the essential components of PsyCap also boost positive mood, these components also support and offer protection against academic anxiety and academic stress. Therefore, PsyCap can also be understood as playing a protective role in the coping strategies that students utilise when faced with academic related challenges (Okafor, 2016). Regarding the CoR model, resources are often valued because they are regarded as means to the achievement or protection of other valued resources (Hobfoll, 2001). Within the current study, students' well-being could also be regarded as a valued resource. Such a valued resource could therefore be viewed as a means to achieving other valued goals such as

academic success. Therefore, good or excellent well-being in the form of reduced academic anxiety could enable students to achieve a successful academic career. In addition, for students to be able to achieve a successful academic career, they would also need to utilise their positive psychological resources.

Theoretical Contributions

The current study contributes to the existing literature by focusing and engaging with an under-researched topic i.e., academic anxiety. Engaging in this topic was of utmost importance in that it will contribute towards filling the gap that exists within the literature. The current study also makes an important contribution to the existing literature by focusing on PsyCap as well as applying this construct to the South African academic context. This is important because the positive psychological construct of PsyCap has mostly been applied to the workplace. Therefore, this also helps to fill in the gap that exists in the positive psychology literature. The other contribution of this study is its integration of the CoR model into the study and the ways in which this model was utilised in order to understand the ways in which students can effectively use their personal resources in order manage or cope with academic anxiety. This can also be considered as a significant contribution especially looking at how the CoR model was specifically applied to the student sample. The current study's findings demonstrated that the students' levels of PsyCap increased after the intervention. These findings therefore provided support for the effectiveness of the PsyCap intervention. Moreover, when investigating the effectiveness of the PsyCap intervention in reducing students' levels of academic anxiety, a non-significant result was found. This then suggests that the PsyCap intervention did not reduce students' academic anxiety scores. This can therefore be classified as an unexpected finding. However, as mentioned before, previous studies have found that PsyCap has the ability to reduce stress as well as other negative emotions (Riolli, Savicki & Richards, 2012). Additionally, the unexpected finding that was observed in the current study creates a need for further research. In addition, this study makes a unique contribution within literature, specifically within the South African context. This is because of the lack of research that looks at enhancing PsyCap among students as well as the lack of research that looks at reducing academic anxiety through developing students' PsyCap. The lack of research regarding enhancing students' PsyCap in order to help students cope with various challenges that they face within university is particularly concerning specifically looking at how students are struggling with mental health issues that are related to their academic environment. Regarding this, one could suggest that more research should be conducted, specifically with

the aim of enhancing PsyCap among South African students, so that these students could be better equipped to manage mental health issues such as academic anxiety, academic stress, academic depression, to mention a few.

Practical Implications

The current study consists of numerous practical implications. The first practical implication that can be drawn from the current study is the fact that this study urges and encourages university personnel to be aware of the issue of academic anxiety that is often faced by students. In this regard, this study also encourages university personnel to find and develop effective strategies that are meant to help students to cope with academic anxiety. The second practical implication that this study makes is that it motivates university personnel to prioritise the mental health and well-being of their students. Similarly, through this study, students are also encouraged to be aware of academic anxiety and they are also encouraged to prioritise their mental health. Thirdly, the findings from the current study may also be utilised to develop, test, and implement different interventions that are aimed at enhancing student well-being as well as enhancing students' personal resources (Providas, 2016). A number of experts have advocated for the use of general screening instruments that could be utilised to detect the students' levels of academic anxiety (Cassady, Pierson & Starling, 2019). Therefore, instruments such as the Academic Anxiety Scale can be utilised to measure students' varying degrees of academic anxiety, the information obtained from such instruments could thus be utilised to implement prescriptive and effective interventions that will enable support personnel in higher education institutions to fully support students' well-being and success (Cassady, Pierson & Starling, 2019). More important, the current study managed to improve PsyCap through the utilisation of a short 45-minute intervention. This is important because it could encourage university personnel to develop and implement PsyCap interventions that are aimed at supporting students' academic performance and students' well-being. Lastly, the current study advocates for the development of effective interventions that will address the issue of academic anxiety. As mentioned in the literature review, the development of different interventions, specifically early interventions, is considered important because such early interventions can help reduce progressively more severe incidents of academic anxiety among students as they access support strategies that are designed to assist them to cope with different challenges within their academic environment (Cassady, Pierson & Starling, 2019).

Conclusion

From the above, it is evident that the academic environment has the potential to bring about anxiety among university students which negatively affects students' overall well-being and their academic performance. Therefore, the aim of this study was to investigate whether a micro-online intervention would be effective in reducing students' levels of academic anxiety. More specifically, this research was aimed at enhancing students' levels of PsyCap, so that students could be better able to cope with academic anxiety. This research has emphasized that a moderate level of academic anxiety can be considered to be useful in that it can motivate students and it can also help to improve students' academic performance. A high level of academic anxiety on the other hand, has been considered to be problematic as well as bringing about dire consequences. The current study has demonstrated the need for a positive approach, specifically with regards to understanding and enhancing individual's positive traits as well as their strengths. Regarding this, Luthans, Youssef and Avolio (2015), have argued that negatively oriented approaches often provide little understanding of individual's abilities and how they flourish, as well as providing little clarity in terms of individual's optimal functioning. A positive psychological approach can be regarded to be important in that it enables individuals to effectively utilise their personal resources (i.e., through interventions) to overcome obstacles that they might be facing or to deal with the negative emotions that they might be experiencing in their lives. In this case, Luthans, Youssef and Avolio (2015), have argued that a positive psychological approach is also important because it tends to build individual's social, physical, and psychological resources and it also enables individuals to be more open to dynamically exploring new possibilities. Therefore, the PsyCap intervention has been outlined as one of the interventions that can be utilised in order to reduce academic anxiety. PsyCap has also been identified as a positive personal resource that can lead to students' academic success. This research has also demonstrated that different resources play an important role in reducing the negative impact of psychological symptoms such as academic anxiety. The current study also included a resource-oriented model known as the CoR model. The findings of the current study were also discussed in relation to the CoR model. This then allowed for the current study's findings to be underpinned or supported by the CoR model. The use of the CoR model was important because this model provided an understanding of academic anxiety as well as providing an understanding and explanation of how people deal with life challenges such as stress and academic anxiety. Furthermore, following the PsyCap intervention, the results of the current study indicated that the students' level of PsyCap increased for the experimental group. Since the control group also received the PsyCap

intervention in Time 2, this group also experienced an increased level of PsyCap (although not to the point of statistical significance). This particular finding is supported by previous research that demonstrates the effectiveness of PsyCap interventions in enhancing individual's PsyCap scores. With regards to academic anxiety, a non-significant result was obtained which indicated that the students' level of academic anxiety did not decrease after the PsyCap intervention was conducted. Moreover, the results of the current study demonstrated that PsyCap and academic anxiety are related. Regarding this, a significant, negative relationship was obtained between PsyCap overall and academic anxiety, in Time 0, Time 1, as well as in Time 2. Generally, the findings of the current study suggest that the PsyCap intervention was effective in enhancing students' levels of PsyCap. However, the intervention was not effective in reducing students' levels of academic anxiety. This then suggests that more work is required to affect academic anxiety.

