

The Impact of a Psychological Capital Micro-Intervention on Academic Burnout amongst First-year University Students

by

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Abstract

Purpose – the aim of this study is to probe into whether psychological capital micro-interventions impact upon burnout amongst first-year university students, in the psychology department, at the University of the Witwatersrand.

Research Design and Methodology - This study used a quasi-experimental design, because it did not include random assignment, but did include a comparison group, and manipulation of the DV variables. The research was quantitative in nature, with a sample size of 319 first year students from Wits University..

Findings – There was an insignificant interaction effect between group and time on all the variables. Thus, the intervention was not successful. However, Psychological capital was significantly and negatively related to burnout, and it's components.

Research limitations/implications – The sampling approach may limit the generalizability of the study's findings as the data was collected from just one South African university, where the primary focus was first-year students. Another limitation includes the 1% given to those who participated in the intervention. Although this is departmental policy, an allocation of this nature can be interpreted as an attempt to persuade or provide an incentive, which may have affected the way the students responded. The current study has highlighted the value and importance of administering psychological capital interventions, not only in universities, but South Africa at large.

Keywords: Psychological capital, Burnout, Interaction Effect, Students

Chapter 1: Introduction & Rationale

Fatigue, loss of control over one's emotions, and distancing oneself from academic work are nowadays common experiences amongst students. Numerous studies on the wellbeing of students indicate that individuals, particularly students in higher education, experience significant levels of burnout symptoms during their studies (Qingren et al., 2016; Wang et al., 2021). These symptoms appear to be mainly caused by the intensity of the workload (study demands), inability to adapt from high-school to university, and tight deadlines (Zeijen et al., 2021). Therefore, research that assists in identifying constructs that may reduce the possibility of facing academic burnout for students is instrumental (Radack, 2019). Psychological Capital (PsyCap), which is a positive psychology construct, consists of four elements (hope, efficacy, resilience, and optimism) which are said to reduce the symptoms of burnout, and enhance levels of engagement and overall wellbeing (Qingren et al., 2016; Radack, 2019). Numerous studies have shown that PsyCap is negatively correlated to burnout in the workplace, thus it may be vital to examine the relationship between psychological capital and burnout in the context of a university environment (Radack, 2019; Zeijen et al., 2021). Drawing from various literature,

the purpose of this study was to examine whether a psychological capital micro-intervention impacts upon burnout amongst first-year university students, in the psychology department, at the University of the Witwatersrand.

The main focus of this study is first year university students, because they are more prone to dropping out, due to the difficulties associated with transitioning from high-school to university, both internationally and in South Africa (Makola et al., 2021). One of the main difficulties associated with the transition, is handling the increased workload, and grasping the vital skills and capabilities needed to ensure academic success, and thus reduce/ avoid dropout. Dropout, which is inextricably linked to absenteeism, often leads to economic deprivation, lower employment opportunities in decent jobs, and various mental, social, occupational, and marital problems in adulthood (Paura & Arhipova, 2014; Gubbels, 2019). According to Katuchi (2021), the dropout rate for first year university students internationally, particularly in Japan was 87% last year; 34% in Latvia; and 10% in the United Kingdom in 2004 (Arulampalam et al., 2004; Paura & Arhipova, 2014).

Unfortunately, this (student dropout) is a situation that is said to be much worse in South Africa. According to StasSa, of the 120 000 students who enrolled in university, 30% dropped out in their first year, and 20% dropped out in their second and third year (StatsSa, 2004). Similarly, Makola et al. (2021) states that over the years, the dropout rate amongst university students increased drastically, as the dropout rate for first-year varsity students lies between 50-60%, and of those who remained in varsity only 20% graduated. This can partially be attributed to the academic demands of university and the student's inability to handle the pressure that comes with it, which ultimately leads to burnout.

Burnout syndrome is regarded as a psychological state emanating from prolonged exposure to specific stressors and has been described as the inability to cope with physical and emotional stress at work (Platania et al., 2020). Specifically, it is characterised by emotional exhaustion, depersonalisation and reduced personal accomplishment amongst individuals who engage in activities that are psychologically similar to work, such as students (Platania et al., 2020). Numerous researchers decree that students also execute work when they complete numerous school-related tasks, such as class attendance, completing assignments, writing exams, and acquiring a degree, thus burnout symptoms may be prevalent amongst them too (Bakare et al., 2019; Platania et al., 2020; Barratt & Duran, 2021). To position that, burnout is known to negatively impact students' academic goals which results in poor work performance and

disinterest in completing assignments, all of which results in poor health, hopelessness, and student dropout (Bakare et al., 2019)

However, psychological capital tends to ameliorate the effects of burnout as it is known to contribute towards an individual's wellbeing, which aids in the mitigation of burnout (Barratt & Duran, 2021). Specifically, psychological capital is said to be strongly associated with the promotion of goal attainment and individual growth, enhanced work performance, and stress relief (Kaur & Satija, 2019). Previous research has shown that psychological capital strongly influences a student's learning, academic performance, helps them formulate decent coping strategies, and enhances their overall psychological wellbeing (Luthans et al., 2008; Kaur & Satija, 2019). However, while research has explored the importance of psychological capital and the effects burnout has on the working individual, very few studies have focused on examining the direct role of psychological capital interventions and their impact on student burnout in particular.

Previous research has shown that implementing micro-interventions have helped develop and enhance psychological capital resources within individuals (Luthans et al., 2008). Specifically, previous research has shown conceptual links between psychological capital and burnout, particularly with regards to PsycCap's four components, which enables this study to infer a potential relationship between the two variables. The four components of psychological capital – which are *hope*, *efficacy*, *resilience*, and *optimism* – lead to a more positive psychological state of development, which may decrease burnout (Barratt & Duran, 2021). Additionally, those who are more positive in their approach, have the belief to put in the “required effort to succeed, persevere towards their academic goals, and are able to overcome any setbacks they are faced with, and are in turn better equipped” to be less susceptible to burnout (Barratt & Duran, 2021, pg. 5).

Lastly, an increase in PsycCap levels enhances levels of internal resources within individuals, which counteract the effects of the demands students face regarding their work and studies (Luthans et al., 2008). Thus, it can be suggested that psychological capital is negatively related to burnout, and a micro PsycCap intervention might prove to positively impact burnout levels amongst first-year university students. However, very few studies have focused on psychological capital micro-interventions and their impact upon burnout, specifically academic burnout amongst first-year university students in an educational context, in South Africa. Therefore, the aim of this study is to probe into whether psychological capital micro-

interventions impact upon burnout amongst first-year university students, in the psychology department, at the University of the Witwatersrand.

Chapter 2: Literature Review

The literature review will provide a theoretical context for the relationship between psychological capital and burnout amongst first year university students and details the available literature on these variables. The literature provided centres on elucidating psychological capital and its components, burnout and its components, the various characteristics associated with both variables, and how they impact upon one another.

1. Academic Stress

Academic stress is defined as the experience of a debilitating, gruelling state of psychological and emotional arousal which results from a situation that's viewed to be threatening to an individual's academic success and available resources (Lal, 2014). Scholars proclaim that the main causes of academic stress amongst students include but aren't limited to; liaising with administrative staff, financial responsibilities (school fees), studying, intensified workloads, writing exams and striving for good results, while simultaneously balancing the relationship between academics and their personal lives (Kuh et al., 2008; Bakare et al., 2019; Baloch et al., 2021). Additionally, common stressors experienced by students, which can be categorised as non-academic and environmental include; traveling from student residences/ home to university, handling family expectations, and figuring out how to prioritise school while doing family related activities (Huan et al., 2008).

Scholars decree that being on campus and physically attending classes has been found to influence the onset of strain amongst students, specifically first-year students, and this is attributed by the anxiety of making friends, adjusting to the chaotic university environment, and making life-changing decisions regarding their future (Bakare et al., 2019; Baloch et al., 2021). To position that, research has shown that first year and final year university students are more prone to developing and experiencing mental and emotional distress, more susceptible to drop out of university, and they experience the most stress as opposed to students in other years of study (Alginahi et al., 2009). Consequently, the abovementioned stressors which contribute to academic stress have been shown to enhance/ worsen psychological and physiological impairment within and amongst students, often raising concern due to its effect on the wellbeing of students, thus leading to burnout (Van der Merwe & Rothmann, 2003).

2. Burnout Explained

According to Maslach and Schaufeli (1993), burnout is defined as a psychological disorder, which is characterised by three components; emotional exhaustion, depersonalisation, and a depleted sense of personal accomplishment, that mostly occurs in working professionals whose jobs require them to work with people in challenging situations. Specifically, burnout speaks to the psychological and emotional exhaustion, and forfeiture of motivation that's due to continuous exposure to “chronic emotional and interpersonal stressors on the job” (Maslach & Schaufeli, 1993; Baloch et al., 2021, pg. 116).

In previous years, numerous scholars noted that burnout strictly applied to working professionals, presently, it's been recently discovered that burnout isn't only experienced by working professionals (Bakare et al., 2019). Particularly, scholars argued that students also carry out specific tasks when fulfilling varsity-related responsibilities, such as class attendance, executing practicals and completing assignments, writing exams, and obtaining a degree, thus burnout may be prevalent amongst them too (Bakare et al., 2021; Baloch et al., 2021).

Academic burnout is defined as a psychological syndrome, which manifests in the form of fatigue due to coursework demand, a disengaged and cynical attitude towards a university degree, and emotions of low efficacy and academic achievement (Bakare et al., 2019; Tomaszek & Muchacka-Cymerman, 2022). Just like the burnout syndrome, academic burnout syndrome is characterised by three components; exhaustion, depersonalisation (cynicism), and reduced personal or professional accomplishments (reduced efficacy) (Shoji et al., 2015; Moyer, 2016; Bakare et al., 2019).

2.1 Components of Academic Burnout

Exhaustion is seen as the fundamental personal stress component of academic burnout (Shoji et al., 2015). Specifically, it's when emotions and feelings of lethargy and fatigue are displayed and experienced, due to the depletion of an individual's physical and emotional resources caused by academic demands (Shoji et al., 2015; Moyer, 2016; Inta, 2021). Previous studies have shown that exhaustion often precedes reduced efficacy and cynicism (Moyer, 2016; Tomaszek & Muchacka-Cymerman, 2022).

Depersonalisation (cynicism) speaks to the interpersonal component of academic burnout, and mirrors the negative, disengaged and extremely detached reactions/ responses with regards to various aspects of an activity (Moyer, 2016).

The third and final component of academic burnout is *reduced-efficacy*, which refers to the self-evaluation dimension. Here, this component speaks to emotions of ineptitude that arise within an individual, thus leading to a lack of achievement and reduced productivity at school/university (Moyer, 2016; Tomaszek & Muchacka-Cymerman, 2022).

2.2 Negative Effects of Academic Burnout

Numerous scholars decree that academic burnout leads to behavioural incivility on campus, reduced levels of motivation, and poor work performance (Shoji et al., 2015; Radack, 2019; Baloch et al., 2021). Additionally, students who exhibit behaviours and signs of burnout, tend to have anxiety (Tomaszek et al., 2021). Importantly, since individuals who have anxiety exhibit that behaviour due to a perceived threat, most people who have anxiety may perceive stressful situations as being threatening, and since burnout is caused by relentless stressful situations, it can be said that burnout is strongly correlated to anxiety (Tomaszek et al., 2021). Lastly, risk factors associated with Academic Burnout include a decrease in one's grade average, negative affect, a very negative viewpoint of school in general and support, decrease in productivity and work satisfaction, incompleteness of assignments, lowered immunity, and a change in sleeping habits (Shoji et al., 2015; Radack, 2019; Baloch et al., 2021; Tomaszek et al., 2021).

3. Job-Demands Resources (JDR) Model of Burnout

A relevant theoretical framework that could be used to better understand the workload and factors relevant to the wellbeing of students is the Job-Demands Resources (JDR) model of Burnout. The JDR model states that the overall health and wellbeing of an employee can be elucidated by two differing types of job characteristics; job demands and job resources (Huang et al., 2016). Job demands refer to the psychological, physical, social, or organisational aspects of a job that needs sustained physical, emotional and/or cognitive effort and skills and are therefore linked to some physiological or psychological costs (Bakker & Demerouti, 2007; Huang et al., 2016). Conversely, job resources are described as the “physical, psychological, social, or organisational aspects of the job that reduce job demands, facilitate achievement of work goals and stimulate personal growth, learning and development” (Bakker & Demerouti, 2007, pg. 103). The JDR model describes the effects of both job demands and job resources using two processes: the health impairment process and the motivational process. The health impairment process signifies that poorly designed jobs and job demands destroy/ diminish the overall wellbeing (mental and physical resources) of an individual, therefore resulting in the

depletion of energy of said individual (Huang et al., 2016). The second process explained by the JDR Model is the motivational process, which explains that job resources possess motivational potential and lead to an increase in work engagement and enhanced work performance (Bakker & Demerouti, 2007).

Applying this to the context of a student, it can be said that students have a multitude of study demands (increased workload, emotional demands, and time pressure) and study resources (social support, autonomy, and feedback) (Zeijen et al., 2021). Particularly, the process through which these study demands impair the students' energy is known as the health impairment process, while the process which is said to boost their study resources is known as the motivational process (Zeijen et al., 2021).

This model is important because it helps highlight how students with high demands are more prone to experiencing strain, fatigue, and ultimately suffer from burnout (Bakker & Demerouti, 2007; Zeijen et al., 2021). Such students are university students, potentially compelled to invest disproportionate amounts of effort into their schoolwork and may not cope with the demands of their coursework. However, to mitigate against burnout, certain resources are needed, namely physical, psychological, social, and economic resources (Rabenu et al., 2017). In saying that, psychological capital can be considered as a resource that may decrease the chances of burnout (Rabenu et al., 2017).

3.1 Psychological Capital as a Personal Resource

In relation to the abovementioned literature, psychological capital (PsyCap), which operationalises personal resources, has been studied in previous research. Particularly, scholars decree that a resourceful workplace stimulates employees' levels of psychological capital (such as hope, optimism, self-efficacy, and resiliency), which leads to favourable results (e.g. financial profit and engagement) (Luthans et al., 2008). Luthans et al. (2008) observed that PsyCap mediated the association between a supportive organizational climate and job performance, which further supports this conclusion. Additionally, studies have shown that people with high levels of PsyCap are more likely to be committed to, satisfied with, and engaged in their jobs, whereas people with low levels of PsyCap are more likely to experience burnout symptoms like exhaustion and cynicism, as well as the intention to quit (Cheung et al., 2008; Avey et al., 2011). Lastly, studies revealed that PsyCap is negatively correlated to occupational stress and burnout, thus having an impact on the connection between job demands and personal/work burnout (Avey et al., 2011).

According to Wen & Lin (2014), PsyCap is a valuable tool for reducing stress in university students and giving pupils the mental fortitude they need to deal with challenging situations. Accordingly, Riolli et al. (2012) discovered that PsyCap affected undergraduate students' levels of stress in the United States. They also came to the conclusion that PsyCap increases favourable psychological outcomes including life satisfaction (Riolli et al., 2012). Also, research pertaining to students in a business/management college revealed that high achievers had much higher levels of PsyCap than low achievers, indicating that PsyCap may have a direct or indirect impact on academic achievement (Jafri, 2013; Luthans et al., 2008). Similar findings were obtained in a study of undergraduate South African students, where academic achievement was highly correlated with two PsyCap dimensions: hope and resilience (Kotze & Niemann, 2012). Finally, a longitudinal study on a sample of Dutch university students by Ouwenel et al. (2013) indicated that PsyCap appeared to have a substantial effect on engagement over time, indicating that personal resources had an impact on well-being over time.

Given the aforementioned results, it is clear that research on PsyCap's effects on well-being (such as burnout and engagement) and its ensuing consequences (such as decreased performance and commitment) within a student setting is ongoing. Unfortunately, few studies have been published on PsyCap in a South African student-university setting (e.g. Kotze & Niemann, 2012), and there have been no attempts to incorporate PsyCap into the JD-R model in such a setting. This creates a study void where it is original and unique to look at how PsyCap functions as a personal resource within the JD-R model's processes in a student-university setting. It may be concluded from an analysis of the aforementioned literature and the logical hypotheses advanced that PsyCap can be incorporated into the two processes of the JD-R model.

4. Psychological Capital (PsyCap) Explained

Psychological Capital (PsyCap) is a multifaceted construct that's recently come to light, but has been gaining increased attention (Rabenu et al., 2017). Specifically, it's a higher order construct that is embedded in the premise of positive psychology, and is defined as an individual's "positive psychological state of development that is characterized by (a) having confidence (*efficacy*) to take on and put in the necessary effort to succeed at challenging tasks; (b) making a positive attribution (*optimism*) about succeeding now and in the future; (c) persevering toward goals and, when necessary, redirecting paths to goals (*hope*) in order to succeed, and (d) when beset by problems and adversity, sustaining and bouncing back and even

beyond (*resilience*) to attain success” (Luthans et al., 2015, p.2). The dimensions of PsyCap may be categorized as state-like, indicating that they are flexible and open to development but remain largely stable over time (Luthans et al., 2007). This means that these resources can be produced and maintained in a way that will improve performance, motivation, and overall wellbeing (Bakker & Derks, 2010; Brouze, 2013). In a study by Luthans et al. (2008), it was discovered that a 2-hour web-based training intervention could successfully develop each of the four unique components. From time 1 to time 2, people in the treatment group showed a considerable increase in their PsyCap levels, whereas those in the control group showed no change (Luthans et al., 2008). Higher levels of hope, optimism, self-efficacy, resilience, as well as the PsyCap total score, were associated with lower levels of occupational stress and burnout, according to Herbert's (2011) research on a South African sample of full-time workers in the construction industry. Research shows that raising PsyCap levels may help workers feel less stressed and burnt out. Other studies have shown that PsyCap (Avey et al., 2009) and each of its individual components—hope (Snyder et al., 2006), resilience (Britt et al., 2001), self-efficacy (Bandura, 1997), and optimism—do in fact have an impact on well-being (Carver et al., 2005). As such, the abovementioned coincides with existing literature, which states that the possession of resources helps one generate more resources, thus resulting in positive outcomes.