Limitations and Directions for Future Research

The current study contains important findings that can be utilised to guide students as well as university personnel on how to deal with academic anxiety. This study could also act as a guide for future research, whereby other scholars could draw from the current study and find ways to improve the findings of this study. Nonetheless, the current study also contains several limitations, and these are discussed in this section. The questionnaires that were utilised during data collection allowed the participants to give self-report answers to the questions. One could therefore, argue that the participants might have responded in a biased manner by responding in a social desirable manner. The participant's responses may therefore, not reflect the true feelings, attitudes, and behaviours of the participants (Okafor, 2016). The sampling strategy that was utilised in the current study limits the generalisability of the study. Regarding this, the current study used a non-probability, convenience sampling strategy which often promotes the effects of volunteer bias (Laher & Botha, 2012). The sample that was used in the current study also limits the generalisability of the study's findings to only one university in South Africa, that is, the University of the Witwatersrand (Providas, 2016). Therefore, one could argue that the results obtained from this study might not necessarily be generalised to every university in South Africa. In this case, one could suggest that future studies should focus on using larger samples (i.e., obtaining the sample from different universities). The results obtained from such studies could therefore be generalised to a larger number of students. The current study was also classified as being quantitative in nature with such a quantitative approach also acting as a form of limitation. In this regard, future studies should also conduct qualitative exploratory

research in order to further a deeper understanding of the quantitative findings (Okafor, 2016). Such research studies could include the use of interviews, focus groups, as well as open-ended questionnaires that explore the process of the intervention and its implementation. With regards to gender, females were the ones who made up the majority of the sample. Males as well as those who fell within the "Other" category made up the minority of the sample. Regarding this, the results of the current study will most likely be applicable to female-dominated classes. In addition, there are certain concerns of generalisability of the findings to other populations on the strata of education level (Luthans, Luthans & Avey, 2013). This is because the current study only consisted of university students, therefore, the generalisability of the current study's findings to other populations such as those with different educational levels is limited. Moreover, the participants within the current study were based in South Africa, this therefore, suggests cultural limitations to generalisability. Another limitation of this study also concerns the potential generalisability of the findings. Regarding this, there are concerns to whether the current study's findings can be generalised to other organisational settings beyond the academic environment (Riolli, Savicki & Richards, 2012). Furthermore, the current study could have also included other resource models such as the JD-R model. However, considering the nature of the current study, it was more appropriate to only include the CoR model. Lastly, future research should also aim to identify and investigate other positive psychological resources that could also fall under the domain of PsyCap (Lupsa et al., 2020). This is particularly important because it could help broaden the positive impact of PsyCap on students (Lupsa et al., 2020).

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APPENDICES.

Appendix A

Ethical Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF HUMAN AND COMMUNITY DEVELOPMENT ETHICS COMMITTEE
CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

CLEARANCE CERTIFICATE:	**PROTOCOL NUMBER: MAORG/21/05**
PROJECT TITLE:	Academic anxiety and a micro-online intervention for enhancing psychological capital.
INVESTIGATOR	Rambau Karabo (1097434)
SCHOOL/DEPARTMENT OF INVESTIGATOR	SHCD/Psychology
DATE CONSIDERED	20 June 2021
DECISION OF THE COMMITTEE	Approved unconditionally
RISK LEVEL	Low Risk
EXPIRY DATE	31 December 2023

ISSUE DATE OF CERTIFICATE 26 June 2021 **CHAIRPERSON** _____
(Dr Colleen Bernstein)

cc: Mr Ian Siemers (Supervisor)

DECLARATION OF INVESTIGATOR

To be completed in duplicate and **ONE COPY** returned to the Chairperson of the School/Department ethics committee.

I fully understand the conditions under which I am are authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

_____ _____/_____/_____
Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix B

Letter Requesting Permission to Access Student Sample

To whom it may concern.

Dear Sir/Madam.

My Name is Karabo Fellicia Rambau and I am currently completing a Master of Arts by Course Work and Research Report Degree at the University of the Witwatersrand, in the School of Human and Community Development. As part of the above-mentioned degree, I am required to conduct a research project. This research project involves collecting data from a student sample. The title of my research is: Academic anxiety and a micro-online intervention for enhancing psychological capital. This study, therefore, aim to explore the phenomenon of academic anxiety as well as to explore an intervention that can possibly be utilised to reduce academic anxiety.

In doing this, this research project also aims to develop an intervention aimed at enhancing students' psychological capital. The main objective of this intervention is to develop students' psychological capital so that they can be better able to cope with events that would otherwise result in academic anxiety. The targeted sample for this research is first year psychology students from the university of the Witwatersrand. I am therefore, requesting to conduct my research in your department.

Participation in this research is completely voluntary and participants have the right to withdraw from the research while filling in the questionnaire or prior to final submission of the questionnaire without any consequences. Participants will access and complete the online

questionnaire via ULWAZI (the Wits student portal). Participants will also be required to complete the questionnaire at two points in time. This is because this research also aims to utilise a waitlist design in which the control group will also get an opportunity to go through the PsyCap intervention. In doing this, both the control and the experimental group will go through the PsyCap intervention and the time management intervention. Informed consent will be obtained by providing participants with a participation information sheet which will give them information about the research as well as informing them what participating in this research entails. Most importantly, no harm or foreseeable risks or danger will be experienced by the participants. Confidentiality will be guaranteed in that only myself and my supervisor will have access to the collected data. Anonymity will also be guaranteed in that any identifiable information will be deleted after all the relevant tasks have been completed. Additionally, all collected data will be kept in a password protected file.

Your permission to conduct this research would be highly appreciated. If you have any questions or queries about the research, you can contact me or my supervisor.

With gratitude,

Karabo Fellicia Rambau
Email: rambau109@gmail.com

Supervisor: Mr Ian Siemers
Email: ian.siemers@wits.ac.za

Appendix C

Participation Information Sheet

Dear Participant,

My name is Karabo Fellicia Rambau and I am currently completing a Master of Arts by Course Work and Research Report Degree at the university of the Witwatersrand, in the School of Human and Community Development. As part of my degree, I am required to conduct a research project. The title of my research is: Academic anxiety and a micro-online intervention for enhancing psychological capital. The aim of this research is to explore the phenomenon of academic anxiety as well as to explore an intervention that can possibly be utilised to reduce academic anxiety.

I would therefore like to invite you to participate in this research project. Participation in this research entails you taking part in an intervention that is aimed at enhancing your psychological capital. In doing this, you will be required to access and complete an online questionnaire which can be accessed via ULWAZI (the Wits student portal). You will also be required to complete the questionnaire at two points in time. This is because this research is going to utilise a waitlist design in which the students in the control group will also be given an opportunity to go through the PsyCap intervention. This also means that both the control and the experimental group will go through the PsyCap intervention and the time management intervention. The PsyCap intervention is going to take about 45 minutes and the time management intervention is going to take about 40 minutes. Completing all the necessary questionnaires will take approximately 15-20 minutes. Participation is completely voluntary, and you have the right to withdraw from

the research while filling in the questionnaire or prior to final submission of the questionnaire without any consequences.

This participation information sheet serves as a way to obtain informed consent along with the completion of all the required questionnaires. No harm or foreseeable risks or danger will be experienced in this research. Confidentiality will be guaranteed in that only myself and my supervisor will have access to the collected data. Anonymity will also be guaranteed because any identifiable information will be deleted after the completion of all relevant tasks. Additionally, all collected data will be kept in a password protected file.

Your consent and participation will be highly appreciated. If you have any questions about the research, you can contact me or my supervisor.

With gratitude,

Karabo Fellicia Rambau

Email: rambau109@gmail.com

Supervisor: Mr Ian Siemers

Email: ian.siemers@wits.ac.za

Appendix D

Demographic Questionnaire.

Please complete the demographic questionnaire below by filling in and selecting the correct option.

1. **What is your student number?**

---

2. **What is your gender?**

☐ Female

☐ Male

☐ Other

---

3. **What is your age?**

---

4. **What is your race or ethnicity?**

☐ Black

☐ White

☐ Coloured

☐ Indian

☐ Asian

☐ Other

---

5. **What is your level of study?**

Appendix E

Psychological Capital Questionnaire (PCQ**)**

The following questionnaire contains statements that describe how you may think about yourself **right now.** Use the scale below to indicate your level of agreement or disagreement with each statement. Where 1= Strongly disagree, 2= Disagree, 3= Somewhat disagree, 4= Somewhat agree, 5= Agree, and 6= Strongly agree.

	Item	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
	I can think of many ways to reach my current academic goals.	1	2	3	4	5	6
	When I have a setback at university, I have trouble recovering from it or moving on.	1	2	3	4	5	6
	I am optimistic about what will happen to me in the future regarding my studies.	1	2	3	4	5	6

Source: Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). Psychological Capital: Developing the Human Competitive Edge.

Appendix F

Letter granting permission to utilise the PCQ

Researcher (Student)

mind garden

To whom it may concern,

This letter is to grant permission for Researcher (Student) to use the following copyright material:

Instrument: ***Psychological Capital (PsyCap) Questionnaire (PCQ)***

Authors: ***Fred Luthans, Bruce J. Avolio & James B. Avey.***

Copyright: ***"Copyright © 2007 Psychological Capital (PsyCap) Questionnaire (PCQ) Fred L. Luthans, Bruce J. Avolio & James B. Avey. All rights reserved in all medium."***

for his/her thesis/dissertation research.

Three sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any other published material.

Sincerely,

Mind Garden, Inc.
www.mindgarden.com

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Appendix G

Main points from the Psychological Capital Intervention: Build Your Mental Strength & Flexibility

Psychological Capital (PsyCap) – the powerful combination of our hope, self-efficacy (confidence), optimism, and resilience – helps us to keep our competitive edge while managing academic anxiety. PsyCap can be thought of as positive mental strength and flexibility. It can be developed by building these four mental capacities:

- **Resilience**: Being able to cope, sustain, and bounce back to attain success when challenge strikes.
- **Optimism**: Having a positive expectation about your ability to meet challenges and succeed now and in the future.
- **Hope**: Having the ambition to persevere toward goals and, when necessary, to change direction to reach goals in order to succeed.
- **Self-efficacy**: Having the belief you can successfully take on and put in the necessary effort to succeed at challenging tasks.

While each of these capacities individually contributes to our positive mental strength, when combined and used together they become stronger than the sum of their parts. This strategy will help you build each PsyCap capacity by having you work through a real-life adversity. You will identify new ways to look at your issue and challenge basic assumptions you might have about your ability to overcome it. Then, you will take an inventory of the resources you have to help you successfully resolve the problem and use your critical thinking skills to see if you have overlooked anything. Finally, you will set a S.M.A.R.T. goal, devise multiple ways to reach it, and anticipate ways to overcome any obstacles to your success.

The steps will be as follows:

STEP 1: Describe a challenging situation that is not going as well as you would like.

STEP 2: Reflect on your mindset.

- Take a minute to understand the nature of your mindset when the situation first occurred, as you initially assessed the risk.
- How did you respond? Were you energized and ready to rise to the challenge? Or were you overwhelmed? Defeated? Something else?

STEP 3: Frame the situation again in terms of its actual impact.

- What is the real risk? Is this risk something in or out of your control? What are your options?
- Are there any different ways to look at the situation that will allow you more options or control over your success?

STEP 4: Identify helpful skills and resources. (Note: these can include your knowledge, classmate networks, ideas from others, creativity, past experience, and the like).

- List the skills and resources you have used to respond to the challenge.
- Are there other resources available you have not considered?

STEP 5: Set a goal that is directly related to overcoming your challenge.

- Write down your goal using S.M.A.R.T. criteria – Specific, Measurable, Attainable, Relevant, and Timely. (Note: pick a goal you want to achieve rather than avoid).
- Break your goal into manageable small steps and list them in sequential order.

STEP 6: Identify multiple ways to goal accomplishment.

- Write down all the paths you can think of that could realistically lead you to reaching your goal.
- For each path make a list of the skills and resources you will need.

STEP 7: Identify and plan ways to overcome potential obstacles.

- List the obstacles that could get in the way of each path you identified in Step 6.
- List how you can deal with each of these obstacles. Are there ways around them? Be specific.

STEP 8: Take time to visualize your success.

- Set aside 10 minutes every day to think through the steps of this intervention and visualize your success. See each step with as much detail as possible.
- Imagine using your resources to navigate the different paths toward your goal with you confidently getting around any obstacles in your way.
- Then, visualize yourself reaching your goal and imagine celebrating your win!

Appendix H

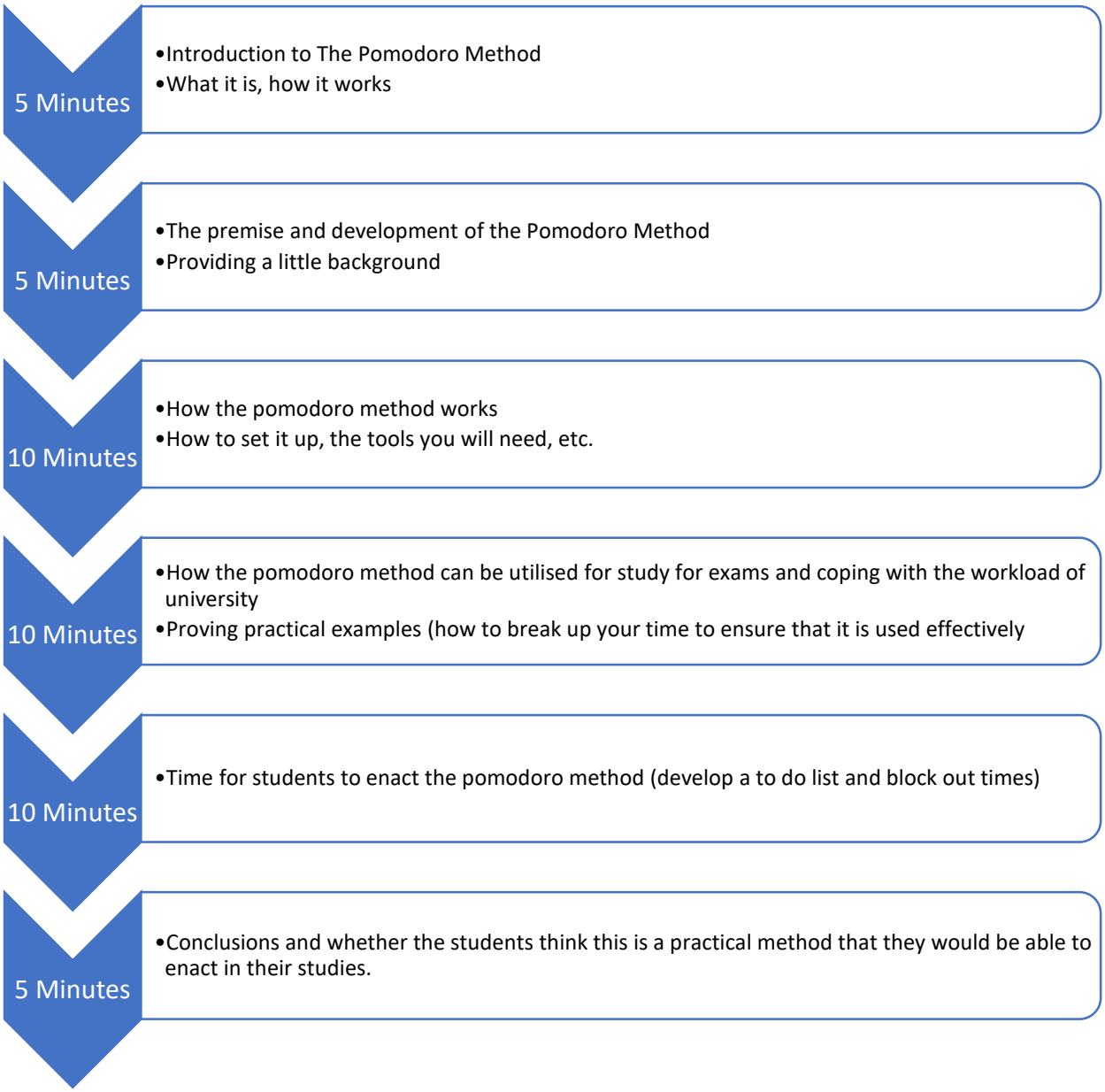
PsyCap Intervention Schedule

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
Describe.	Reflect.	Frame.	Skills & Resources	Set a goal	Pathways.	Plan.	Visualise.
2🕐	**2**🕐	**3**🕑	**3**🕑	**5**🕑	**10**🕒	**10**🕒	**10**🕒

Estimated Finish Time: 45 Minutes.

Appendix I

Pomodoro Time Management Intervention Schedule



Total time this intervention is expected to take: 45 Minutes.

Appendix J

The Academic Anxiety Scale (AAS)

The following scale contains statements that are aimed at measuring your level of worry towards your studies. (1= Not at all typical of me, 2= Somewhat typical of me, 3=Quite typical of me, and 4= Very typical of me).