PsyCap has grown in importance in recent years, as numerous scholars theorised that an increase in psychological capital enhances productivity and satisfaction, and reduces the possibility of any stress related illnesses, such as burnout (Rabenu et al., 2017; Bill, 2020; Sava et al., 2020; Baloch et al., 2021). PsyCap comprises of four elements, which will be discussed in this study, namely being; *hope, efficacy, resilience, and optimism*.

4.1 Components of Psychological Capital

Hope is defined as “a cognitive set that is based on a reciprocally derived sense of successful agency (goal-directed determination) and pathways (planning of ways to meet goals)” (Marques et al., 2015, pg. 325). This definition is comprised of two main components, agency thinking and pathway thinking (Snyder et al., 2002; Marques et al., 2015). Firstly, agency is said to be the motivational aspect of hope and conveys a person’s motivation and drive to use specific pathway(s) which may assist individuals in achieving their goals (Snyder et al., 2002). The second component includes a person’s ability to create pathways (normally multiple pathways) when faced with obstacles which prevent them from reaching specific goals (Snyder et al., 2002; Marques et al., 2015). In a student university context, willpower enables students

to recognize and set academic goals that will help them achieve desired performance-related outcomes, while way power enables them to come up with multiple pathways to accomplish these goals and to successfully address issues with academic performance (Snyder, 2002). Because individuals are driven to complete a task by finding the best pathway and efficiently mobilizing cognitive efforts toward goal attainment, hopeful students are capable of setting and pursuing realistic goals, creating many pathways to do so, and succeeding in doing so (Snyder, 1994). Individuals with high levels of hope typically have independent thought processes, take chances in the hunt for new avenues, solve issues imaginatively, and approach opportunities and obstacles from a variety of perspectives. Students that have high levels of hope are thought to thrive academically because they tend to stay focused on their academic goals, feel in control of their environment, and pay attention to relevant cues in particular learning and testing contexts (Providas, 2016).

The academic environment's issues are also seen as obstacles to be conquered, and therefore they are got around by getting help or taking other routes (Providas, 2016). According to research, hope promotes employee satisfaction, organizational commitment, work pleasure, and well-being in addition to being a predictor of job success (Providas, 2016). Several studies have shown that pupils' academic success is positively correlated with hope (Heaven & Davies, 2007; Snyder & Lopez, 2002; Snyder et al., 2002). Numerous studies have shown that hope is positively correlated to personal achievement, academic success, and assists individuals with overcoming challenging situations (Marques et al., 2015; Bill, 2020; Sava et al., 2020; Baloch et al., 2021).

The second element is *Efficacy*. According to the Social Cognitive Theory, self-efficacy is the belief in an individual's ability to execute a task or certain behaviour wholeheartedly and successfully (Marques et al., 2015; Selvaraj, 2015). Importantly, this theory and various research has shown that individuals with great levels of self-efficacy are better equipped at handling challenging tasks, strongly motivated about their goals and experience positive emotions (Luthans et al., 2015; Marques et al., 2015; Selvaraj, 2015). Additionally, scholars proclaim that a person's past accomplishments and failures contribute to the development of self-efficacy (Bandura, 1993; Marques et al., 2015). Failures tend to diminish one's judgment on a task or objective, while successes tend to raise one's judgment, which can have a positive or negative impact on a person's level of self-efficacy (Bandura, 1993). An individual will gain the essential information, cognitive, social, and psychological skills necessary to handle and respond to specific activities over this cumulative process.

Studies have shown that self-efficacy is positively correlated with work performance, retention, and organizational commitment in the workplace (Bauer et al., 2007; Selvaraj, 2015). Also, a South African study by Rothmann (2003) discovered that self-efficacy might have a mediating impact on work-related stress, burnout, and engagement. These results suggest that self-efficacy, as a human resource, fosters favourable organizational and personal outcomes. It has been discovered that self-efficacy has a positive relationship with academic achievement, commitment, satisfaction, and engagement in the setting of education. This element is important because research has shown that it tends to keep individuals focused, determined, and encouraged throughout a task, as opposed to feeling anxious and stressed, which is more prevalent in individuals who exhibit lower levels of self-efficacy.

The third element is *Resilience*, which is characterised by an individual's ability to adapt and recover under difficult, strenuous conditions, while exhibiting strength when it comes to establishing realistic ideas and implementing action (Pooley & Cohen, 2010; Marques et al., 2015). Specifically, it is defined as “the capacity to rebound, or bounce back from adversity, uncertainty, conflict, [and] failure” (Marques et al., 2015, pg.39). To position that, in the same way that self-efficacy is a task-specific concept, resilience is a domain-specific one, thus resilience, like the other PsyCap sub-constructs, is a state-like construct that can be taught, learnt, and grown over time (Pooley & Cohen, 2010; Luthans et al., 2015; Marques et al., 2015). It may be suggested that a resilient individual is less likely to fail in their endeavours, which reduces their chances of dropping out.

The final element is *Optimism*, which can be defined as an individual's ability to maintain a warm, positive outlook regarding future events (Marques et al., 2015). Similar to the other sub-constructs of PsyCap, optimism has been conceptualised as a state-like construct that can be taught, learned, and developed (Javaheri, 2017). This is congruent with the term “learned optimism” which was developed by Seligman (2011). In saying that, higher levels of optimism have shown to be strongly correlated to life-satisfaction, and a variety of interventions have been shown to be effective in increasing optimism and consequently treating mental problems (Javaheri, 2017).

Moreover, research studies show the moderating effect optimism has on how work stress negatively impacts individuals' overall wellbeing, thus causing psychological disturbance such as depression, anxiety, and burnout (Luthans et al., 2015; Javaheri, 2017). Additionally, scholars proclaim that possessing high levels of optimism correlates to experiencing positive

emotions, which assists students in coping with academic stress more effectively (Cheung, 2011; Shen, 2014; Javaheri, 2017). Lastly, optimism helps students implement the infusion of positive interpretation of ordinary events, positive appraisal, and problem-focused coping strategies (Shen, 2014).

4.2 Benefits of Psychological Capital

PsyCap moderates stress levels, and enhances performance, attitude, and individuals' work lives (Luthans et al., 2015). In a study conducted by Cheung (2011), PsyCap played a moderating role between emotional labour and burnout, and there was a significant correlation between PsyCap and both variables. Specifically, emotional labour had a significant negative impact on those who displayed lower levels of PsyCap, while those who showed higher levels of PsyCap, had experienced lower levels of burnout (Cheung, 2011). In another study conducted by Shen (2014), PsyCap had a mediating role in the relationship between occupational stress and depressive symptoms (Shen, 2014). The foregoing seems to indicate that an increase in psychological capital mitigates against the effects of burnout.

4.3 Micro-interventions

A micro intervention, as understood in the fields of behavioural and social sciences, refers to a precise and often brief strategy or method aimed at inducing specific changes in individual behaviour or small-group dynamics (Liang et al., 2018). Unlike macro-level interventions that address broader societal concerns, micro interventions operate at a much more localised and focused level (Liang et al., 2018). These interventions encompass various techniques, including mindfulness exercises, self-regulation strategies, or concise counselling sessions, among others (Luthans et al., 2006). Their distinguishing feature is their ability to target particular and immediate issues faced by individuals or small groups. Micro interventions are grounded in the belief that minor, well-defined alterations can lead to substantial improvements in mental health, well-being, or the dynamics of small groups (Baumel et al., 2020).

The importance of micro interventions stems from their potential to bring about meaningful and often swift transformations (Baumel et al., 2020). By customising interventions to cater to the unique circumstances of individuals or the dynamics of small groups, micro interventions can prove highly effective in addressing subtle problems that might otherwise go unattended (de Witte et al., 2022). Their efficiency, cost-effectiveness, and adaptability render them valuable tools for researchers and practitioners seeking to enhance individual and interpersonal outcomes (Baumel et al., 2020). Moreover, in a world marked by increasing complexity and

diverse individual needs, micro interventions offer a flexible and accessible approach to nurturing personal growth, mental health, and the overall well-being of individuals and small communities (de Witte et al., 2022). Consequently, they represent a crucial area of exploration and application within the broader realm of behavioural and social sciences.

A PsyCap (Psychological Capital) micro intervention pertains to a focused and brief approach aimed at strengthening the fundamental components of Psychological Capital, which encompass hope, self-efficacy, resilience, and optimism (Hodges, 2010). These micro interventions are custom designed to enhance an individual's psychological well-being, fostering a constructive mindset and equipping individuals with better coping mechanisms when faced with adversity (Hodges, 2010). PsyCap micro interventions may include activities like keeping a gratitude journal, engaging in mindfulness practices, or participating in short coaching sessions, all designed to fortify these essential psychological assets (Luthans et al., 2010). The unique emphasis on boosting an individual's inner strengths and positive perspective establishes PsyCap micro interventions as an indispensable tool within the domain of positive psychology and workplace satisfaction (Corbu et al., 2021)

The significance of PsyCap micro interventions lies in their potential to elevate both individual and organizational performance. By nurturing hope, self-efficacy, resilience, and optimism, these interventions can lead to heightened job contentment, motivation, and overall well-being. In the context of the workplace, PsyCap micro interventions have demonstrated their ability to reduce burnout and stress, enhance employee engagement, and contribute to increased productivity (Corbu et al., 2021). Moreover, as organisations increasingly recognise the connection between the psychological well-being of their employees and overall success, PsyCap micro interventions offer a pragmatic and cost-effective approach to fostering a positive work environment and improving individual results (Carter & Youssef-Morgan, 2022). Their focus on tapping into internal resources and promoting resilience aligns seamlessly with contemporary views on well-being and organisational effectiveness, solidifying PsyCap micro interventions as a pivotal subject of study and practical application (Carter & Youssef-Morgan, 2022).

5. Previous Research on Psychological Capital and Burnout

Rad et al., (2017) conducted a study amongst medical students in Iran, which sought to ascertain whether there was a relationship between PsyCap and Academic burnout, and what effect each variable had on the other. A significant negative relationship was found between

the variables, which suggested that academic burnout can be controlled by enhancing PsyCap (Rad et al., 2017). Despite finding a significant relation between the variables, they noted that the one limitation to their study included a sample from only one university in Iran, which reduced the generalizability of the study (Rad et al., 2017). Additionally, numerous scholars found that individuals with low PsyCap were more prone to unbearable stress and fatigue, which ultimately leads to burnout, which often leads to students either dropping out or employees quitting their jobs in order to find better employment opportunities (Radack, 2019; Wang et al., 2021). Lastly, a study conducted by Qingren et al. (2021), showed that burnout is significantly related to a decrease in performance, disengaged and extremely detached reactions, and that psychological capital could mediate the relationship between the two variables. He conducted the study amongst 17 Technikon institutions in Pakistan, however, his study sample only consisted of educators (Qingren et al., 2021).

In conclusion, the literature reviewed clearly defined and discussed burnout and psychological capital, the effects of both variables on individuals, and what previous research has found with regards to both. Additionally, the literature review showed that there was a relationship between psychological capital and burnout, however, very few studies have focused on the relationship between psychological capital and academic burnout amongst first-year students, especially in the South African context. Thus, this study will focus on the impact psychological capital has on burnout amongst first year students at the University of the Witwatersrand, in South Africa, to help fill the research gap.

Research Questions

Main Research Question

Is the psychological capital micro-intervention effective at reducing levels of burnout?

Sub-research questions

1. Did the micro-intervention impact upon PsyCap scores?
2. Is there a relationship between psychological capital and burnout in the different time periods?

Chapter 3: Methodology

Research Design

This study used a quasi-experimental design, because it did not include random assignment, but did include a comparison group, and manipulation of the DV variables (Mohajan, 2020). Specifically, it used a pre-test post-test research design because students were tested before running the intervention and after running the intervention. This study is quantitative in nature as it sought to determine relations between the independent and dependent variable (Mohajan, 2020). This incorporates quantifying and analysing the data to get results.

Sample & Sampling

The study's initial sample (individuals who accessed the questionnaire for the pre-test) consisted of about 534 full-time first year students, from the Psychology Department in the Faculty of Humanities, from the University of The Witwatersrand in Johannesburg. The final sample used in this study consisted of 319 full-time first year students; these were individuals who completed the questionnaire at both time points (before and after the intervention).

This study used non-probability convenience sampling, because the sample consisted of first-year students that were available to the researcher. Convenience sampling can be defined as a type of non-probability sampling which incorporates a sample that's derived from a population that's readily available to the researcher (Sedgwick, 2013). To ensure all the participants have the same or similar environments, the following inclusion criteria was considered: access to a computer with stable internet connection, a quiet place to undertake the interventions, willingness to commit to 2 questionnaires and participation in the interventions. The sample consisted of first year psychology students who are 18 and above, who were easily accessible and could participate voluntarily.

The student sample comprised of 259 females, which made up the majority, 53 males, 6 non-binary, and one other individual (See Table 1). Their ages ranged from 17-39 years ($M = 19.28$, Median = 19.00, $SD = 1.9$), with the majority of the sample falling within the ages of 20-27 (See Table 3). Regarding race/ ethnicity, 59.6% of the sample were Black, followed by White/ Caucasian (16.3%), Indian (14.4%), Coloured (7.8%), Other (1.6%), Mixed (1.3%), and Asian (.3%) (See Table 4). There are fifteen different languages that were identified as home languages spoken by the student sample, and the distribution was as follows: English (43.9%), IsiZulu (15.4%), Setswana (8.2%), Other (7.5%), Sesotho (7.2%), Sepedi (6.6%), IsiXhosa

(6.6%), Afrikaans (3.8%), Tshivenda (2.8%), Xitsonga (2.5%), IsiNdebele (1.3%), SiSwati (.9%), Oshiwambu (.3%), Urdu (.3%), and Punjabi (.3%) (See Table 5). Regarding faculty registration, 87.1% were registered with the faculty of Humanities, 11.6% Science, and .9% Commerce, Law, and Management (See Table 5). Majority of the study's sample were fulltime students (99.4%), and .6% were part-time students (See Table 6).

Table 1

Sample Demographic Characteristic: Gender

Gender	Frequency	Percentage (%)
Female	259	81.2
Male	53	16.6
Non-binary	6	1.9
Gender fluid	1	0.3
Total	319	100

Table 2

Sample Demographic Characteristic: Age

Mean	19.28
Median	19
Mode	19
Standard Deviation	1.85
Total	315
Missing	4

Table 3*Sample Demographic Characteristic: Age*

Age	Frequency	Percentage (%)
17 – 19	237	74.2
20 – 23	70	22
24 - 27	6	1.8
31	1	0.3
39	1	0.3
Total	315	98.7
Missing	4	1.3
Total	319	100

Table 4*Sample Demographic Characteristic: Race/Ethnicity*

Race/Ethnicity	Frequency	Percentage (%)
Black	190	59.6
White	52	16.3
Indian	46	14.4
Coloured	25	7.8
Mixed	5	1.6
Asian	1	0.3
Total	319	100

Table 5*Sample Demographic Characteristic: Home Language*

Home Language	Frequency	Percentage (%)
English	140	43.9
IsiZulu	49	15.4
Setswana	26	8.2
Sesotho	23	7.2
Sepedi	21	6.6
IsiXhosa	21	6.6
Afrikaans	12	3.8
Tshivenda	9	2.8
Xitsonga	8	2.5
IsiNdebele	4	1.3
SiSwati	3	0.9
Oshiwambo	1	0.3
Urdu/Punjabi	2	0.6
Total	319	100

Table 6*Sample Demographic Characteristic: Faculty Registration*

Faculty Registration	Frequency	Percentage (%)
Humanities	278	87.1
Health Science	37	11.6
Commerce, Law and Management	3	0.9
Total	319	100

Table 7*Sample Demographic Characteristic: Full-Time/Part-Time*

Full-time/Part-time	Frequency	Percentage (%)
Full-time	317	99.4
Part-time	2	0.6
Total	319	100

Data Collection Procedure

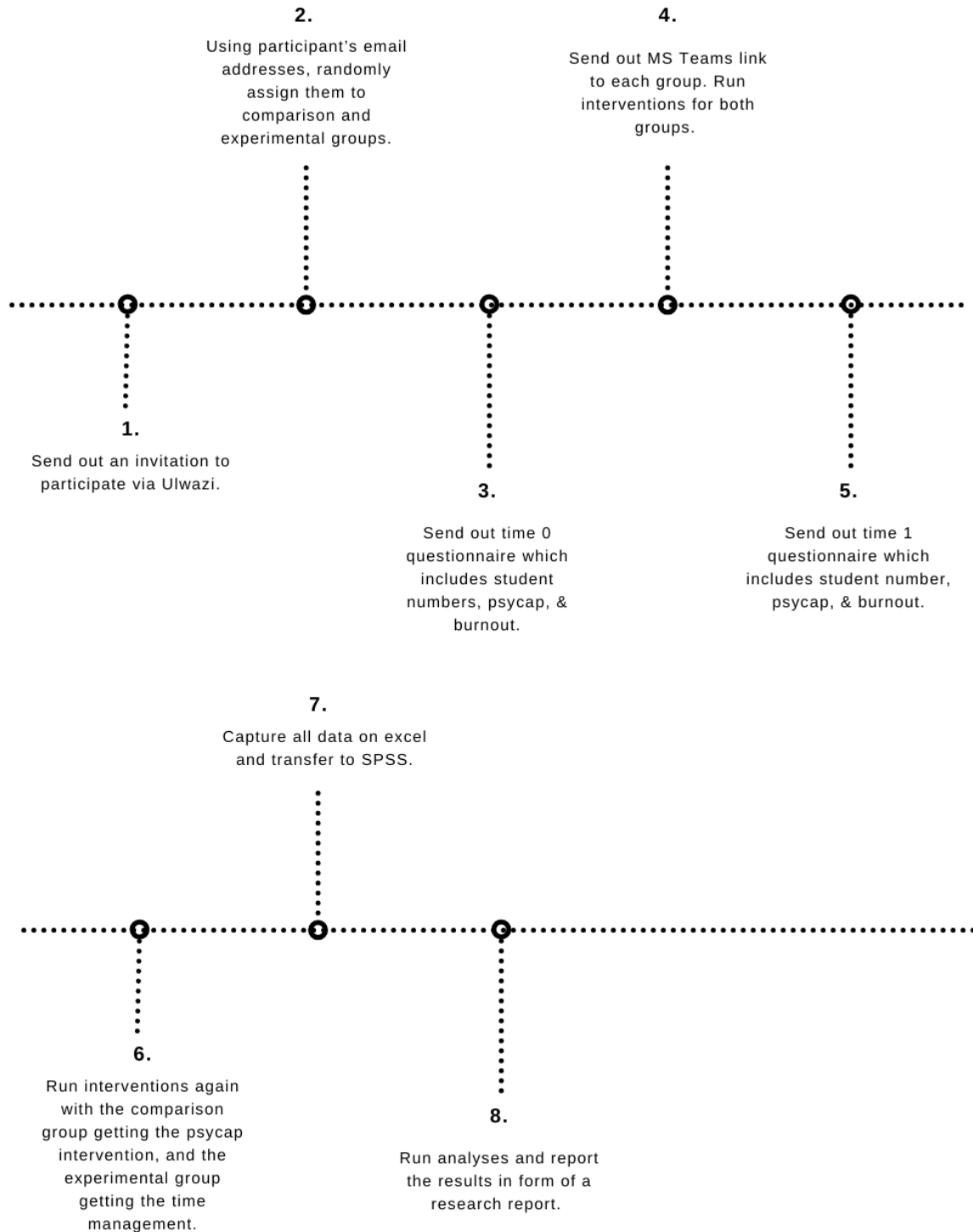
The procedure that was followed to obtain the intended sample and gather the required data for the current study was as follows: Firstly, ethical clearance was requested from the University of the Witwatersrand's Human Research Ethics Committee (HREC). This was done by submitting an online application, which detailed the purpose of the study and what it entailed. Once ethical clearance was obtained, permission to conduct this research was requested from the University Registrar, as this study sort to use first-year students from the University of the Witwatersrand. This was done by writing a letter to the Registrar, detailing what the study will entail, and that there were no risks involved, while asking for permission to use the students as a sample for the study. Upon obtaining permission from the registrar, the researcher approached and liaised with the first-year course-coordinators within the psychology department to request permission to use their first-year students as prospective participants for the current study. The course-coordinators were approached via email, whereby a meeting was requested. This enabled the researcher explain what the purpose of the study was and how the participation of the first-year students will be of great importance to the study.