	Item	Not at all typical of me	Somewhat typical of me	Quite typical of me	Very typical of me
1	I often worry that my best is not as good as expected in university.	1	2	3	4
2	I tend to put off doing schoolwork because it stresses me.	1	2	3	4
3	I often worry that I am not doing assignments properly.	1	2	3	4
4	I am less confident about university than my classmates.	1	2	3	4
5	I have a sense of dread when I am in my classrooms.	1	2	3	4
6	I tend to find my instructors intimidating.	1	2	3	4
7	I spend much of my time at university worrying about what is next.	1	2	3	4

8	There is something about university that scares me.	1	2	3	4
9	I am concerned about what my classmates think about my abilities.	1	2	3	4
10	I often feel sick when I need to work on a major class assignment.	1	2	3	4
11	I have a hard time handling university responsibilities.	1	2	3	4

Source: *Cassady, J. C., Pierson, E. E., & Starling, J. M. (2019). Predicting Student Depression with Measures of General and Academic Anxieties.*

Appendix K

The Demographic Characteristic of Age

Table 2

Sample Demographic Characteristic: Age

Age	Frequency	Percentage (%)
0	2	.4
17	4	.8
18	120	23.6
19	211	41.5
20	83	16.3
21	23	4.5
22	9	1.8
23	7	1.4
24	1	.2
25	2	.4
26	1	.2
29	2	.4
33	1	.2
36	1	.2
38	1	.2
65	1	.2
Total	469	92.3
Missing	359	7.7
Total	110	100.0

Appendix L

Histograms for the main variables

Figure 2

Histogram for the Self-Efficacy Subscale in Time 0

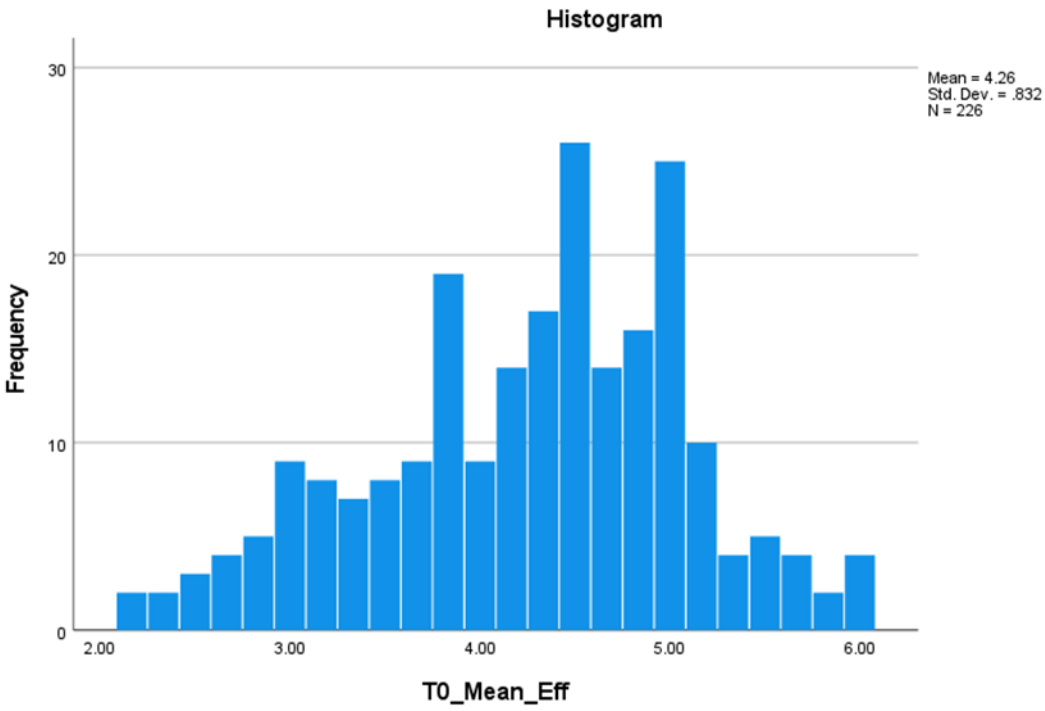


Figure 3

Histogram for the Self-Efficacy Subscale in Time 1

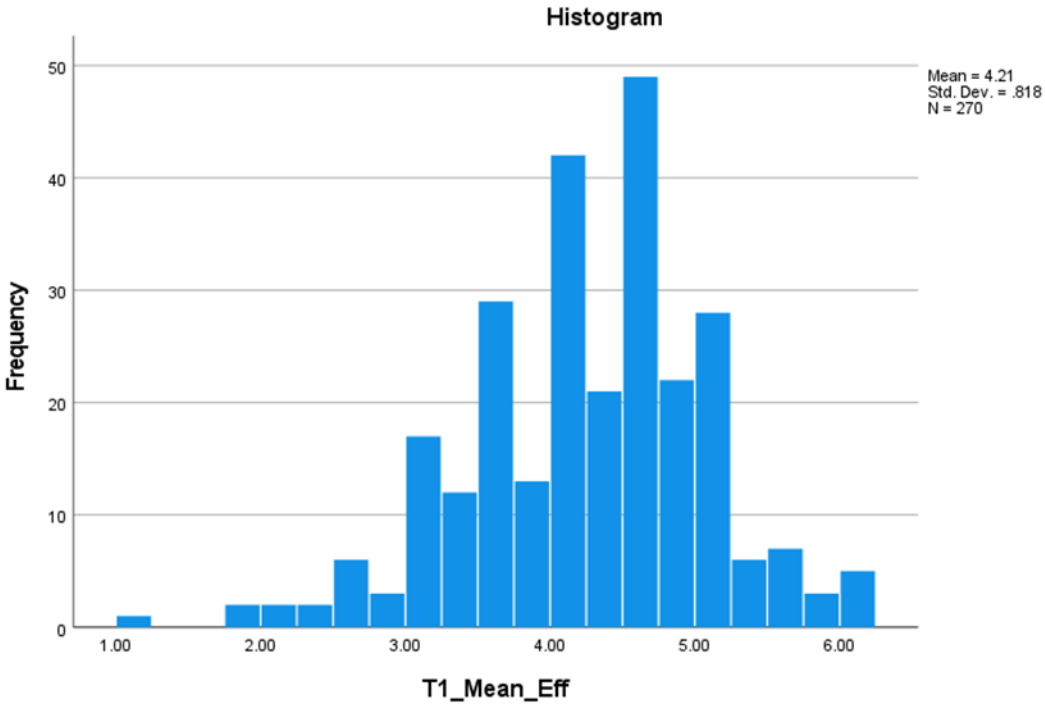


Figure 4

Histogram for the Self-Efficacy Subscale in Time 2

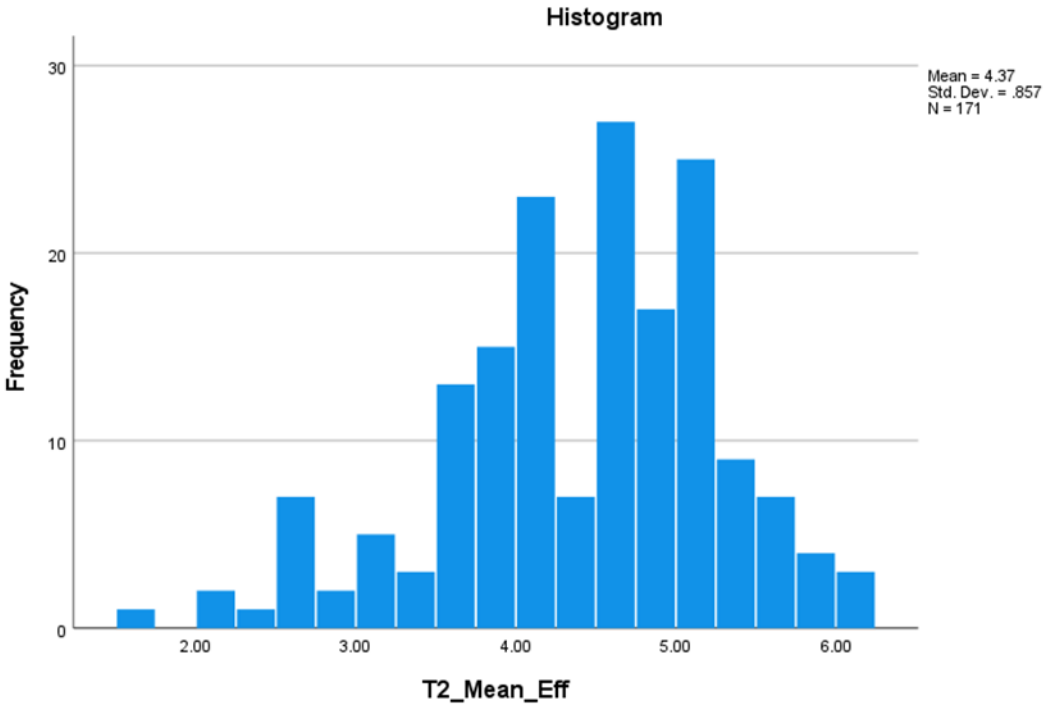


Figure 5

Histogram for the Hope Subscale in Time 0

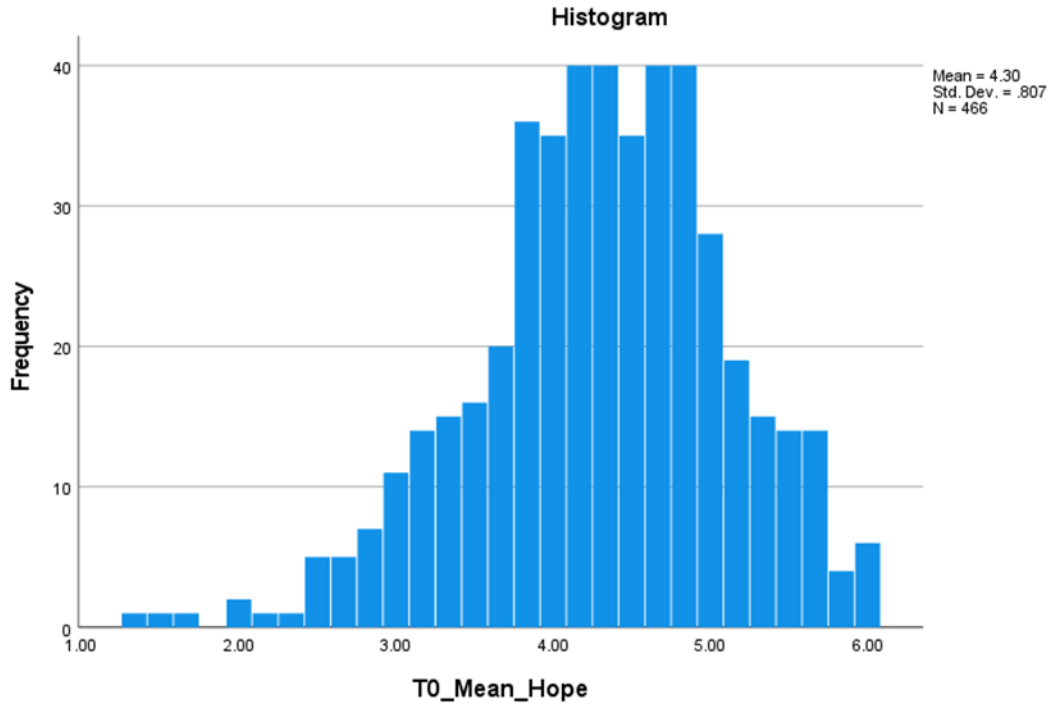