Once the meeting was done and an agreement was reached, working hand in hand with the course-coordinators, the researcher sent an invitation out to the first-years to participate in the study, via Ulwazi, which is the online learning platform at the University of the Witwatersrand. This invitation included a Participation Information Sheet (PIS) and a link (using SurveyMonkey) where students registered their interest by providing their student email addresses. Once students registered, using these email addresses, students were randomly assigned into a control group and an experimental group. Subsequently, the Time 0 questionnaire which includes the student number, demographics, psychological capital and burnout questionnaires was sent out. Following this, a Microsoft (MS) teams link was sent out to each group, and once everyone had joined the MS teams meeting, the interventions were run for both comparison and experimental groups.

One group got the PsyCap intervention, and the other got the time-management intervention. Once a week had passed, the Time 1 questionnaire which measures psychological capital and burnout, which included student numbers, psychological capital, and burnout questions, was sent out.

Figure 1: Timeline of Procedure

Timeline of Procedure



During the interventions, participants who were in the experimental group got the psychological capital intervention, and those who were in the comparison group got the time management intervention.

The steps of the PsyCap intervention were as follows:

- Step 1: Participants described a challenging situation that wasn't going their way.
- Step 2: Reflect. Participants took a moment to comprehend the nature of their mindsets when the scenario/ situation occurred, once they had assessed the risk associated with the challenging situation.
- Step 3: Reframe. Participants needed to reframe the situation discussed with regards to its actual impact (i.e., What is the risk)
- Step 4: Participants needed to identify helpful skills and resources that they may have used in response to the challenging situation.
- Step 5: Goals. Participants needed to write down a specific S.M.A.R.T (Specific, Measurable, Attainable, Relevant, Time-based) goal that related to overcoming their challenging situation.
- Step 6: Participants needed to state possible pathways, resources and skills needed to accomplish the goal.
- Step 7: Participants needed to identify and plan ways to overcome potential obstacles.
- Step 8: Participants needed to take time to visualize their success.

The time management intervention was administered using the Pomodoro method (Cirillo, 2018). The premise behind this method includes the reduction of anxiety regarding the completion of tasks, reduce interruptions by enhancing student's focus and concentration and boosting motivation (Cirillo, 2018). This method works by setting up a to-do list and activity inventory. The steps for the time-management intervention were as follows: 1) Construct a to-do list; 2) Start the first Pomodoro, focusing on the first item on the to-do list; 3) Keep completing Pomodoro's until each item on the to-do list has been completed (Cirillo, 2018). Upon completion of the time-management intervention, participants were asked to complete a questionnaire focused on measuring their PsyCap and burnout a week post-intervention.

Upon completion of administering these interventions and collecting the data, the data was captured on Microsoft Excel, where the data was cleaned and coded. Once that was done, the data got transferred to the Statistical Package for Social Sciences (SPSS), where analyses were run.

Measuring Instruments

A Demographic Questionnaire, Psychological Capital Questionnaire, and Burnout Scale was used to measure the constructs.

A self-developed demographic questionnaire was administered to participants in order to examine and describe demographic characteristics of the sample. This included open-ended and close-ended questions and generated questions pertaining to age, gender, race, home language, the registered faculty of the participant, and the nature of the participant's study (i.e., full-time or part-time). It also included environmental questions designed to evaluate the suitability of the participants' external environments prior to participation in the study. The questionnaire required the participants to provide their student numbers in order to receive course credit, as stipulated by departmental policy and to ensure matching across the different time periods of the study. Student numbers were deleted from the final data spreadsheet.

The Psychological Capital Questionnaire, which was developed in the USA, consists of four scales. These scales are *self-efficacy* - which has six items and one of them being "I feel confident analysing a long-term problem to find a solution"; *hope* - which has six items and one of them being "I can think of many ways to reach my current work goals"; *resilience* - which has six items and one of them being "I usually take stressful things at work in stride"; and lastly, *optimism* - which also has six items and one of them being "When things are uncertain for me at work I usually expect the best" (Lupsa & Virga, 2018). The final PsyCap scale has 24 items in total, whereby the items were rated on a six-point Likert-type scale, which ranged from 1 (strongly disagree) to 6 (strongly agree) (Lupsa & Virga, 2018).

Scale Reliability was ensured, as the reliability scores for the PsyCap scale were excellent ($\alpha=.91$), and the reliability for all sub-scales were relatively good; *hope* ($\alpha=.83$), *self-efficacy* ($\alpha=.86$), *resilience* ($\alpha=.71$), and *optimism* ($\alpha=.72$) (Lupsa & Virga, 2018).

In this study, items 13, 20, and 23 were reverse scored, and the scores for overall PsyCap the sub-scales were calculated. The Cronbach Alpha score for the overall PsyCap scale during T0 was 0.88 and during T1 = 0.914, which are all excellent scores, thus making the scale quite reliable for both time periods. At time zero (0), the Cronbach alpha scores for the sub-scales were found to be 0.74, 0.82, 0.65, and 0.62, respectively. Whilst the scores for resilience and optimism are considered to be "just acceptable", for research purposes they are deemed acceptable (Lupsa & Virga, 2018). At time one (1), the Cronbach alpha scores for the sub-

scales were found to be 0.75, 0.84, 0.72, and 0.70, respectively. Lupsa & Virga (2018) would consider these scores as ranging from “fairly good” to “good”.

The Maslach Burnout Inventory – Student Scale, which was developed in Copenhagen, consists of three dimensions/ scales. These scales are *emotional exhaustion* – which has five items and one of them being “I feel used up at the end of a day at university”; *cynicism* – which has four items and one of them being “I doubt the significance of my studies”; and *academic efficacy* – which has six items and one of them being “During class I feel confident that I am effective in getting things done”. All items were rated on a 7-point Likert-type Scale, which ranged from 0 (never) to 6 (always), (Portoghese et al., 2018).

With regards to reliability, the internal consistency of the scale had a Cronbach Alpha coefficient greater than .70, which means the value was good, thus it can be ascertained that the scale is internally reliable (Portoghese et al., 2018) The Cronbach alpha coefficients for the MBI-SS have been reported as ranging between 0.66 and 0.85 for exhaustion; 0.64 and 0.78 for cynicism; and 0.73 and 0.74 for professional efficacy (Schaufeli et al., 2002).

In this study, the Cronbach Alpha scores for the sub-scales during each time period were; *exhaustion* - $T0 = 0.85$, $T1 = 0.84$; *cynicism* - $T0 = 0.79$, $T1 = 0.82$; *reduced efficacy* - $T0 = 0.76$, $T1 = 0.75$. Thus, the internal consistency of these sub-scales ranged from good to excellent, which means the scales were fairly reliable (Portoghese et al., 2018).

Table 8: Measures of Reliability Interpretation

Cronbach Alpha Value (α)	Interpretation
0.8 +	Good
0.7 – 0.79	Fairly good
0.6 – 0.69	Just acceptable
< 0.6	Unacceptable

Table 9: Cronbach Alpha Coefficients for the Main Variables in Time Zero (0)

Variable	Item(s)	Cronbach Alpha (α)
Exhaustion	5	0.85
Cynicism	4	0.79
Reduced Efficacy	6	0.76
Psychological Capital (PsyCap)	24	0.88

Table 10: Cronbach Alpha Coefficients for the Main Variables in Time One (1)

Variable	Item(s)	Cronbach Alpha (α)
Exhaustion	5	0.84
Cynicism	4	0.82
Reduced Efficacy	6	0.75
Psychological Capital (PsyCap)	24	0.91

Data Analysis

The study has three research questions; one main question and two sub-questions, which are:

1. *Is the psychological capital micro-intervention effective at reducing levels of academic burnout?* (Here, group = between-subjects variable; time = within-subjects variable; and burnout = outcome variable)
2. *Did the micro-intervention impact upon PsyCap scores?* (Here, group = between subjects variable; time = within subjects variable; and psycap = outcome variable)
3. *Is there a relationship between psychological capital and burnout in the different time periods (time 0 and time1).*

To answer the first two research questions, a two-way mixed-model anova analysis was run, which assisted in comprehending the interaction effect among *between-subject* and *within-subject* factors, as well as the statistical differences between each level within each factor (Burdick et al., 2005). The ANOVA, otherwise known as the Analysis of Variances, is a statistical technique used to examine how the means of different groups differ from one another. To contrast group means on a dependent variable over repeated measures of time, a mixed-model ANOVA is utilized (Krueger & Tian, 2004). Two mixed-model ANOVAs were used to

address both the primary research question and the first sub-research topic. These assessments specifically evaluated the impact of the PsyCap intervention on academic burnout. Prior to analysis, the sphericity, homogeneity of variances, presence of non-significant outliers, and normality of variances assumptions were checked (Field, 2017). The 5% significance level ($p < 0.05$) was used to interpret the statistical significance of all data (Field, 2017). Lastly, the effect sizes of each of the variables were computed using Eta squared (η^2). These results will be discussed in the results chapter.

Before analysis, certain assumptions had to be met. These assumptions include; homogeneity of variance, assumption of sphericity, there shouldn't be any significant outliers, the responses from the subjects (dependent variable) must be continuous, and lastly, the intercorrelation pattern for each level of *within-subjects* variable must be equal (Burdick et al., 2005).

Scale reliability was ensured. Reliability is defined by Huck (2004) as the dependability and stability of the equipment used to measure certain constructs in a study. The degree to which various components of an instrument relate to or measure the same idea is known as internal consistency reliability (Huck, 2004). Internal consistency reliability therefore determines the degree to which the items in the scales or subscales measure the same notion by using the study participants' replies at one point in time (Huck, 2004). Cronbach alpha coefficients were calculated for each of the scales and/or subscales in order to assess the instrumentation's internal consistency reliability for the current investigation.

To answer the third research question, A bivariate correlation analysis was carried out to determine the relationship between psychological capital and burnout at each time period, which was tested using Pearson's correlation. Correlation analysis is a statistical technique used to ascertain whether there is a relationship between two variables (Field, 2009). Correlational analysis was employed to address the second sub-research question. In this study, correlations were run to specifically look at whether there was a difference in the association between PsyCap and academic burnout at each of the analyses' two time points (time zero, time one). Several parametric assumptions were examined to determine whether to employ a Pearson's or Spearman's test. Variables have to be interval in nature, regularly distributed, and conform to the rules of independence and homogeneity of variance in order for parametric assumptions to be satisfied (Garson, 2012). The coefficient of determination evaluated the strength of these correlations, and a higher r-squared value denoted a better model fit (Field,

2017). The strength and direction of the correlation between two variables are quantified using Pearson's correlation coefficients (Huck, 2004). It is crucial to remember that these coefficients do not suggest causality; instead, they only analyze the linear relationship between two variables (Howell, 2011).

A value of 0.00 shows that there is no association between two variables, whereas values closer to ± 1.00 imply a greater relationship. The coefficient values range from 0.00 to $+1.00$ and 0.00 to -1.00 . (Garson, 2012). A perfect positive/negative correlation would be indicated by a correlation of ± 1.00 . The positive and negative signs denote the direction in which the two variables are related. If there is a positive correlation, it means that two variables have a straight linear relationship and that high values of one variable are correlated with high values of the other (Garson, 2012). An inverse linear relationship between the variables is indicated by a negative correlation coefficient, where high values for one variable are linked to low values for the other (Garson, 2012).

An inverse linear relationship between the variables is indicated by a negative correlation coefficient, where high values for one variable are linked to low values for the other (Garson, 2012). A correlation score that is in the range of 0.0 to 0.3, for example, will show a very weak or negligible correlation; between 0.3 and 0.5, a weak correlation; between 0.5 and 0.7, a moderate correlation; between 0.7 and 0.9, a strong correlation; and between 0.9 and 1, a very strong correlation (Field, 2017). The 5% significance level ($p0.05$) will be used to interpret the statistical significance of all data (Field, 2017).

The value $r=1$ will indicate a perfect positive relationship, and the value $r=-1$ will indicate a perfect negative correlation. Subsequently, the result were put in a table, and the coefficient of determination (R^2) was used to assess the effect size of the relationships.

As previously mentioned in the literature review, theory and scholars suggest that psychological capital should be viewed as a multi-dimensional higher-order core construct, which particularly draws from and integrates four psychological constructs known as self-efficacy, hope, resilience and optimism (Luthans et al., 2007). This integration allows for a combined effect in which the impact of this high-order construct is greater than that of the individual positive psychological elements that comprise it. Thus, PsyCap is more than the sum of its individual components. Scholars suggest that PsyCap is much better represented as an

underlying core factor, whereby value exists in studying self-efficacy, hope, resilience and optimism collectively, hence, treating them as synergistic indicators of this high-order variable (Hobfoll, 2002).

However, in order to align and augment this study with the abovementioned literature, PsyCap will be treated as a holistic resource set, thus being further examined as one higher-order core variable from this point on. Consequently, the variable ‘PsyCap’, will thus be utilised in all statistical analyses going forward.

Ethics

Ethical clearance was obtained from the University of the Witwatersrand’s Human Research Ethics Committee (HREC). This was done by applying to the HREC, with additional hardcopies of the online application and consent form. Once ethical clearance was obtained, permission to conduct the study was requested from the registrar, by typing out a letter and submitting it to him/ her for approval. This was important because this study utilised students from the University of the Witwatersrand. Upon obtaining permission from the Registrar, the researcher approached and liaised with the first-year course-coordinators within the psychology department, to request permission to use their first-year students as prospective participants for the current study. The course-coordinators were approached via email, whereby a meeting was requested, which enabled the researcher to explain what the study entails and how the participation of the first-year students will be of great importance to the study.

Permission to use the Psychological Capital Questionnaire was requested from Mind Garden. This was done by sending an email to Mind Garden, notifying them of the purpose of the study and why the questionnaire was needed. Once permission was obtained, the questionnaire was obtained from the Mind Garden website.

Once permission was obtained from all the relevant parties, participants received a consent form, which they signed if they agreed to partake in the study, and this consent form stated that participation was voluntary, and they were free to withdraw at any time prior to submission of the final questionnaire without facing any repercussions. Participants were first-year students, and the topic is not sensitive, however, there was a slight risk that students might’ve experienced some discomfort due to the nature of the questions being asked, therefore they would’ve been referred to CCDU or the Emthonjeni Centre. The details of the relevant parties from CCDU & The Emthonjeni Centre were included in the Participant Information Sheet. No

harm was experienced, as participants were free to withdraw whenever they experienced any discomfort.

Participants were notified of the benefits of partaking in the study. One of the benefits included receiving 1% at the end of the semester for participation, which is included in the departmental policy. Each intervention was administered by the researcher, with each not taking longer than an hour. Participants weren't expected to interact with one another; however, they were allowed to interact with the researcher if there was something they didn't understand. Since participants joined the same MS Teams session, they may have been known to each other as taking part in the study, which also compromised the anonymity of their identity as a participant. This wasn't inherently problematic, but was stated in the participant information sheet, so participants were aware of it prior to giving informed consent. Anonymity couldn't be ensured, as the researcher used the participant's student numbers during the data collection procedure, however confidentiality was maintained as only the supervisor and researcher have access to their student numbers (Banyard & Flanagan, 2013). This was ensured by not using participant's names, for instance – participants were listed as "Participant 1, Participant 2, etc ". Once the data was collected, the student numbers were replaced with a unique identifier, and a separate file with the unique identifiers and student numbers is safely kept. This will further protect the anonymity of the participants (Banyard & Flanagan, 2013).

In conclusion, this quantitative study comprised of a questionnaire, which consisted of three main sections, administered to a sample of 568 first-year students from the University of the Witwatersrand, of which the data of only 319 was used. This data was analysed using descriptive statistics, correlation analysis and analysis of variances (ANOVA). Therefore, having described the methods used to conduct the current study, the forthcoming chapter discusses the results obtained.