Figure 6

Histogram for the Hope Subscale in Time 1

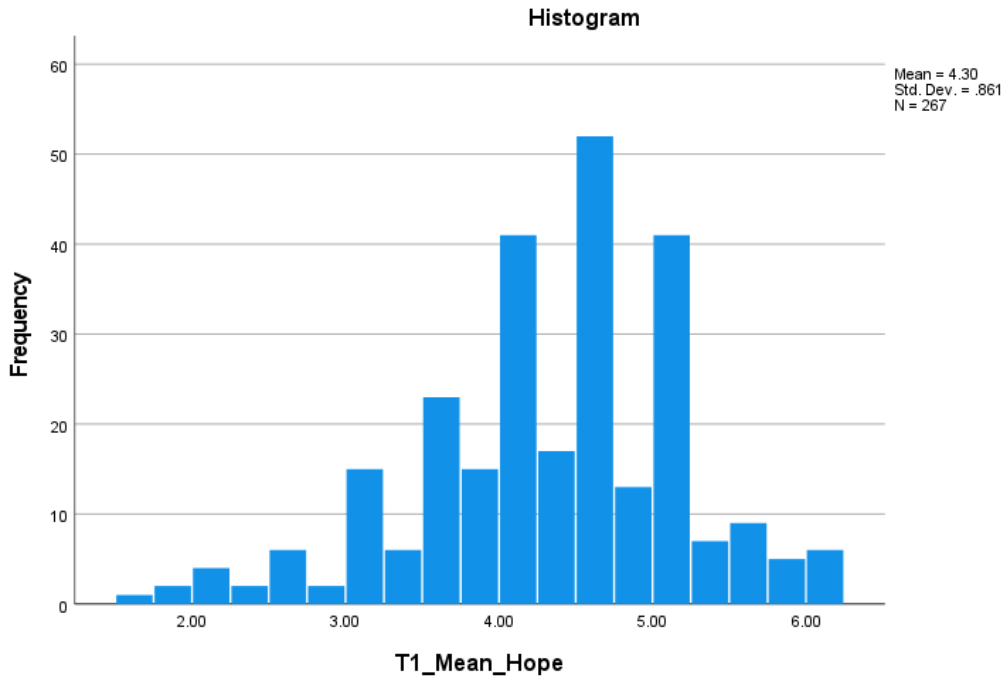


Figure 7

Histogram for the Hope Subscale in Time 2

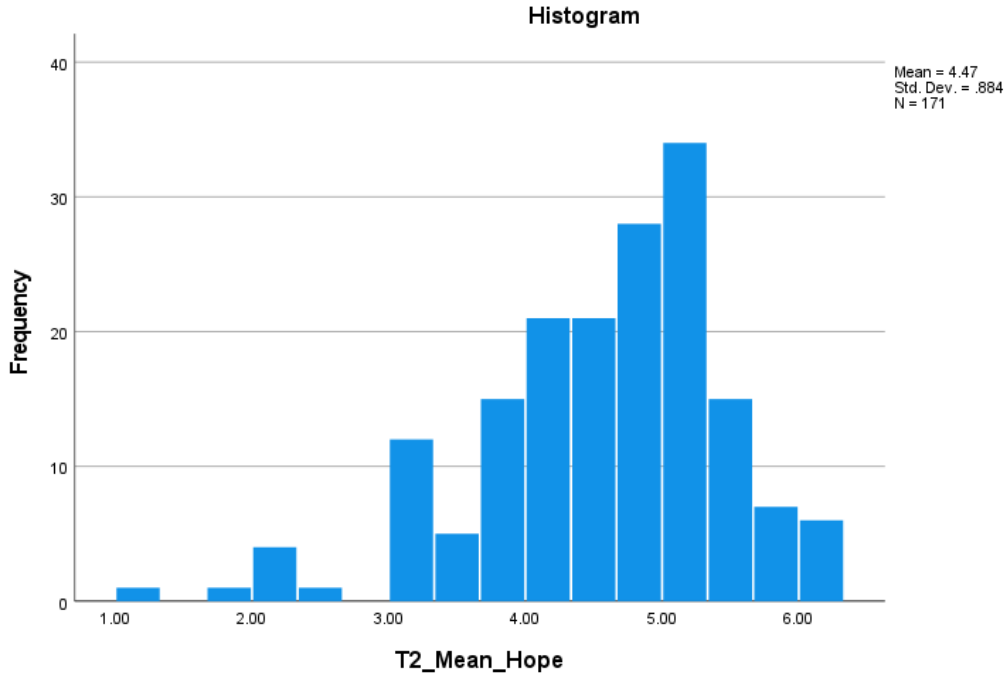


Figure 8

Histogram for the Resilience Subscale in Time 0

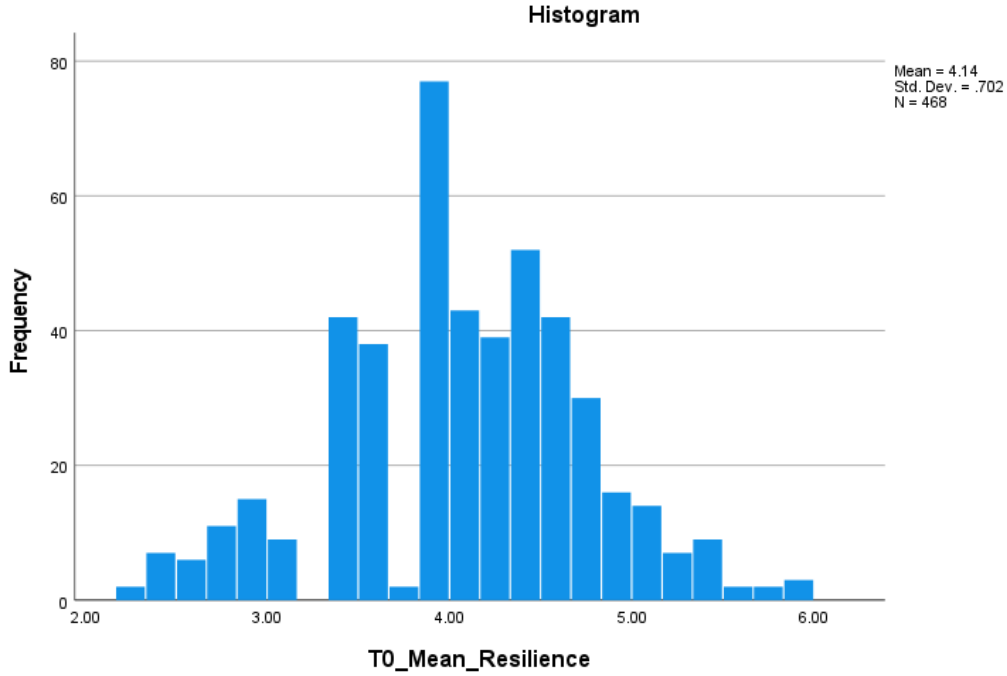


Figure 9

Histogram for the Resilience Subscale in Time 1

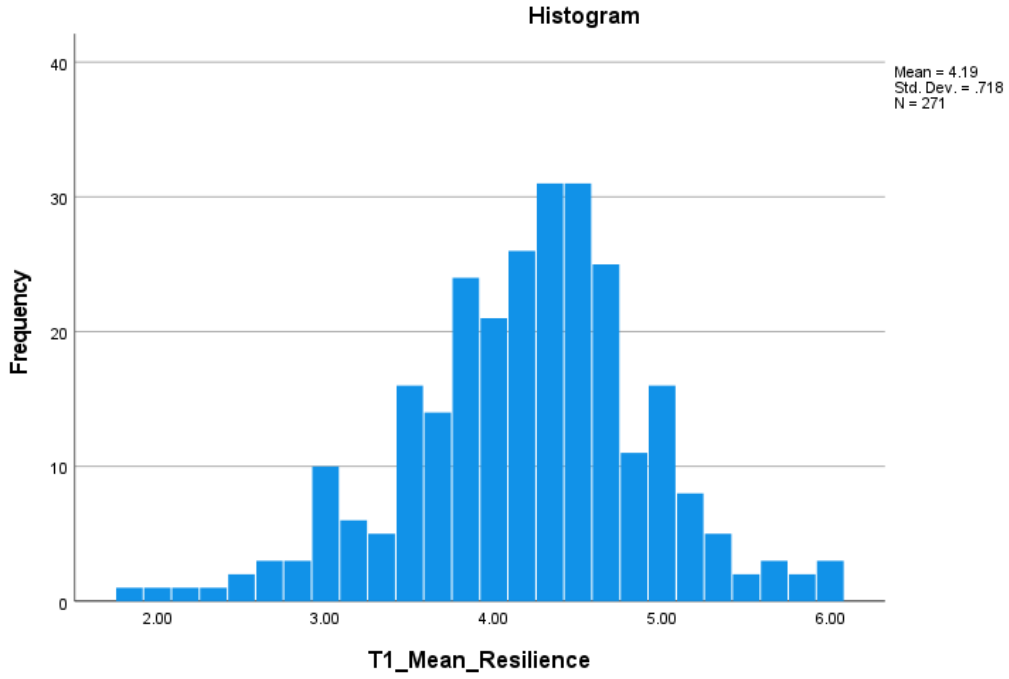


Figure 10

Histogram for the Resilience Subscale in Time 2