Chapter 4: Results

4.1 Introduction

This chapter focuses on the quantitative analyses that were used to examine the research questions of this study. The quantitative results were generated by SPSS IBM Version 27, and further divided into descriptive and inferential statistics. This study utilised tables to demonstrate the findings of the analyses, which will be discussed in detail, in the ensuing paragraphs.

4.2 Missing Data

Prior to analysis, the data was first cleaned and checked for accuracy. After inspection of the data, it became clear that a number of participants didn't take part in the time two (2) intervention. Consequently, the final sample used in this study consists of 319 full-time first year students, as that's the number of students who completed the questionnaires at both time periods. Possible reasons for the dropout rate will be discussed in the limitations section of the discussion chapter.

4.3 Descriptive Statistics

Measures of spread and frequency were calculated for all variables reported in Tables 11-14. The four sub-scale items that are part of the Psychological Capital Questionnaire (PCQ), were measured using a Likert-type scale from 1(strongly disagree) to 7(strongly agree) (Knoll et al., 2015). Participants reported levels of psychological capital that were above the moderate scores during each time period. Skewness and kurtosis analyses were run, and the results fell within the range of -1 and +1, thus further suggesting that the PsyCap data was normally distributed during both time periods (See Tables below).

The Maslach Burnout Inventory Student Survey (MBI-SS) is a 15-item scale, made up of three sub-scales. The 3 sub-scales and 15 items that are part of the MBI-SS, were measured on a 7-point Likert-type scale from 1(strongly disagree) to 7(strongly agree) (Knoll et al., 2015). The descriptive stats (i.e mean, and standard deviation) were obtained for each of the burnout variables. Skewness and kurtosis coefficients were also obtained, and the results are shown in the tables below, for both time periods and both comparison and experimental groups. Histograms were also obtained to graphically assess normality.

On average, participants from the comparison group in the study reported relatively high levels of exhaustion at time zero ($M = 4.51$, $SD = 1.66$). These participants also reported moderate levels of cynicism ($M = 3.57$, $SD = 1.57$); and relatively low levels of reduced efficacy ($M = 1.89$, $SD = 0.86$). Conversely, participants reported moderate levels of PsyCap ($M = 4.07$, $SD = 0.65$).

On average, participants from the comparison group at time one in the study reported similar results to their counterparts at time zero. Here, they reported relatively moderate levels of exhaustion ($M = 4.88$, $SD = 1.65$). Participants also reported relatively moderate to high levels of cynicism ($M = 4.13$, $SD = 1.63$); and relatively low levels of reduced efficacy ($M = 1.9$, $SD = 0.91$). Conversely, participants reported moderate levels of PsyCap ($M = 4.33$, $SD = 0.67$).

On average, participants from the experimental group in the study reported relatively high levels of exhaustion at time zero ($M = 4.44$, $SD = 1.26$). These participants also reported high levels of cynicism ($M = 4.44$, $SD = 1.43$); and low levels of reduced efficacy ($M = 1.91$, $SD = 1.09$). Conversely, participants reported high levels of PsyCap ($M = 4.07$, $SD = 0.65$).

On average, participants from the experimental group at time one in the study reported similar results to their counterparts at time zero. Here, they reported relatively high levels of exhaustion ($M = 4.61$, $SD = 1.25$). They also reported relatively moderate levels of cynicism ($M = 3.63$, $SD = 1.45$); and low levels of reduced efficacy ($M = 1.81$, $SD = 0.95$). Conversely, participants reported high levels of PsyCap ($M = 4.33$, $SD = 0.67$).

Both the skewness and kurtosis coefficients for both comparison and experimental groups at time zero and one in the current study indicated that the variables were normally distributed due to the fact that all the coefficient values fell within the ranges of -1 and +1 (See Tables 12-15). In addition, the histograms further indicated a normal distribution (See appendices). Since the data was thus proposed to be normal in nature, parametric analysis was used to answer the current study's research questions.

Table 11

Descriptives for T0 – Comparison Group

Variable	N	Mean	Standard Deviation	Skewness coefficient	Kurtosis coefficient
Exhaustion	153	4.51	1.67	- 0.51	-0.45
Cynicism	153	3.57	1.57	0.14	-0.88
Reduced Efficacy	153	1.88	0.86	0.42	-0.39
Psychological Capital (PsyCap)	153	4.07	0.65	-0.13	-0.23

Table 12

Descriptives for T1 – Comparison Group

Variable	N	Mean	Standard Deviation	Skewness coefficient	Kurtosis coefficient
Exhaustion	153	4.88	1.65	- 0.50	-0.48
Cynicism	153	4.12	1.63	-0.13	-0.89
Reduced Efficacy	153	1.94	0.91	0.13	-0.27
Psychological Capital (PsyCap)	153	4.33	0.67	-0.18	-0.39

Table 13

Descriptives for T0 – Experimental Group

Variable	N	Mean	Standard Deviation	Skewness coefficient	Kurtosis coefficient
Exhaustion	166	4.44	1.26	0.12	-0.33
Cynicism	166	3.44	1.43	0.52	0.36
Reduced Efficacy	166	1.9	1.09	0.79	0.61
Psychological Capital (PsyCap)	166	4.10	0.69	-0.21	-0.20

Table 14

Descriptives for T1 – Experimental Group

Variable	N	Mean	Standard Deviation	Skewness coefficient	Kurtosis coefficient
Exhaustion	166	4.61	1.25	-0.51	-0.31
Cynicism	166	3.62	1.48	0.16	-0.59
Reduced Efficacy	166	1.81	0.95	0.41	-0.47
Psychological Capital (PsyCap)	166	4.41	0.67	0.12	0.06

4.4 Inferential Statistics

In this study, Pearson's Correlation coefficients were calculated to analyse the nature of the relationships between this study's current variables. The three research questions were tested using Pearson's correlations, and the results are presented in Tables 15-16. Correlations were run to explore the relationships between:

1. Psychological Capital & Exhaustion
2. Psychological Capital and Cynicism
3. Psychological Capital and Reduced Efficacy

The findings show that PsyCap was significantly related to burnout. Specifically, in time zero (0), PsyCap was significantly and negatively related to exhaustion ($r = -.409, p = .001$), cynicism ($r = -.446, p = .001$), and reduced efficacy ($r = -.615, p = .001$). These results suggest that high levels of psychological capital were associated with low levels of exhaustion, cynicism, and reduced efficacy, thus further suggesting that psychological capital is negatively related to burnout.

In time one (1), PsyCap was significantly and negatively related to burnout ($r = -.399, p = .001$), cynicism ($r = -.492, p = .001$), and reduced efficacy ($r = -.706, p = .001$). These results suggest that high values of psychological capital were associated with low levels of exhaustion, cynicism, and reduced efficacy, thus further suggesting that psychological capital is negatively related to burnout.

Table 15

Pearson's Correlation Coefficients for PsyCap and Burnout in Time (0)

Variables		PsyCap	Exhaustion	Cynicism	Reduced Efficacy
PsyCap	Pearson Correlation	1.00	-.409**	-.446**	-.615**
	Sig. (2-tailed)		0.00	0.00	0.00
	N	319	319	319	319

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

Table 16

Pearson's Correlation Coefficients for PsyCap and Burnout in Time (1)

Variables		PsyCap	Exhaustion	Cynicism	Reduced Efficacy
PsyCap	Pearson Correlation	1.00	-.399**	-.492**	-.706**
	Sig. (2-tailed)		0.00	0.00	0.00
	N	319	319	319	319

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

Thus, based on the abovementioned findings for both time periods, these results suggest that psychological capital is negatively related to burnout.

4.3 Assumptions for Analysis of Variances & Normality Testing

Before assessing the main research questions, this study first tested certain assumptions to determine whether or not a mixed model ANOVA or non-parametric test would be utilised to analyse the data. The first assumption tested was that the dependant variables needed to be continuous. Psychological Capital and the different sub-components of burnout (exhaustion, cynicism, and reduced efficacy) were at least all interval, thus meeting this assumption.

The second assumption was the test of normality. The Shapiro-Wilks test of normality was used and the results of this test are reported in the tables below (See tables 17-20). The normal

distribution of data is indicated by a non-significant result, because the null hypothesis (H_0) for the Shapiro-Wilks test is that the data is normally distributed. (Shapiro & Francia, 1972). $P > .05$ showed that the variable was normally distributed, whereas $P < .05$ indicated that the variable was not normally distributed (Shapiro & Francia, 1972). According to the Shapiro-Wilks normality test, psychological capital, exhaustion, and cynicism were normally distributed at both time periods (T0, T1).

In time zero (0), the p-value scores for psychological capital for the comparison group was 0.285, and for the experimental group it was 0.402, which are greater than 0.05, thus indicating that the variable was normally distributed. In time one (1), the p-value scores for psychological capital for the comparison group was 0.238, and for the experimental group it was 0.447, which are greater than the p-value of 0.05, thus indicating that the variable was normally distributed.

Table 17: PsyCap Normality Test

Group	Shapiro-Wilk		
	Statistic	df	Sig.
T0_PsyCap_Average Comparis	.989	153	.285
Experime	.991	166	.402
T1_PsyCap_Average Comparis	.988	153	.238
Experime	.992	166	.447

Exhaustion. In time zero (0), the p-value scores for exhaustion for the comparison group was 0.156, and for the experimental group it was 0.948, which are greater than the p-value of 0.05, thus indicating that the variable was normally distributed. In time one (1), the p-value scores for exhaustion for the comparison group was 0.151, and for the experimental group it was 0.210, which are greater than the p-value of 0.05, thus indicating that the variable was normally distributed.

Table 18: Exhaustion Normality Test

Group	Shapiro-Wilk		
	Statistic	df	Sig.
T0_Exh_AverageComparis	.943	26	.156
Experime	.988	37	.948
T1_Exh_AverageComparis	.942	26	.151
Experime	.961	37	.210

Cynicism. In time zero (0), the p-value scores for cynicism for the comparison group was 0.262, and for the experimental group it was 0.218 which are greater than the p-value of 0.05, thus indicating that the variable was normally distributed. In time one (1), the p-value scores for cynicism for the comparison group was 0.703, and for the experimental group it was 0.813, which are greater than the p-value of 0.05, thus indicating that the variable was normally distributed.

Table 19: Cynicism Normality Test

Group	Shapiro-Wilk		
	Statistic	df	Sig.
T0_Cyn_Average Comparis	.952	26	.262
Experime	.961	37	.218
T1_Cyn_Average Comparis	.973	26	.703
Experime	.982	37	.813
T2_Cyn_Average Comparis	.960	26	.397
Experime	.959	37	.194

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Reduced Efficacy. In time zero (0), the p-value scores for reduced efficacy for the comparison group was 0.032, and for the experimental group it was 0.001, which are smaller than the p-value of 0.05, thus indicating that the variable was not normally distributed. In time one (1), the p-value scores for reduced efficacy for the comparison group was 0.299, which is greater than the p-value score of 0.05, and for the experimental group it was 0.016, which is smaller than the p-value of 0.05, thus indicating that the variable was not normally distributed.

Table 20: Reduced Efficacy Normality Test

Group	Shapiro-Wilk		
	Statistic	df	Sig.
T0_Red_Eff_Rev_Averag	.981	153	.032
e			
Experimente	.941	166	.001
T1_RedEff_REV_Averag	.989	153	.299
e			
Experimente	.980	166	1.016

The third assumption that was tested for the analysis of variances test was homogeneity of variance. There was homogeneity of variances ($p > .05$) and covariances ($p > .001$) as assessed by Levene's test of homogeneity of variances and Box's M test (See below tables) . Additionally, as assessed by the scatterplots and boxplots that were generated, there were no outliers, thus it can be concluded that all variables (psychological capital, exhaustion, cynicism), excluding reduced efficacy were normally distributed (See Appendices) (Burdenski, 2002). Since reduced efficacy wasn't normally distributed in time 1 within the experimental group, the histograms, skewness and kurtosis outputs were additionally considered. Thus, whilst the Shapiro-Wilks test was significant, the data was nonetheless determined to be sufficiently normal for the purposes of ANOVA.

4.6. Mixed-model ANOVA's

Mixed-model ANOVA's were conducted to answer the current study's following research questions:

1. Main Research Question: Does a micro psychological capital intervention have an effect upon levels of academic engagement (i.e., vigour, dedication and absorption) amongst first-year university students?

2. Sub-Research Question: Does a micro psychological capital intervention have an effect upon the psychological capital scores of first-year university students?

Prior to these research questions being addressed, the researcher considered descriptive statistics, skewness coefficients and kurtosis coefficients. These are presented in Tables 12-15. Histograms were also obtained (See Appendices) to graphically assess normality. The skewness and kurtosis coefficients fell between the values of -1 and +1, indicating that the variables were normally distributed. Additionally, the histograms were indicative of normal distribution.

4.6.1. Exhaustion

Upon assessment of the results, there was homogeneity of variances ($p > 0.05$) and covariances ($p > 0.001$) as assessed by Levene's test of homogeneity of variances and Box's M test, respectively. Since this study only included two within-subject factor categories, it was assumed that Mauchly's test of sphericity has been met. There was a statistically insignificant interaction between group and time on exhaustion, $F(1, 316) = 0.423, p > 0.05$ partial $\eta^2 = 0.02$. This is further displayed in the profile plot (See appendices)

The main effect of time showed that there was a significant difference between time zero and time one, $F(1, 316) = 0.643, p < 0.01$, partial $\eta^2 = 0.036$. As such, the Pairwise Comparisons table was considered, and the mean difference between the two time periods is 0.196, which suggests that there wasn't much of a difference between the two time periods.

The main effect of group showed that there was a statistically insignificant difference in mean scores of exhaustion, $F(1, 316) = 0.001, p > 0.01$, partial $\eta^2 = 0.000$.

Table 21: Mauchly's Test of Sphericity

Measure: Exh

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilonb		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
time	1.000	.000	0	.	1.000	1.000	1.000

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

Table 22: Tests of Within-Subjects Effects

Measure: Exh

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
time	Sphericity Assumed	6.097	1	6.097	11.690	<,001	.036
	Greenhouse-Geisser	6.097	1.000	6.097	11.690	<,001	.036
	Huynh-Feldt	6.097	1.000	6.097	11.690	<,001	.036
	Lower-bound	6.097	1.000	6.097	11.690	<,001	.036
time * Group	Sphericity Assumed	.335	1	.335	.643	.423	.002
	Greenhouse-Geisser	.335	1.000	.335	.643	.423	.002
	Huynh-Feldt	.335	1.000	.335	.643	.423	.002
	Lower-bound	.335	1.000	.335	.643	.423	.002
Error(time)	Sphericity Assumed	164.817	316	.522			
	Greenhouse-Geisser	164.817	316.000	.522			
	Huynh-Feldt	164.817	316.000	.522			
	Lower-bound	164.817	316.000	.522			

Table 23: Levene's Test of Equality of Error Variances^a

	Levene Statistic	df1	df2	Sig.
T0_Exh_AverageBased on Mean	.702	1	316	.403
Based on Median	.697	1	316	.404
Based on Median and with adjusted df	.697	1	315.277	.404
Based on trimmed mean	.746	1	316	.388
T1_Exh_AverageBased on Mean	1.026	1	316	.312
Based on Median	.974	1	316	.325
Based on Median and with adjusted df	.974	1	314.686	.325
Based on trimmed mean	.946	1	316	.331

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

Pairwise Comparisons

Measure: Exh

					95% Confidence Interval for Difference ^b	
(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig. ^b	Lower Bound	Upper Bound
1	2	-.196*	.057	<.001	-.309	-.083
2	1	.196*	.057	<.001	.083	.309

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Table 24: Tests of Between-Subjects Effects

Measure: Exh

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	13852.154	1	13852.154	4376.567	<,001	.933
Group	.004	1	.004	.001	.973	.000
Error	1000.163	316	3.165			

4.6.2. Cynicism

There was homogeneity of variances ($p > 0.05$) and covariances ($p > 0.001$) as assessed by Levene's test of homogeneity of variances and Box's M test, respectively. Since the current study only included two within-subject factor categories, it was assumed that Mauchly's test of sphericity has been met. There was a statistically insignificant interaction between group and time on cynicism, $F(1, 316) = 0.234$, $p > 0.05$, partial $\eta^2 = 0.001$. This is further displayed in the profile plot

The main effect of time showed that there was a significant difference between time zero and time one, $F(1, 316) = 7.75$, $p < 0.05$, partial $\eta^2 = 0.024$. As such, the Pairwise Comparisons table was considered, and the difference between the two time periods is 0.162, which suggests that there wasn't much of a difference between the two time periods.

The main effect of group showed that there was a statistically insignificant difference in mean scores of cynicism between intervention times, $F(1, 316) = 0.183$, $p > 0.01$, partial $\eta^2 = 0.01$.

Table 25: Mauchly's Test of Sphericity^a

Measure: Cyn

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^b		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
time	1.000	.000	0	.	1.000	1.000	1.000

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

Table 26: Tests of Within-Subjects Effects

Measure: Cyn

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
time	Sphericity Assumed	4.165	1	4.165	7.746	.006	.024
	Greenhouse-Geisser	4.165	1.000	4.165	7.746	.006	.024
	Huynh-Feldt	4.165	1.000	4.165	7.746	.006	.024
	Lower-bound	4.165	1.000	4.165	7.746	.006	.024
time * Group	Sphericity Assumed	.126	1	.126	.234	.629	.001
	Greenhouse-Geisser	.126	1.000	.126	.234	.629	.001
	Huynh-Feldt	.126	1.000	.126	.234	.629	.001
	Lower-bound	.126	1.000	.126	.234	.629	.001
Error(time)	Sphericity Assumed	169.911	316	.538			
	Greenhouse-Geisser	169.911	316.000	.538			
	Huynh-Feldt	169.911	316.000	.538			
	Lower-bound	169.911	316.000	.538			

Table 27: Pairwise Comparisons

Measure: Cyn

					95% Confidence Interval for Difference ^b	
		Mean	Std. Error	Sig. ^b		
(I) time	(J) time	Difference (I-J)			Lower Bound	Upper Bound
1	2	-.162 [*]	.058	.006	-.276	-.047
2	1	.162 [*]	.058	.006	.047	.276

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Table 28: Tests of Between-Subjects Effects

Measure: Cyn

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	8294.523	1	8294.523	2284.246	<,001	.878
Group	.664	1	.664	.183	.669	.001
Error	1147.455	316	3.631			

Table 29: Levene's Test of Equality of Error Variances^a

	Levene Statistic	df1	df2	Sig.
T0_Cyn_Average Based on Mean	1.023	1	316	.313
Based on Median	.981	1	316	.323
Based on Median and with adjusted df	.981	1	311.251	.323
Based on trimmed mean	.995	1	316	.319
T1_Cyn_Average Based on Mean	.096	1	316	.757
Based on Median	.061	1	316	.804
Based on Median and with adjusted df	.061	1	315.396	.804
Based on trimmed mean	.083	1	316	.773

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

4.6.3. Reduced Efficacy

There was homogeneity of variances ($p > 0.05$) and covariances ($p > 0.001$) as assessed by Levene's test of homogeneity of variances and Box's M test, respectively. Since the current study only included two within-subject factor categories, it was assumed that Mauchly's test of sphericity has been met. There was a statistically insignificant interaction between the group and time on reduced efficacy, $F(1, 317) = 2.74$, $p > 0.05$, partial $\eta^2 = 0.009$. This is further displayed in the profile plot (See Appendices)

The main effect of time showed that there was an insignificant difference between time zero and time one, $F(1, 316) = 0.290$, $p > 0.05$, partial $\eta^2 = 0.001$.

The main effect of group showed that there was a statistically insignificant difference in mean scores of reduced efficacy between intervention times, $F(1, 317) = 0.290$, $p > 0.01$, partial $\eta^2 = 0.001$.

Table 30: Mauchly's Test of Sphericity^a

Measure: Red_Eff

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^b		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
time	1.000	.000	0	.	1.000	1.000	1.000

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

Table 31: Tests of Within-Subjects Effects

Measure: Red_Eff

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
time	Sphericity Assumed	.077	1	.077	.241	.624	.001
	Greenhouse-Geisser	.077	1.000	.077	.241	.624	.001
	Huynh-Feldt	.077	1.000	.077	.241	.624	.001
	Lower-bound	.077	1.000	.077	.241	.624	.001
time * Group	Sphericity Assumed	.880	1	.880	2.737	.099	.009
	Greenhouse-Geisser	.880	1.000	.880	2.737	.099	.009
	Huynh-Feldt	.880	1.000	.880	2.737	.099	.009
	Lower-bound	.880	1.000	.880	2.737	.099	.009
Error(time)	Sphericity Assumed	101.909	317	.321			
	Greenhouse-Geisser	101.909	317.000	.321			
	Huynh-Feldt	101.909	317.000	.321			
	Lower-bound	101.909	317.000	.321			

Table 32: Tests of Between-Subjects Effects

Measure: Red_Eff

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	2269.668	1	2269.668	1498.495	<,001	.825
Group	.439	1	.439	.290	.591	.001
Error	480.138	317	1.515			

Table 33: Levene's Test of Equality of Error Variances^a

		Levene Statistic	df1	df2
T0_Red_Eff_Rev_Average	Based on Mean	3.166	1	317
	Based on Median	2.751	1	317
	Based on Median and with adjusted df	2.751	1	288.422
	Based on trimmed mean	2.777	1	317
T1_RedEff_REV_Average	Based on Mean	.072	1	317
	Based on Median	.071	1	317
	Based on Median and with adjusted df	.071	1	313.456
	Based on trimmed mean	.070	1	317

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

4.6.4. PsyCap

There was homogeneity of variances ($p > 0.05$) and covariances ($p > 0.001$) as assessed by Levene's test of homogeneity of variances and Box's M test, respectively. Since the current study only included two within-subject factor categories, it was assumed that Mauchly's test of sphericity has been met. There was a statistically insignificant interaction between group

and time on PsyCap, $F(1, 317) = 0.80$, $p > 0.05$, partial $\eta^2 = 0.00$. This is further displayed in the profile plot (See Appendices). As such, the Pairwise Comparisons table was considered, and the difference between the two time periods is 0.196, which suggests that there wasn't much of a difference between the two time periods.

The main effect of time showed a statistically significant difference in mean scores of PsyCap between intervention times, $F(1, 317) = 117.12$, $p < 0.05$, partial $\eta^2 = 0.27$. PsyCap increased in both groups by a mean difference of 0.28, (95% CI, 0.23 to 0.34), $p = < 0.00$.

The main effect of group showed that there was a statistically insignificant difference in mean scores of reduced efficacy between intervention times, $F(1, 317) = 0.290$, $p > 0.01$, partial $\eta^2 = 0.001$.

Table 34: Mauchly's Test of Sphericity^a

Measure: PsyCap

Within Effect	Subjects W	Mauchly's Approx. Square	Chi- df	Sig.	Epsilon ^b		
					Greenhouse- Geisser	Huynh- Feldt	Lower- bound
time	1.000	.000	0	.	1.000	1.000	1.000

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

Table 35: Tests of Within-Subjects Effects

Measure: PsyCap

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
time	Sphericity Assumed	12.789	1	12.789	117.115	<,001	.270
	Greenhouse-Geisser	12.789	1.000	12.789	117.115	<,001	.270
	Huynh-Feldt	12.789	1.000	12.789	117.115	<,001	.270
	Lower-bound	12.789	1.000	12.789	117.115	<,001	.270
time * Group	Sphericity Assumed	.087	1	.087	.798	.372	.003
	Greenhouse-Geisser	.087	1.000	.087	.798	.372	.003
	Huynh-Feldt	.087	1.000	.087	.798	.372	.003
	Lower-bound	.087	1.000	.087	.798	.372	.003
Error(time)	Sphericity Assumed	34.615	317	.109			
	Greenhouse-Geisser	34.615	317.000	.109			
	Huynh-Feldt	34.615	317.000	.109			
	Lower-bound	34.615	317.000	.109			

Table 36: Pairwise Comparisons

Measure: PsyCap

					95% Confidence Interval for Difference ^b	
(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig. ^b	Lower Bound	Upper Bound
1	2	-.283*	.026	<,001	-.335	-.232
2	1	.283*	.026	<,001	.232	.335

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Table 37: 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	11378.399	1	11378.399	14398.983	<,001	.978
Group	.453	1	.453	.574	.449	.002
Error	250.501	317	.790			

4.6.5. Conclusion

Upon reflection of the abovementioned results, it was concluded that there is evidence of a significant relationship between PsyCap and burnout (i.e., exhaustion, cynicism, and reduced efficacy). However, there is no evidence that the PsyCap intervention under study has a significant effect on the PsyCap and burnout scores amongst first-year university students. In the chapter that follows, implications of the current study's findings in relation to previous literature will be discussed.

Chapter 5: Discussion

5.1 Introduction

The purpose of this study was to probe into the relationship between psychological capital and burnout, by assessing the extent to which psychological capital was related to burnout amongst first-year students at Wits University. The purpose of this study was to also test whether the intervention impacts psychological capital and burnout scores. This study is relevant and important because first year university students are more prone to dropping out, due to the difficulties associated with transitioning from high-school to university, thus making them highly susceptible to burnout.

However, psychological capital tends to ameliorate the effects of burnout, as it's known to enhance work ethic and alleviate stress (Luthans et al., 2015). Therefore, by assessing the relationship between psychological capital and burnout, this study looked to examine how these variables are related to one another, and what effect they have on one another.

As such, this chapter will discuss the overall results of the quantitative analyses (descriptive statistics, correlations, and two way mixed anova) and link these results to previously conducted studies that have assessed similar variables. Additionally, this chapter will discuss the theoretical and practical implications of the results for university students, the limitations and directions/ recommendations for future research.

5.2 Discussion of Findings

5.2.1 Psychological capital and Burnout

PsyCap and Exhaustion. Previously conducted research shows the positive impact psychological capital (optimism) has on an individuals' overall wellbeing (Javaheri et al., 2017). Additionally, a study conducted by Cheung (2011) states that possessing high levels of psychological capital (optimism) correlates to experiencing positive emotions, which assists students in coping with academic stress more effectively. This seems to coincide with the current study's findings which show the impact psychological capital has on exhaustion. Specifically, the findings in this study show that PsyCap was significantly and negatively related to exhaustion during both time periods; Time zero ($r = -.409, p = .001$); Time one ($r = -.399, p = .001$), which suggests that high levels of psychological capital are associated with

low levels of exhaustion. As per the JDR model, which states that there are resources (social, psychological, economic, and physical) that help mitigate against burnout amongst students, the abovementioned findings suggest that students that have psychological capital as a resource to draw upon, experience low levels of burnout (exhaustion) (Rabenu et al., 2017). Specifically, psychological capital can be viewed as a psychological resource that reduces occupational/academic stress and depressive symptoms (Rabenu et al., 2017). This means that intervening on psychological capital is a good idea because it might be related to reducing the burnout that students experience, and as mentioned in the rationale, it's important because reducing burnout will help put students through university (Cheung et al., 2011). Additionally, psychological capital may assist in enhancing an individual's ability to adapt and recover under difficult, strenuous conditions. Thus enabling students to exhibit strength when it comes to establishing realistic ideas, implementing action, and enhancing their academic performance.

In relation to the ANOVA results, there was a statistically insignificant interaction between group and time on exhaustion, $F(1, 316) = 0.423$, $p > 0.05$ partial $\eta^2 = 0.02$. This result highlights that there is no interaction effect for group and time. This suggests that there was no difference between the intervention groups across each time period. As such, there is insufficient evidence in this study to conclude that there is an effect of group and time on exhaustion.

The main effect of time showed that there was a significant difference of 0.20 between time zero and time one. Thus, the mean difference scores had to be considered, and the results of 0.20 suggest that there wasn't much of a difference, as there was a difference of 0.20 between the two time periods. Essentially, since the result doesn't reflect a significant change, it could be attributed to the external factors that the researcher couldn't control. Specifically, it could be attributed to the Hawthorne effect which will be discussed in the limitations.

Minimal research has considered the impact of psychological capital on burnout, specifically exhaustion, however, this study could help fill that research gap. In saying that, from the results of this study, even though the intervention did not work, the researcher has reason to believe that intervening is important. Given this, looking at the results of this intervention, it is evident that it didn't result in a significant change in PsyCap, and the possible reasons will be discussed in the limitations.

PsyCap and Cynicism. Previously conducted research has shown that a significant negative relationship was found between psychological capital and burnout, which suggests that

academic burnout can be minimised by enhancing PsyCap (Rad et al., 2017). Additionally, a study conducted by Qingren et al. (2021) showed that burnout is significantly related to a decrease in performance, disengaged and extremely detached reactions, and that psychological capital could mediate the relationship between burnout and performance. This seems to coincide with the current study's findings which show the association between psychological capital and cynicism. Specifically, the findings in this study show that PsyCap was significantly and negatively related to cynicism during both time periods; Time zero ($r = -.446, p = .001$); Time one ($r = -.492, p = .001$), which suggests that high levels of psychological capital are associated with low levels of cynicism.

In relation to the ANOVA results, there was a statistically insignificant interaction between the group and time on cynicism, $F(1, 316) = 0.234, p > 0.05$, partial $\eta^2 = 0.001$. This result highlights that there is no interaction effect for group and time on cynicism, which suggests that there was no difference between the intervention groups across each time period. As such, there is insufficient evidence in this study to conclude that there is an effect of group and time on cynicism.

The main effect of time showed that there was a significant difference of 0.162 between time zero and time one. Thus, the mean difference scores had to be considered, and the results of 0.162 suggest that there wasn't much of a difference, as there was a 0.162 between the two time periods. Essentially, since the result doesn't reflect a significant change, it could be attributed to the external factors that the researcher couldn't control. Such as the students already having high levels of PsyCap due to already having encountered many obstacles. Specifically, it could be attributed to the Hawthorne effect which will be discussed in the limitations.

PsyCap has a positive effect on stress levels, and enhances performance, attitude, and individuals' work lives (Luthans et al., 2015). This means that intervening on psychological capital is a good idea because it might be related to reducing the burnout that students experience. Minimal research has considered the impact of psychological capital on burnout, specifically cynicism, however, this study could help fill that research gap.

PsyCap and Reduced Efficacy. Previously conducted research shows that individuals with good levels of self-efficacy, which is one of the components of psychological capital, tend to be more focused, determined, and encouraged throughout a task, as opposed to feeling anxious

and stressed, which is more prevalent in individuals who exhibit lower levels of self-efficacy (Marques et al., 2015; Selvaraj et al., 2015). Importantly, previous research pertaining to the social-cognitive theory states that individuals with great levels of self-efficacy are better equipped at handling challenging tasks, thus making them less susceptible to strain (Luthans et al., 2015). This seems to coincide with the current study's findings which show the effect psychological capital has on reduced efficacy. Specifically, the findings in this study show that PsyCap was significantly and negatively related to reduced efficacy during both time periods; Time zero ($r = -.615, p = .001$); Time one ($r = -.706, p = .001$), which suggests that high levels of psychological capital are associated with low levels of reduced efficacy, which is one of the conclusions that can be taken from this. In relation to the ANOVA results there was a statistically insignificant interaction between the intervention and time on reduced efficacy, $F(1, 317) = 0.02, p > 0.05$, partial $\eta^2 = 0.00$. This result highlights that there is no interaction effect for group and time on reduced efficacy, which suggests that there was no difference between the intervention groups across each time period. As such, there is insufficient evidence in this study to conclude that there is an effect of group on time.

Minimal research has considered the impact of psychological capital on burnout, specifically reduced efficacy, however, this study could help fill that research gap. In saying that, from the results of this study, the researcher has reason to believe that intervening is important, which will be discussed in the limitations.

In relation to PsyCap's anova results, there was a statistically insignificant interaction between the group and time on PsyCap, $F(1, 317) = 0.80, p > 0.05$, partial $\eta^2 = 0.00$. As mentioned about, this shows that the intervention was not successful, and possible reasons will be discussed in the limitations.

5.3 Practical Implications

The current study has highlighted the value and importance of psychological capital amongst first-year university students, and how it mitigates against burnout. Additionally, the findings from this study enables scholars and universities to think about ways to simultaneously ameliorate and reduce the experience of burnout in universities. This includes thoroughly considering multiple methods of interventions to effectively enhance psychological capital and reduce the presence of chronic academic obstacles within the university environment. By reducing the presence of academic obstacles, and enhancing academic facilitators, this may

allow for an accumulation of personal resources such as PsyCap (hope, optimism, resilience, and self-efficacy) in students (Providas, 2016)

Within an academic context, as mentioned in the literature review, the ramifications of negative wellbeing (i.e. burnout) may include behavioural incivility on campus, reduced levels of self-motivation, and poor work performance (Shoji et al., 2015; Radack, 2019). Conversely, the benefits of positive well-being include being hopeful, and optimistic, thus enhancing one's ability to tackle challenging tasks and improve work performance (Shoji et al., 2015). As such, an increase in burnout amongst first-year students may ultimately lead to high dropout rates and attrition in universities, thus having a negative impact on the university's reputation (Gan et al., 2007).

Universities recognizing the typical chronic stressors that university students experience may help to direct the implementation of programs that attempt to lessen these stressors and improve student well-being. Universities may utilize a number of validated assessments (e.g. Student Stress Scale) to identify common barriers as well as the various levels of burnout experienced as a result of the barriers offered by the academic environment. Hence, the data acquired by the instruments that are currently in use and are reliable may be used as leverage to start the right initiatives. Additionally, the university may provide several workshops that students could attend and participate in, focusing on aspects such as how to organise and prioritise, time-management, and stress-reduction skills and techniques, to help them cope with the stress caused by their workload.

The workshops could help students create techniques for more efficiently managing their time and workload, ensuring they set aside enough time to attend crucial lectures, go over critical course material, devote time to studying, and prepare to submit assignments on time. Students may feel less pressure as a result, which would eliminate the risk of burnout. In having various workshops in place, universities would enable students to form relations with each other, thus reducing the anxiety that comes with building new relationships, encouraging teamwork – which could help strengthen student bonds, thus helping students enhance their academic outcomes at the end of every year. This could help individuals grow, not only within the university – but to better themselves overall (Luthans et al., 2008).

Numerous studies suggest that PsyCap is affected by its exposure to the resources and challenges found in a university setting. PsyCap's depletion and acquisition have an impact on how engaged or burnt out students become (Luthans et al., 2015). Based on this sequential

process, it could be helpful for universities to concentrate on helping students construct sufficient "resource caravans" so they can better handle and cope with hazardous events at school. According to the literature study, the PsyCap components (i.e., self-efficacy, hope, resilience, and optimism) are categorized as state-like, which means they are adaptable and flexible. Hence, via appropriate intervention, colleges can support students in building PsyCap, which may then aid to reduce initial stress experiences and the emergence of burnout and engagement (Demerouti et al., 2001)..

Giving students the chance to attend web-based training programs made available to them by the university through student online portals is one potential strategy for helping them improve PsyCap. The multiple PsyCap components—self-efficacy, hope, resilience, and optimism—can be coached, enhanced, and fostered through the use of multimedia presentations, videos, activities, and self-reflection exercises in such training programs. Furthermore, as online media platforms are now the go-to choice for communication and information sharing, providing an online training-based solution may better appeal to students of the twenty-first century.

5.4 Limitations

While significant findings were obtained in the current study, the findings on the interaction effects of the ANOVA were insignificant, and the possible reasons and limitations will be discussed below.

One of the limitations of this study is limited generalisability. When evaluating the quality of a study, generalisability is an important aspect (Price & Murnan, 2004; Simon, 2011). Generalisability is the capacity of the researcher to draw extensive conclusions based on the current study, allowing the findings to be applied to similar studies (Simon, 2011). The current study had limited generalisability because it only applied to first year university students from Wits university. This means this study may be hard to apply to students in different years of study, and students from different universities all around the globe. Wits first-year students do not reflect the South African student populace. Future studies should consider random sampling methods and draw their sample from multiple universities across South Africa. This method should therefore allow for meaningful findings that can be generalised to a larger group of students (Burns & Burns, 2008).

Another limitation is in relation to the sampling strategy used in the current study (i.e.

non-probability, convenience sampling), which may promote the effects of volunteer bias. This is because only particular students, particularly those who were more willing, were likely to participate in the current research (Cozby, 2009; Rosnow & Rosenthal, 2005). Specifically, this study used a sample of first-year university students that were readily available to participate. While the sample was a haphazard and convenient one, this further limits the generalisability of the study.