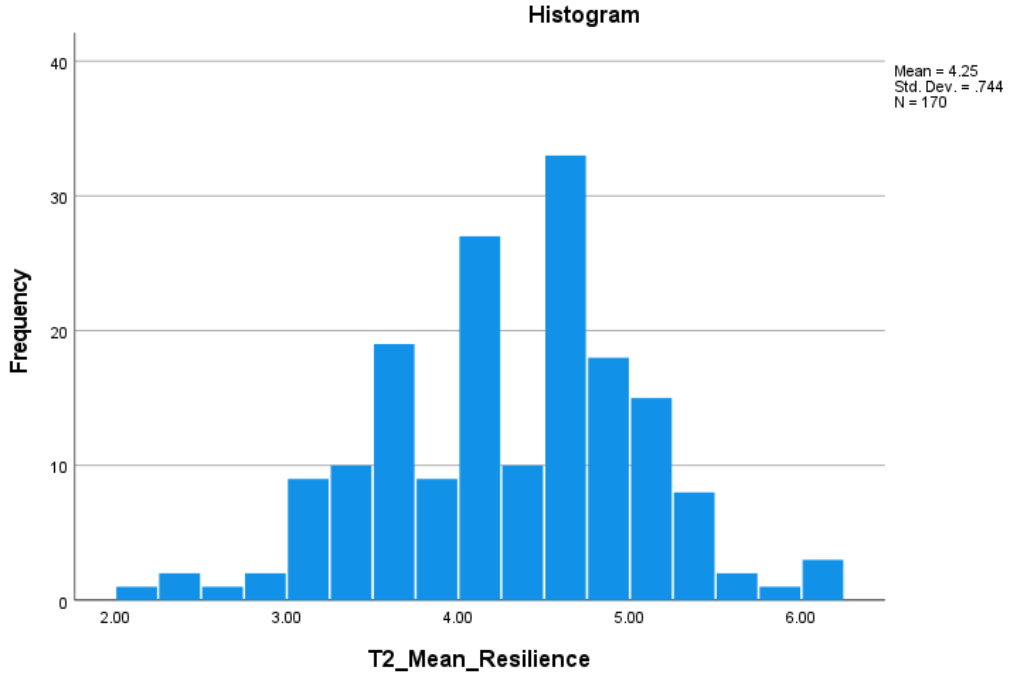


Figure 11

Histogram for the Optimism Subscale in Time 0

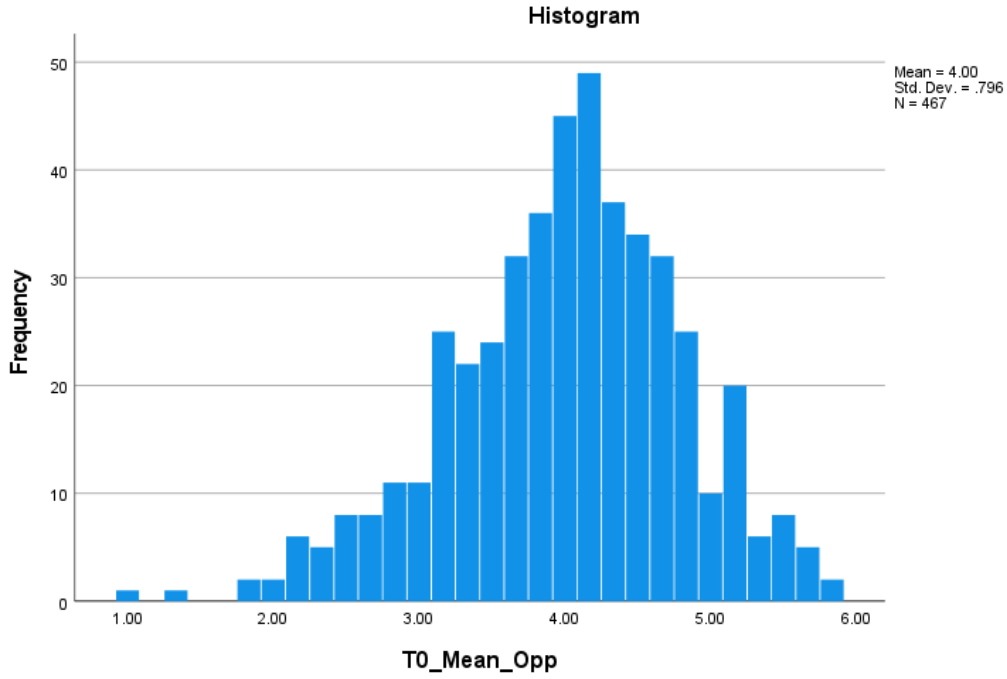


Figure 12

Histogram for the Optimism Subscale in Time 1

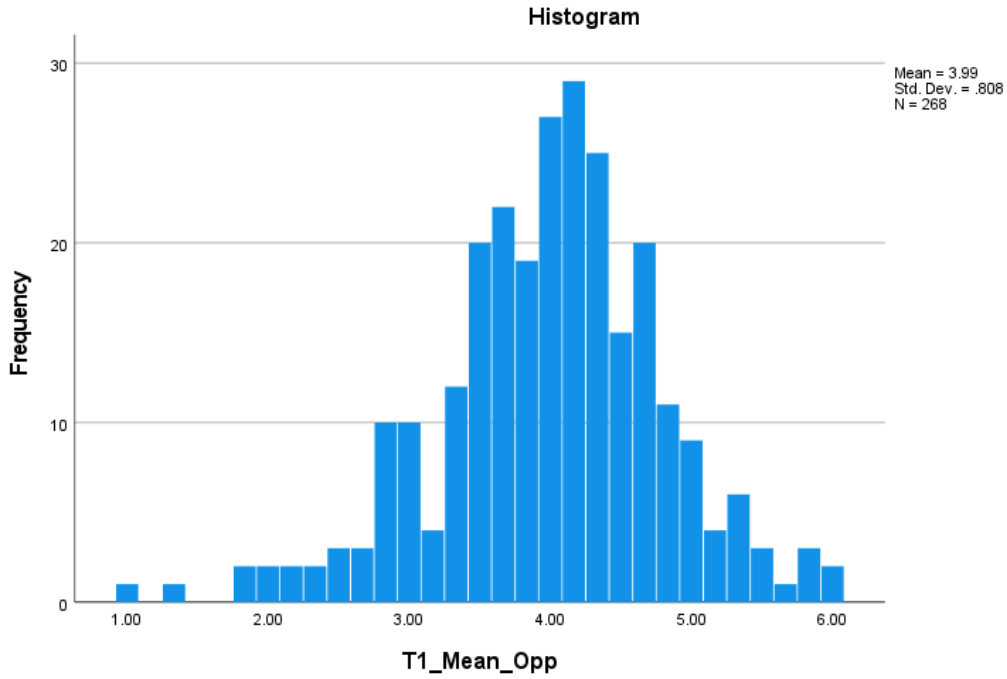


Figure 13

Histogram for the Optimism Subscale in Time 2

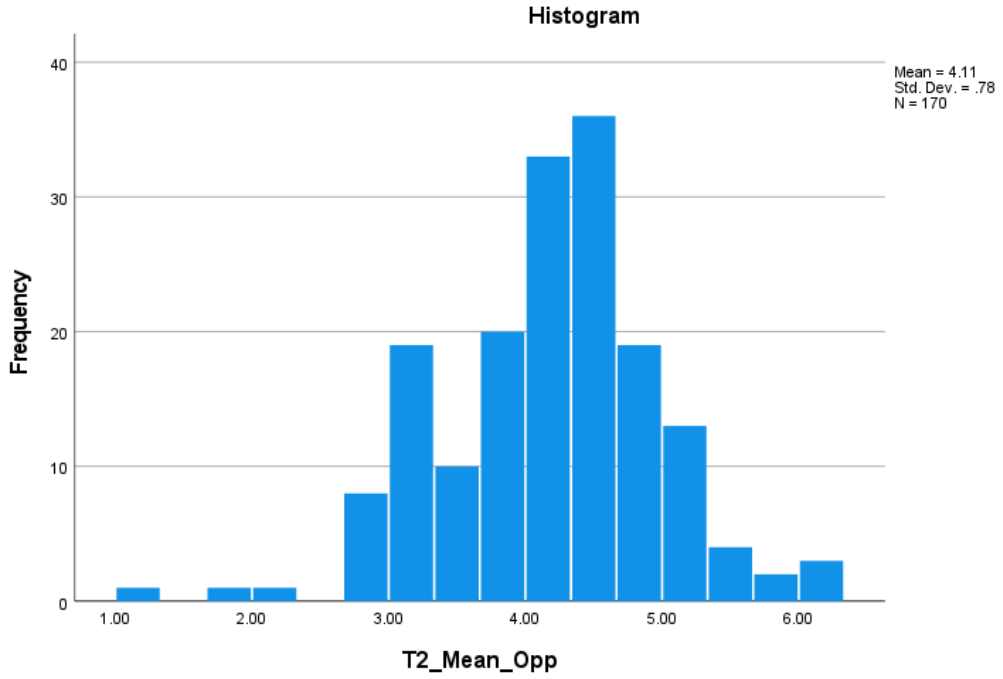


Figure 14

Histogram for PsyCap Overall in Time 0

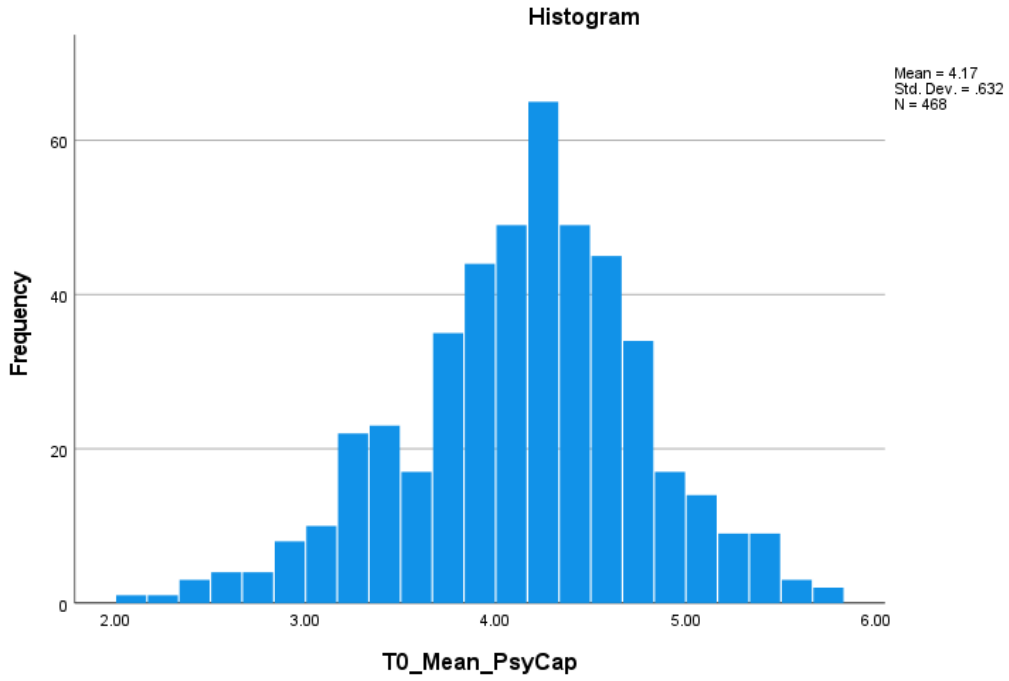


Figure 15