Another limitation includes studies conducted in South Africa that use the PCQ-24 as a measurement tool and have produced conflicting findings regarding the structure of PsyCap when used in South Africa (Herbert, 2011). The findings show that, in contrast to the cited US studies, PsyCap generates a distinct interpretation from South African individuals. Future research should concentrate on doing in-depth psychometric analyses of the PCQ-24 assessment model in the South African environment, and more specifically, the South African student-university context, even though the current study did not look at the structure of PsyCap.

Another limitation includes the 1% given to those who participated in the intervention. Although this is departmental policy, an allocation of this nature can be interpreted as an attempt to persuade or provide an incentive, which may have affected the way the students responded. For instance, they might not have been concentrating during the interventions (possibly doing other work/ being in a noisy environment/ multitasking), thus possibly not providing accurate responses.

Another limitation includes time 2 of the intervention being dropped because not enough students completed the second intervention. Additionally, the study could not get more information regarding the practical skills the students chose in the PsyCap micro-intervention.

The environment in which the students completed the questionnaires and took part in the intervention may be a possible reason as to why the intervention did not work. For instance, participants might have used their phones instead of a laptop/ computer, thus affecting their ability to see the questions correctly/ understand what was required of them during the intervention. Additionally, the intervention being unsuccessful could be attributed to the Hawthorne Effects. So, individuals may have responded in a specific

way because they were aware that the researcher had access to their student numbers, thus possibly not responding honestly. Even though the study stated that student numbers would be removed, participants may not have understood that instruction, thus modifying their responses.

5.5 Directions & Recommendations for Future Research

There are various recommendations for future research. Firstly, future studies could enhance the generalisability of the sample by including students registered in all faculties, and in different years of study, from different South African universities. Furthermore, it will also be interesting and useful to include post graduate students in the sample, as this would allow the study to acknowledge further differences/ similarities in academic obstacles, personal resources and burnout across more years of study and increased age ranges. This might provide a more critical understanding of the effects these variables have on one another.

The data collection method could be improved by making use of short interviews, focus groups and open-ended questions in order to gain more insight from participants and have them clarify their responses and acquire a more qualitative understanding into their quantitative information. Future research should also consider administering these interventions in-person/ face to face, because the researcher will have a more accurate understanding of whether or not participants were fully focused while participating and responding to questionnaires, and the researcher will have more control over the conditions under which the intervention is administered.

Finally, an investigation into the differences between academic obstacles/facilitators, personal resources and burnout across various demographic variables warrants further research. Previous research states that differences exist across various demographic indices (e.g. age, year of study, race, home-language) when examining the relations between psychological capital and academic burnout (Luthans et al., 2015). Therefore, further examination and insight into demographic variables and their effects on personal resources, burnout, would be beneficial and useful to all South African institutions, educators and practitioners.

5.6 Conclusion

The purpose of this study was to test whether the intervention impacts psychological capital and burnout scores amongst first year students at Wits University. Additionally, the secondary aim of this study was to probe into the relationship between psychological capital and burnout, by assessing the extent to which psychological capital was related to burnout. Additionally,

this study sought to ascertain whether or not psychological capital decreased burnout. Based on previously conducted research, it was presumed that psychological capital would be related to burnout amongst first-year students at Wits University. The results of the current study support that presumption as psychological capital was related to burnout. This study used Pearson's correlations and a two-way mixed ANOVA to analyse the data collected, where it was found that psychological capital is related to burnout. Even though there wasn't an interaction effect throughout the intervention, this study suggests the importance of administering these interventions.

Therefore, in conclusion, it can be said that psychological capital can be used in South African universities to reduce/ameliorate burnout amongst students, and this study can help universities with regards to creating innovative, productive workspaces and a university culture that enables students to enhance their levels of psychological capital.

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Appendices

Appendix 1: Turnitin Report

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Appendix 2: Ethics Certificate



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

CLEARANCE CERTIFICATE: PROTOCOL NUMBER: MAORG/22/01

PROJECT TITLE:

The Impact of a Psychological Capital Intervention
upon Burnout amongst First-Year University
Students.

INVESTIGATOR

Bonga Bulelani
(1447464)

SCHOOL/DEPARTMENT OF INVESTIGATOR SHCD/Psychology

DATE CONSIDERED

13 July 2022

DECISION OF THE COMMITTEE

Approved
unconditionally

RISK LEVEL

Minimal Risk

EXPIRY DATE

31 December 2024

ISSUE DATE OF CERTIFICATE

11 August 2022


CHAIRPERSON

(Prof. Karen Milner)

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 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.

B.Bonga
Signature

15 /03/ 2023
Date

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix 3: Letter Requesting Student Sample from Registrar



Psychology

School of Human & Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011) 717 4500 Fax: (011) 717 4559



To whom it may concern:

Dear Sir/Madam,

My name is Bulelani Bonga, and I am conducting research for the purpose of obtaining a Master's Degree in Organisational Psychology at the University of the Witwatersrand. As part of this degree, I am required to conduct research and subsequently present a research dissertation on the findings obtained. My research concerns itself with psychological capital and academic burnout amongst first-year students within a university context. More specifically, I aim to see whether psychological capital impacts upon academic burnout amongst first year students from the psychology faculty. Within the higher education sector, it seems imperative to acknowledge not only individual factors (e.g., demographic characteristics & personal resources) contributing to the success or failure of students at university; but also, the environmental/institutional circumstances facilitating this success and failure. My research will therefore identify several individual and institutional factors contributing to academic success or failure within a South African university context. This will thus provide greater insight into South Africa's unique tertiary environments and evidence that may be utilised in developing and initiating programs and interventions to alleviate academic burnout and promote higher levels of psychological capital and success among university students. I am requesting permission to conduct my research in your department among first year students.

Participation in this research will involve students participating in two workshops (which will approximately be one hour long) and accessing and completing three sets of an electronic questionnaire made available to them via Ulwazi, through Survey Monkey. Hard copies will

be used if this is more convenient, or a larger sample of responses is needed. The questionnaire will take approximately 15-20 minutes to complete each time. Participation is strictly voluntary in nature and participants have the right to withdraw from this study while filling in the questionnaire or prior to final submission of the questionnaire without any repercussions.

Informed consent will be obtained by providing participants with a consent form that they will complete and sign. Additionally, no harm or foreseeable risks will be experienced by any individual who chooses to participate. Psychology students in their first year of study will receive a 1% addition to their final mark as a reward for participation.

Anonymity cannot be assured in this study as I will initially require student numbers. These student numbers are required to be able to identify those who will receive a 1% addition to their final marks (i.e., 1st year Psychology students) as a reward for participating in the study; however, these student numbers will be removed from the final data set and replaced with unidentifiable participant numbers. This will guarantee confidentiality, which will be further maintained by the fact that only my supervisor and I will have access to the data. Furthermore, responses will only be looked at in relation to all other responses. All collected data will be stored in a secure (password-protected) and safe electronic location. Feedback will be given in the form of a summary of the overall findings posted to a blog site or a link via Ulwazi for students to access. Summarised feedback will also be given to the course-co-ordinator of the department. All participants will be provided with CCDU and Emthonjeni contact details should they feel that they have been affected by the nature of this study in any way. Your consent to conduct this study would be greatly appreciated. Should you have any queries or concerns, please do not be hesitant to contact me or my supervisor. If you would like to discuss any points regarding this research and/or see a copy of my questionnaire, feel free to contact me and we can arrange a meeting at a suitable time.

Kind regards,
Bulelani Bonga

Supervisor: Ian Siemers
Email: 1447464@students.wits.ac.za
Email: ian.siemers@wits.ac.za
Tel: (011) 717 458

Appendix 4: Letter Requesting Student Sample from Course Coordinators



Psychology

School of Human & Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011) 717 4500 Fax: (011) 717 4559



To whom it may concern:

Dear Sir/Madam,

My name is Bulelani Bonga, and I am conducting research for the purpose of obtaining a Master's Degree in Organisational Psychology at the University of the Witwatersrand. As part of this degree, I am required to conduct research and subsequently present a research dissertation on the findings obtained. My research concerns itself with the notion of psychological capital and academic burnout amongst first-year students within a university context. More specifically, I aim to see whether psychological capital impacts upon academic burnout amongst first year students from the psychology faculty. Within the higher education sector, it seems imperative to acknowledge not only individual factors (e.g., demographic characteristics & personal resources) contributing to the success or failure of students at university; but also, the environmental/institutional circumstances facilitating this success and failure. My research will therefore identify several individual and institutional factors contributing to academic success or failure within a South African university context. This will thus provide greater insight into South Africa's unique tertiary environments and evidence that may be utilised in developing and initiating programs and interventions to alleviate academic burnout and promote higher levels of psychological capital and success among university students. I am requesting permission to conduct my research in your department among first year students. Participation in this research will involve participating in two workshops (which will approximately be one hour long) and accessing and completing three sets of an electronic questionnaire made available to them via Ulwazi, through Survey Monkey. Hard copies will be used if this is more convenient, or a larger sample of responses is needed. The questionnaire will take approximately 15-20 minutes to complete each time. Participation is strictly voluntary

in nature and participants have the right to withdraw from this study while filling in the questionnaire or prior to final submission of the questionnaire without any repercussions.

Informed consent will be obtained by providing participants with a consent form that they will complete and sign. . Additionally, no harm or foreseeable risks will be experienced by any individual who chooses to participate. Psychology students in their first year of study will receive a 1% addition to their final mark as a reward for participation. Therefore, those that do receive this 1% addition will be considered advantaged by their participation; this is nonetheless in accordance with departmental policy. Anonymity cannot be assured in this study as I will initially require student numbers. These student numbers are required to be able to identify those who will receive a 1% addition to their final marks (i.e., 1st year Psychology students) as a reward for participating in the study; however, these student numbers will be removed from the final data set and replaced with unidentifiable participant numbers. This will guarantee confidentiality, which will be further maintained by the fact that only my supervisor and I will have access to the data. Furthermore, responses will only be looked at in relation to all other responses. All collected data will be stored in a secure and safe electronic location. Feedback will be given in the form of a summary of the overall findings posted to a blog site or a link via Ulwazi for students to access. This feedback will also be given to the course-coordinator of the department. All participants will be provided with CCDU and Emthonjeni contact details should they feel that they have been affected by the nature of this study in any way. Your consent to conduct this study would be greatly appreciated. Should you have any queries or concerns, please do not be hesitant to contact me or my supervisor. If you would like to discuss any points regarding this research and/or see a copy of my questionnaire, feel free to contact me and we can arrange a meeting at a suitable time.

Warm regards,

Bulelani Bonga

Email : 1447464@students.wits.ac.za

Supervisor: Ian Siemers

Email: ian.siemers@wits.ac.za

Tel: (011) 717 4586

Appendix 5: Participant Information Sheet



Psychology

School of Human & Community Development
University of the Witwatersrand
 Private Bag 3, WITS, 2050
 Tel: (011) 717 4500 Fax: (011) 717 4559



Hello,

My name is Bulelani Bonga, and I am conducting research for the purpose of obtaining a Master's Degree in Organisational Psychology at the University of the Witwatersrand. As part of this degree, I am required to conduct research and subsequently present a research dissertation on the findings obtained. My research concerns itself with the impact psychological capital has on academic burnout within a university context. I would like to invite you to take part in this research.

Participation in this research will involve you participating in two workshops (which will approximately be one hour long) and accessing and completing three sets of an electronic questionnaire made available to them via Ulwazi, through Survey Monkey.. Hard copies will be used if this is more convenient, or a larger sample of responses is needed. The questionnaire will take approximately 15-20 minutes to complete. Participation is strictly voluntary in nature, and you have the right to withdraw from this study while filling in the questionnaire or prior to final submission of the questionnaire without any repercussions. Informed consent will be obtained by providing participants with a consent form which they will sign and submit. Additionally, no harm or foreseeable risks will be experienced by any individual who chooses to participate.

Psychology students in their first year of study will receive a 1% addition to their final mark as a reward for participation. Therefore, those that do receive this 1% addition will be considered advantaged by their participation; this is nonetheless in accordance with departmental policy. Since participants will be joining the same MS Teams session, they may be known to each other as taking part in the study, which also compromises the anonymity of their identity as a participant. Anonymity cannot be assured in this study as I will initially require student numbers. These student numbers are required so as to be able to identify those who will receive a 1% addition to their final marks as a reward for participating in the study: and for the purpose

of matching students with their marks. However, these student numbers will be removed from the final data set and replaced with unidentifiable participant numbers. This will guarantee confidentiality, which will be further maintained by the fact that only my supervisor and I will have access to the data. Furthermore, responses will only be looked at in relation to all other responses.

All collected data will be stored in a secure (password-protected) and safe electronic location. Feedback will be given in the form of a summary of the overall findings posted to a blog site or a link via Ulwazi for students to access. This feedback will also be given to the course-coordinators of relevant departments. All participants will be provided with CCDU and Emthonjeni contact details should they feel that they have been affected by the nature of this study in any way. Your consent and participation in this study would be greatly appreciated. Should you have any queries or concerns, please do not hesitate to contact me or my supervisor.

Warm regards,

Bulelani Bonga

Email: bluelarniie@gmail.com

Supervisor : Ian Siemers

Email: ian.siemers@wits.ac.za Tel: (011) 717 4586

Contact details for CCDU and Emthonjeni

CCDU Centre - (011) 717 9140

Emthonjeni Centre - (011) 717 451

Appendix 6: Maslach Burnout Inventory Student Scale

Please indicate the extent to which you AGREE or DISAGREE with the following statements:

		Strongly disagree	Moderately disagree	Slightly disagree	Neutral	Slightly agree	Moderately agree	Strongly agree
1	I feel emotionally drained by my studies.	1	2	3	4	5	6	7
2	I have become less interested in my studies since my enrolment at the university.	1	2	3	4	5	6	7
3	I can effectively solve the problems that arise in my studies.	1	2	3	4	5	6	7
4	I feel used up at the end of a day at university.	1	2	3	4	5	6	7
5	I have become less enthusiastic about my studies.	1	2	3	4	5	6	7
6	I believe that I can make an effective contribution to the classes that I attend.	1	2	3	4	5	6	7
7	I feel tired when I get up in the morning and I have to face another day at university.	1	2	3	4	5	6	7

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8	I can become more cynical about the potential usefulness of my studies.	1	2	3	4	5	6	7
9	In my opinion, I am a good student.	1	2	3	4	5	6	7
10	Studying or attending a class is really a strain for me.	1	2	3	4	5	6	7
11	I doubt the significance of my studies.	1	2	3	4	5	6	7
12	I feel stimulated when I achieve my study goals.	1	2	3	4	5	6	7
13	I feel burned out from my studies.	1	2	3	4	5	6	7
14	I have learnt many interesting things during the course of my studies.	1	2	3	4	5	6	7
15	During class I feel confident that I am effective in getting things done.	1	2	3	4	5	6	7

Appendix 7: Psychological Capital Questionnaire

Below are statements that describe how you may think about yourself right now. Use the following scales to indicate your level of agreement or disagreement with each statement. (1 = Strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree).

1. I feel confident analysing a long-term problem to find a solution.
2. I feel confident representing my university work in a meeting with my lecturer.
3. I feel confident contributing to discussions during a university lecture.
4. I feel confident helping to set targets/goals for my university work.
5. I feel confident contacting people outside the university to discuss problems.
6. I feel confident presenting information to a group of classmates.
7. If I should find myself in a jam with my university work, I could think of many ways to get out of it.
8. At the present time, I am energetically pursuing my university goals.
9. There are lots of ways around any problem.
10. Right now, I see myself as being pretty successful at university.
11. I can think of many ways to reach my current university goals.
12. At this time, I am meeting the university goals that I have set for myself.
13. When I have a setback with my university work, I have trouble recovering from it, moving on. (R)
14. I usually manage difficulties one way or another at university.
15. I can be “on my own,” so to speak, at university if I have to.
16. I usually take stressful things at university in stride.
17. I can get through difficult times at university because I’ve experienced difficulty before.
18. I feel I can handle many things at a time at this university.
19. When things are uncertain for me at university, I usually expect the best.
20. If something can go wrong for me university work-wise, it will. (R)
21. I always look on the bright side of things regarding university
22. I’m optimistic about what will happen to me in the future as it pertains to university work.
23. In university, things never work out the way I want them to. (R)
24. I approach university as if “every cloud has a silver lining.”

Appendix 8: Demographic Questionnaire

Please answer the questions below by choosing the correct option or filling in the requested information. Please note that the following demographic questions are for statistical purposes only and are in no way meant to cause offence.

1. What is your student number?

For the purpose of ensuring that you receive your course credit for participating in this study.. Please note that student numbers will be removed from the final data set and replaced with unidentifiable participant numbers, so as to ensure confidentiality.

2. What is your gender?

- ☐ Male
- ☐ Female

3. What is your age?

_____ years old.

4. Which race/ ethnicity best describes you?

- ☐ Black
- ☐ White
- ☐ Coloured
- ☐ Indian
- ☐ Asian
- ☐ Other (*please specify*)

5. What is your home language?

- ☐ English
- ☐ Afrikaans
- ☐ IsiXhosa

- ☐ IsiZulu
- ☐ IsiNdebele
- ☐ Seswati
- ☐ Sesotho
- ☐ Setswana
- ☐ Sepedi
- ☐ Tshivenda
- ☐ Xitsonga
- ☐ Other (*please specify*)

6. With which faculty are you registered?

- ☐ Humanities
- ☐ Health Science
- ☐ Engineering and the Built Environment
- ☐ Science
- ☐ Commerce, Law, and Management

7. Are you a full-time or part-time student?

- ☐ Full-time
- ☐ Part-time

8. Does your current work environment allow you to concentrate on the activities you are completing?

- ☐ Yes
- ☐ No

9. Do you have few distractions around you?

- ☐ Yes
- ☐ No

10. Is your current work environment noisy and distracting?

- ☐ Yes
- ☐ No

11. What device are you using to complete this activity?

- ☐ Desktop
- ☐ Laptop
- ☐ Smartphone
- ☐ Tablet
- ☐ Other (*please specify*)

12. Is the sound quality on your device sufficient for this activity?

- ☐ Yes
- ☐ No

13. Is your device sufficient to complete all the activities required?

- ☐ Yes
- ☐ No

Appendix 9 – Environmental Questionnaire

Please answer the questions below by choosing the correct option or filling in the requested information. The purpose of this questionnaire is to register your attendance and participation in this tutorial and gain some insight into your current work environment.