Histogram for PsyCap Overall in Time 1

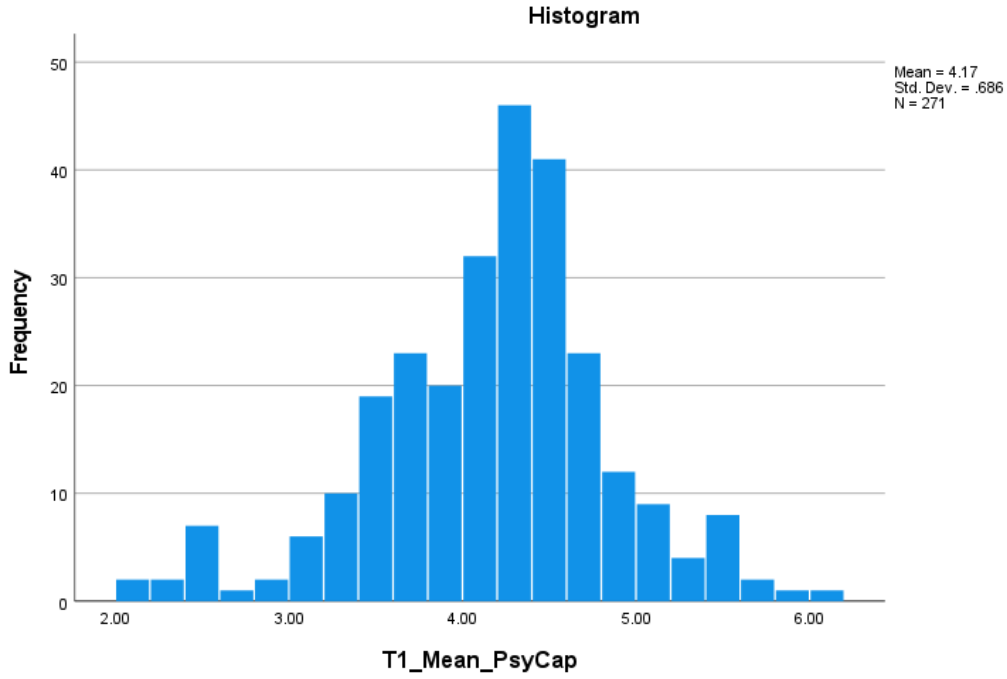


Figure 16

Histogram for PsyCap Overall in Time 2

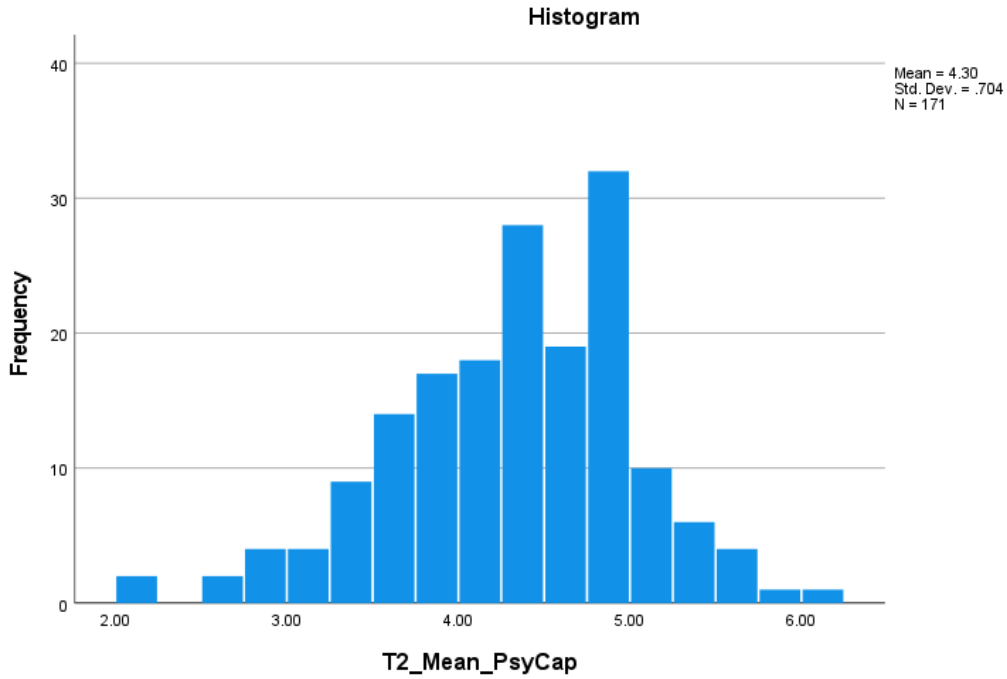


Figure 17

Histogram for the Academic Anxiety Scale in Time 0

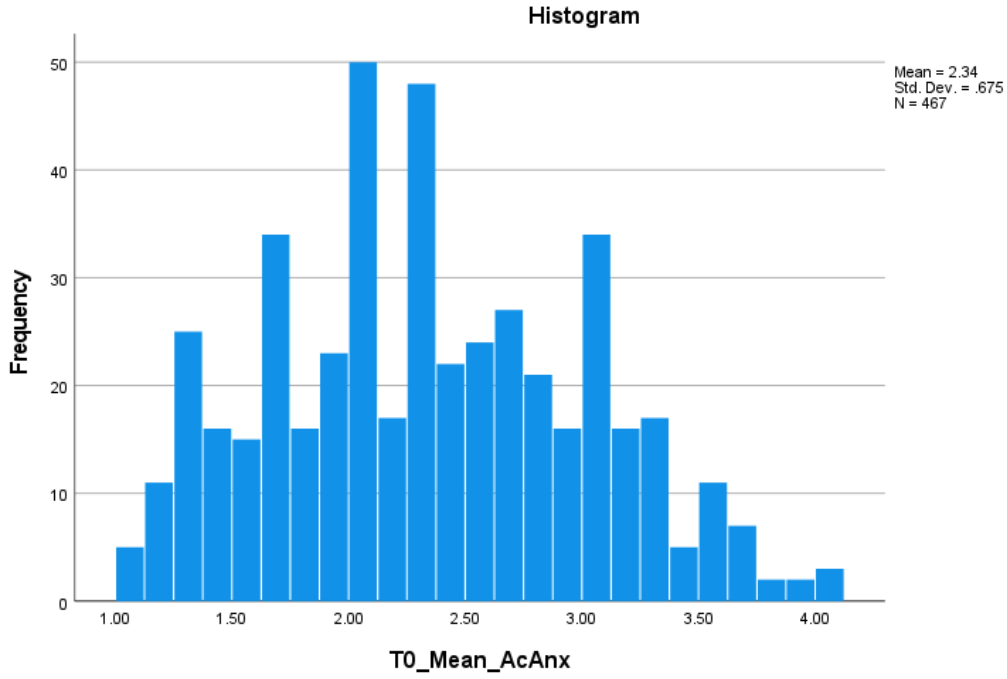


Figure 18

Histogram for the Academic Anxiety Scale in Time 1

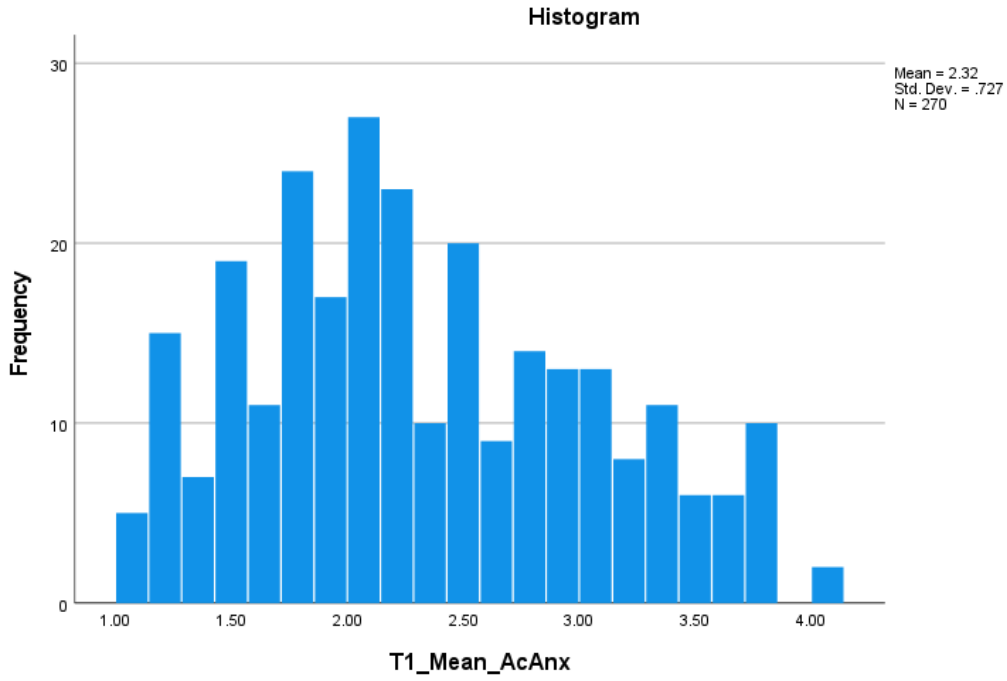


Figure 19

Histogram for the Academic Anxiety Scale in Time 2