1. What is your student number?

For the purposes of ensuring that you receive your course credit for participating in this study and matching your data.. Please note that student numbers will be removed from the final data set and replaced with unidentifiable participant numbers, so as to ensure your confidentiality.

Below are a series of statements that describe your current work environment. Use the following scales to indicate your level of agreement or disagreement with the first five statements, where 1 = Strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

1. My current work environment allows me to concentrate on the activities I am completing.
2. I have few distractions around me.
3. My current work environment is noisy and distracting.
4. The sound quality on my device is sufficient for this activity.
5. The device I am using for this activity is sufficient to complete all the activities required.

2. Which device are you using to complete this activity?

- ☐ Laptop
 - ☐ Smartphone
 - ☐ Desktop
 - ☐ Tablet
 - ☐ Other (*please specify*)
-

Appendix 10: Consent Form

Consent to take part in this research project.

☐ I (*name and surname*) voluntarily agree to participate in this research study.

☐ I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.

☐ I understand that I can withdraw permission to use data from my interview within two weeks after the interventions, in which case the material will be deleted.

☐ I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.

☐ I understand what participation in this study involves.

☐ I understand that all information I provide for this study will be treated confidentially.

☐ I understand that in any report on the results of this research my identity will remain anonymous, which will be done by changing my name and disguising any details of my interview which may reveal my identity.

☐ I understand that if I inform the researcher that myself or someone else is at risk of harm they may have to report this to the relevant authorities - they will discuss this with me first but may be required to report with or without my permission.

☐ I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.

☐ I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

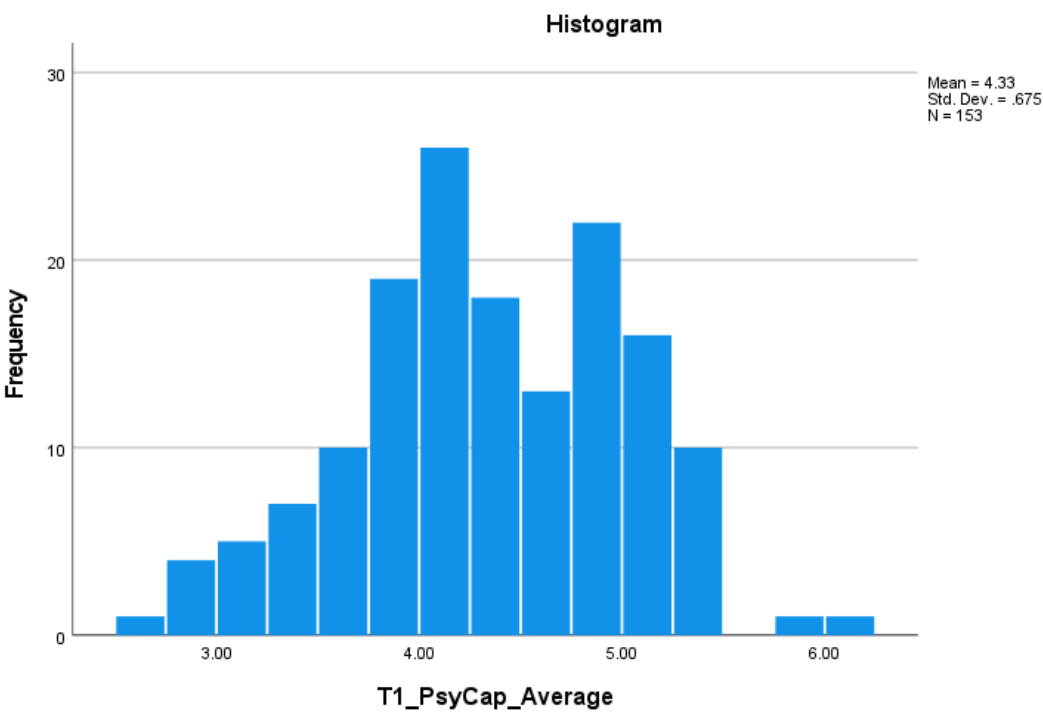
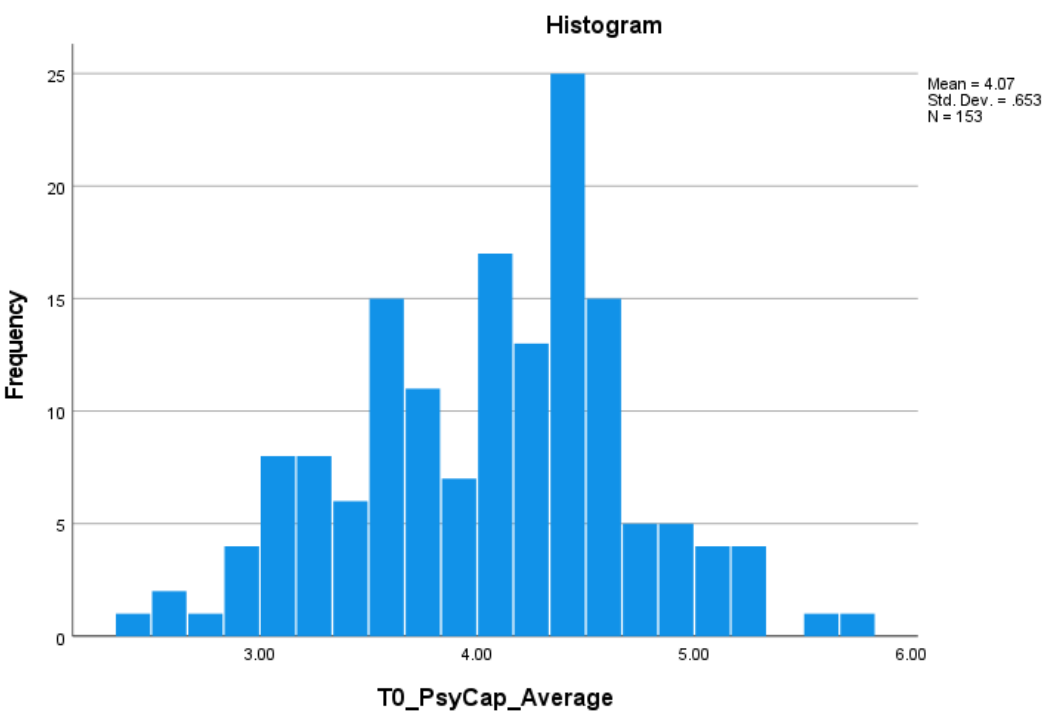
Names, degrees, affiliations and contact details of researchers (and academic supervisors when relevant).

Signature of research participant

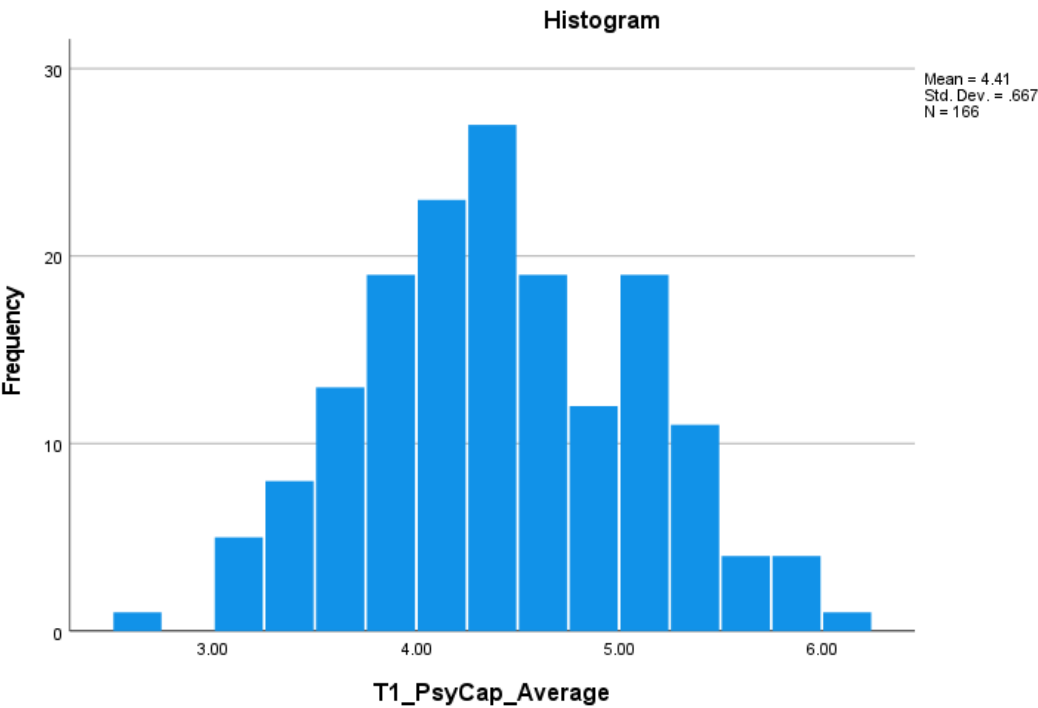
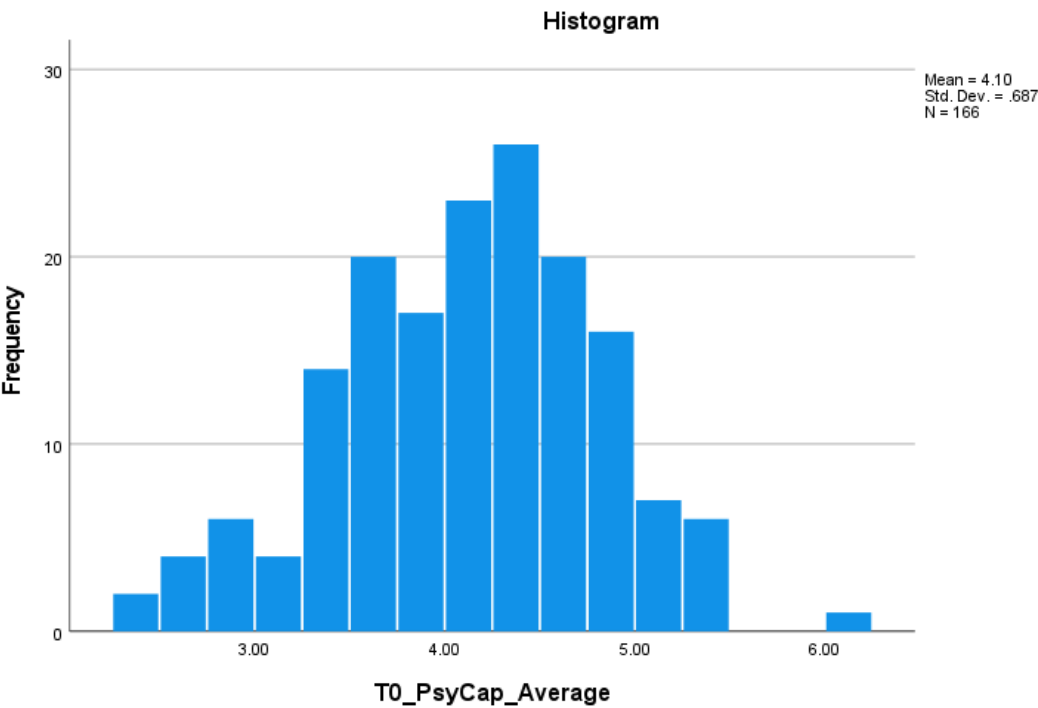
Signature of researcher

APPENDIX 11: PsyCap Histograms

a. Comparison

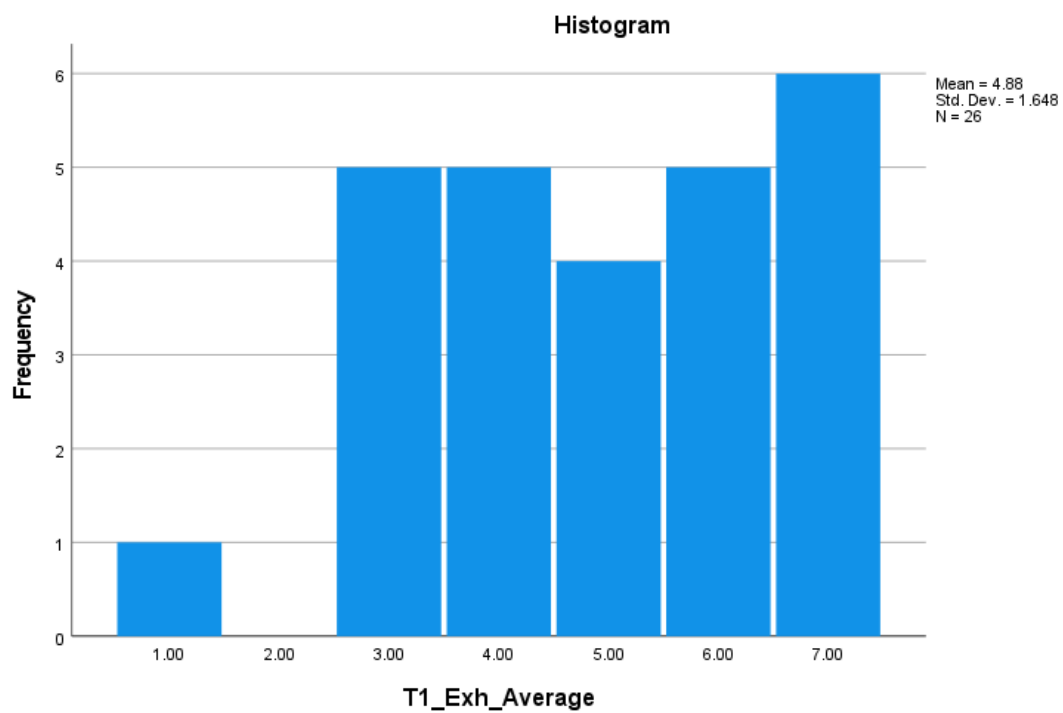
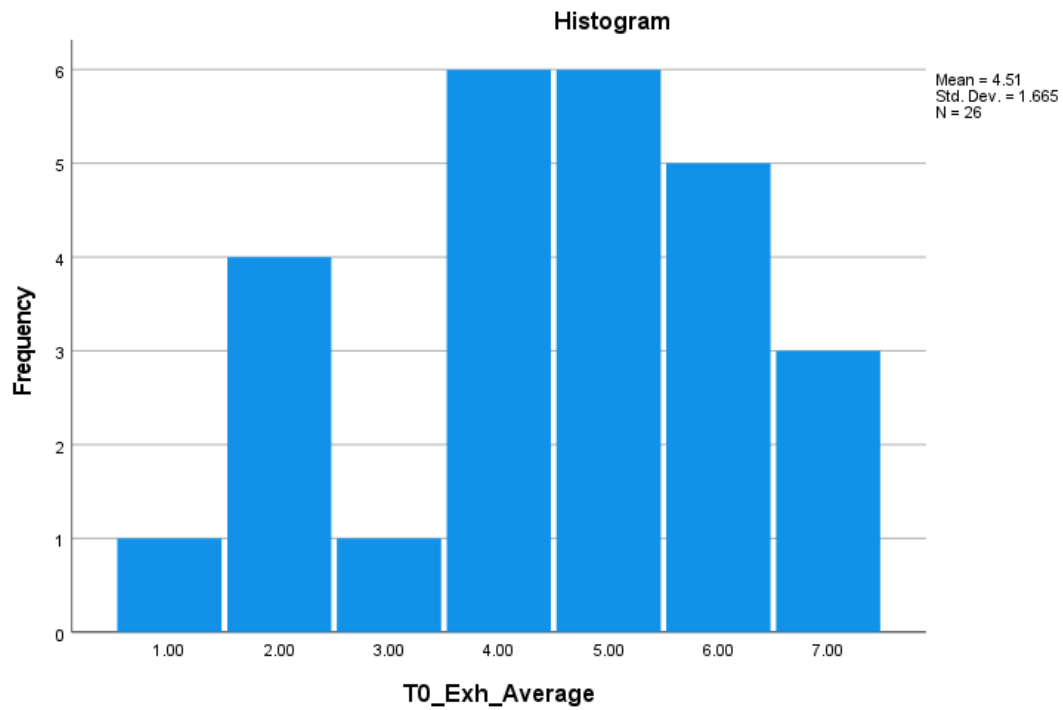


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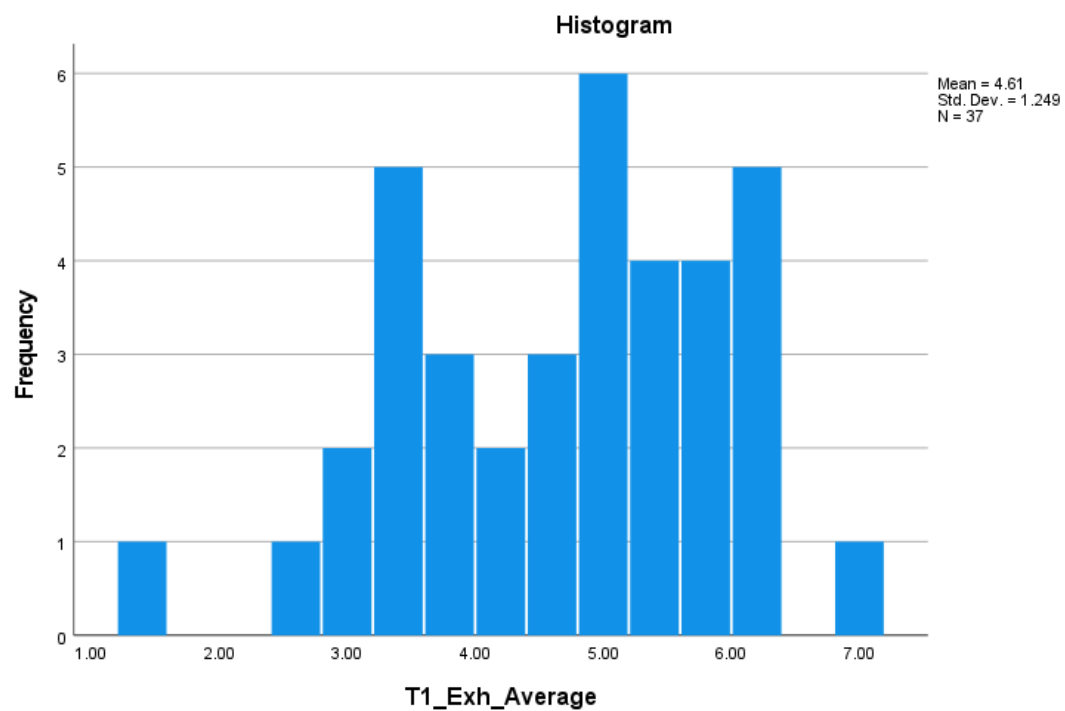
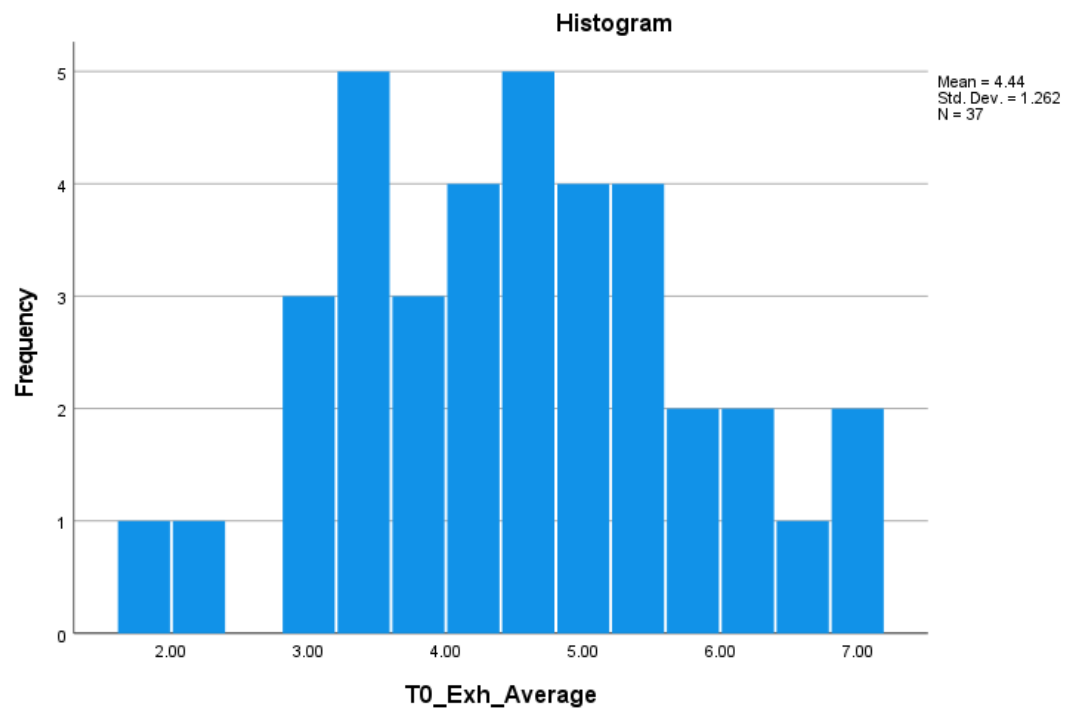


APPENDIX 12: Burnout Histograms

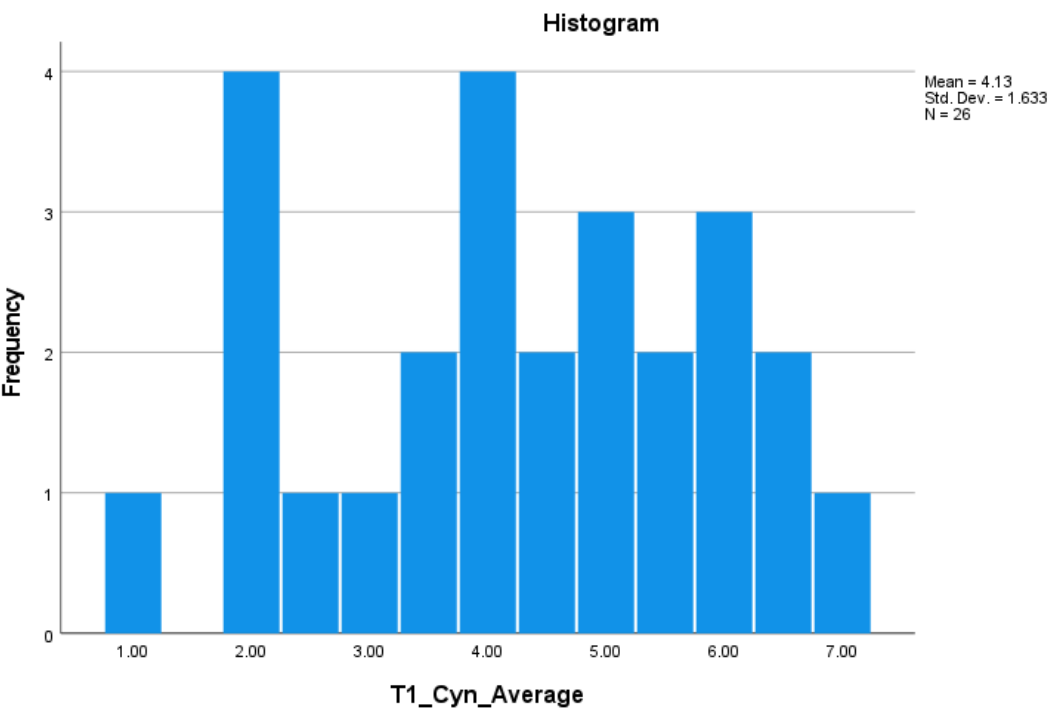
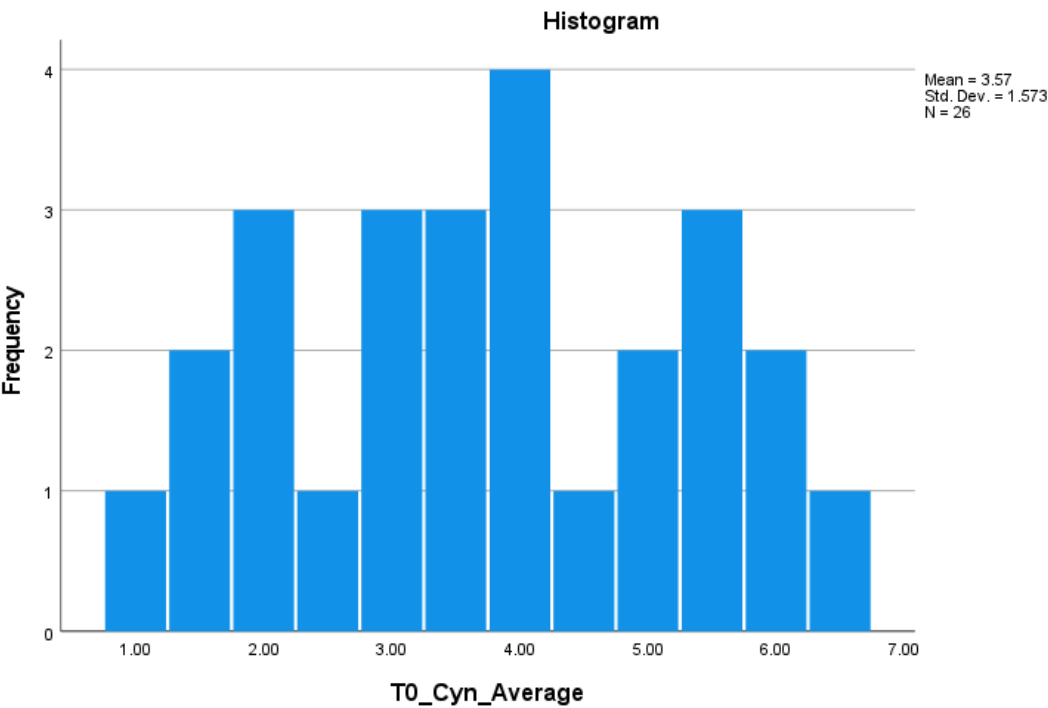
a. Comparison



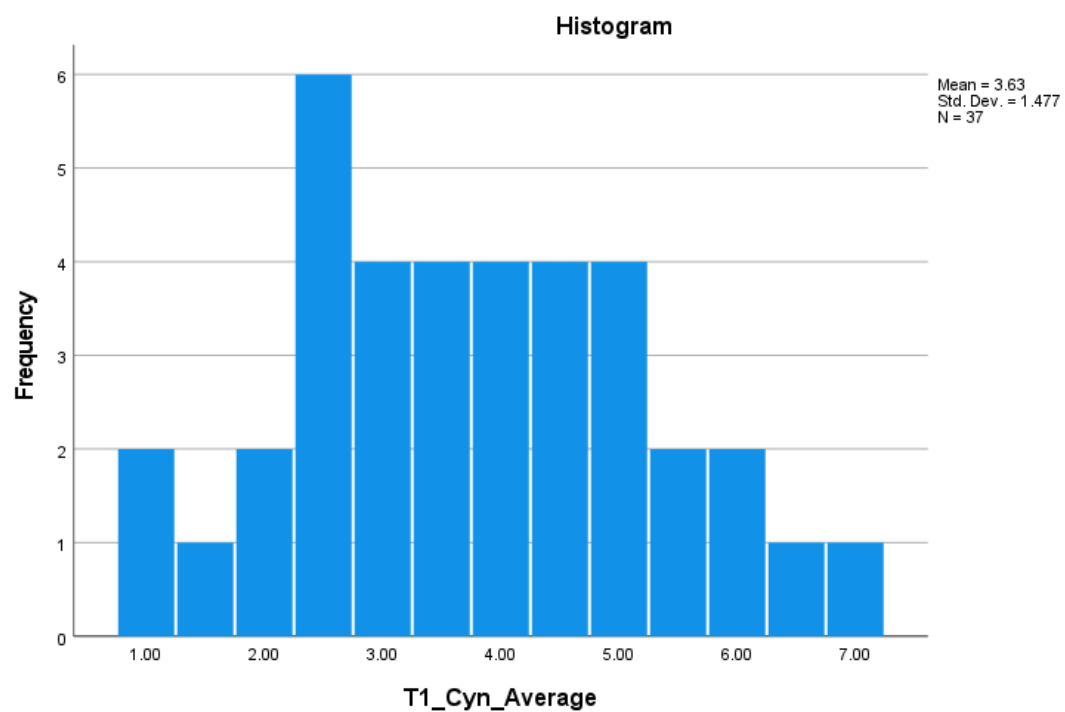
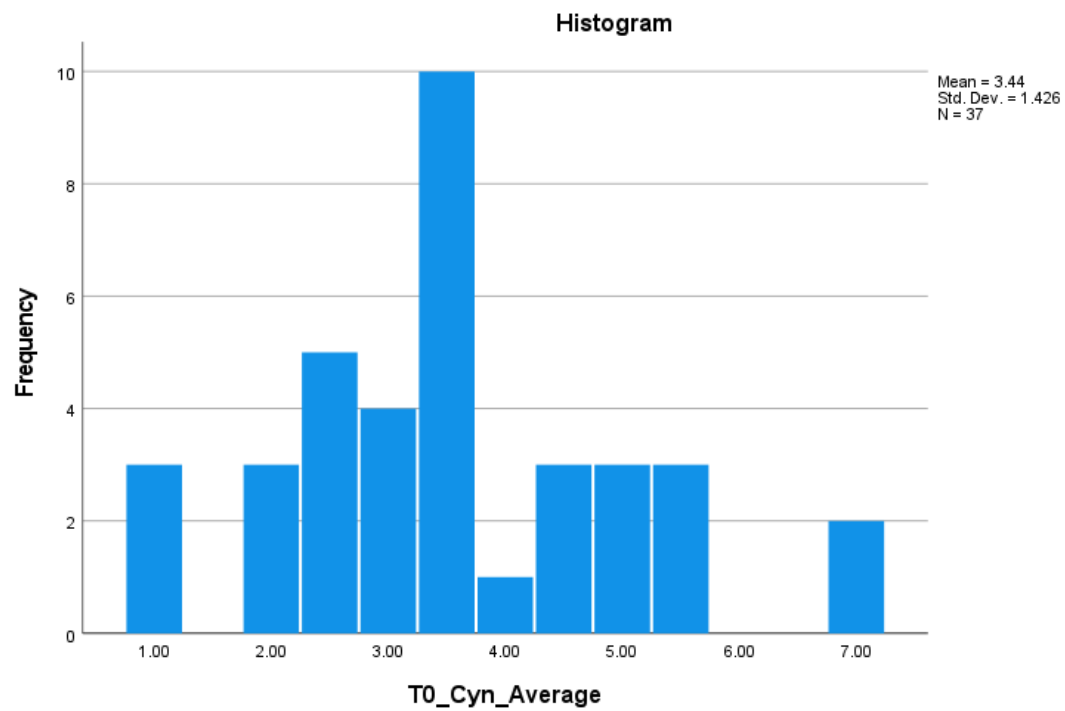
b. Experimental



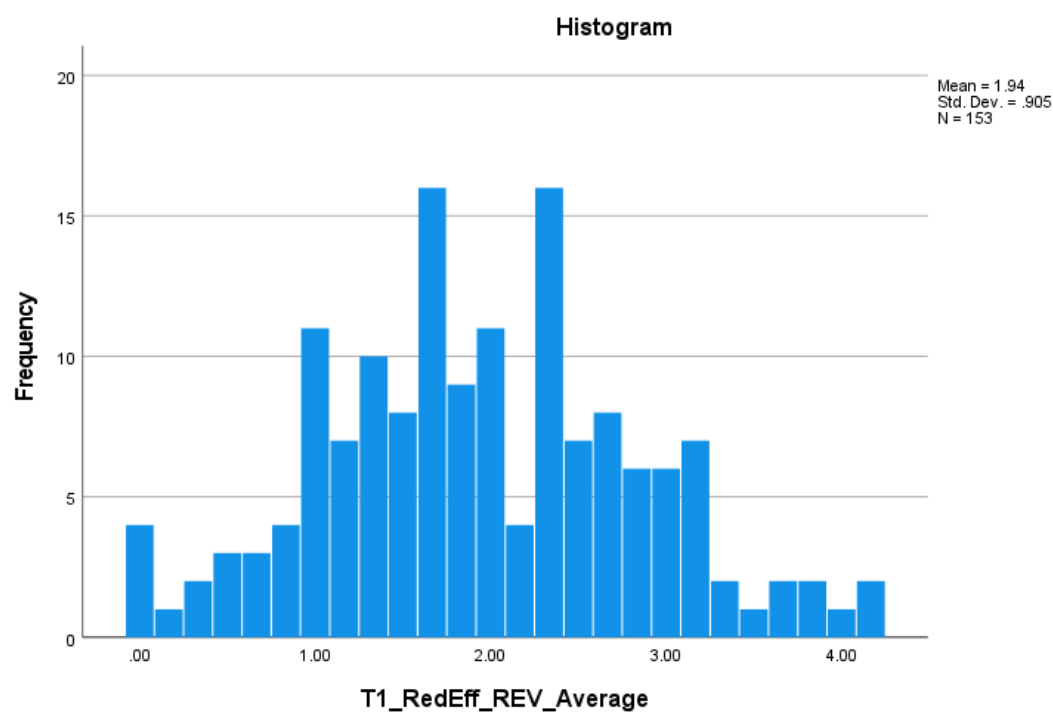
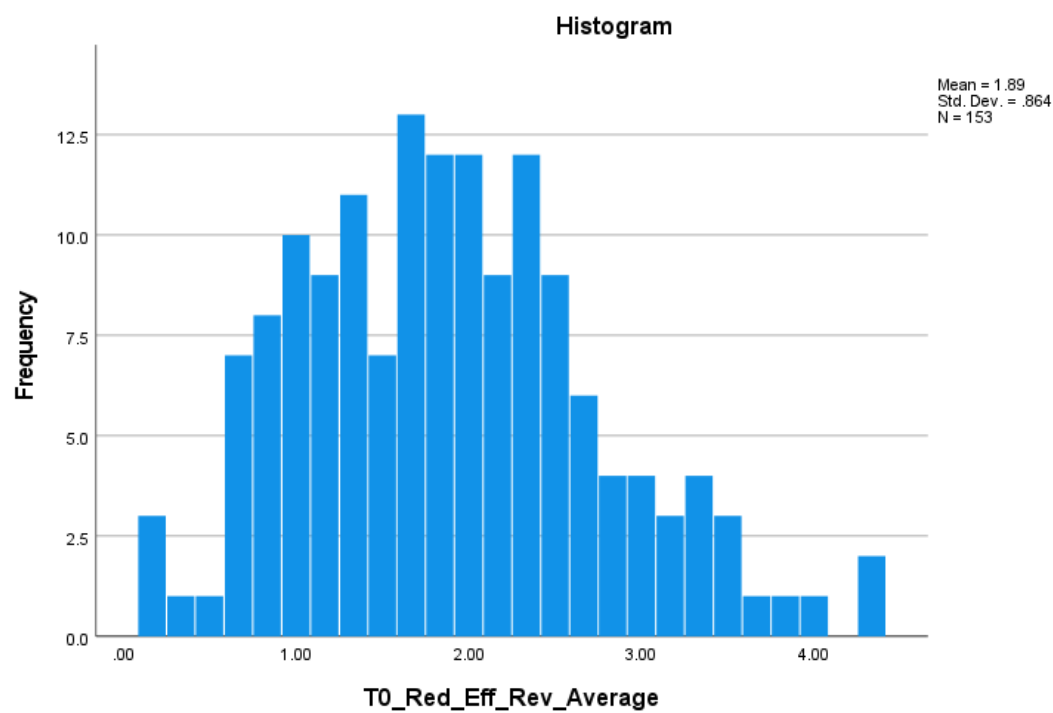
c. Comparison



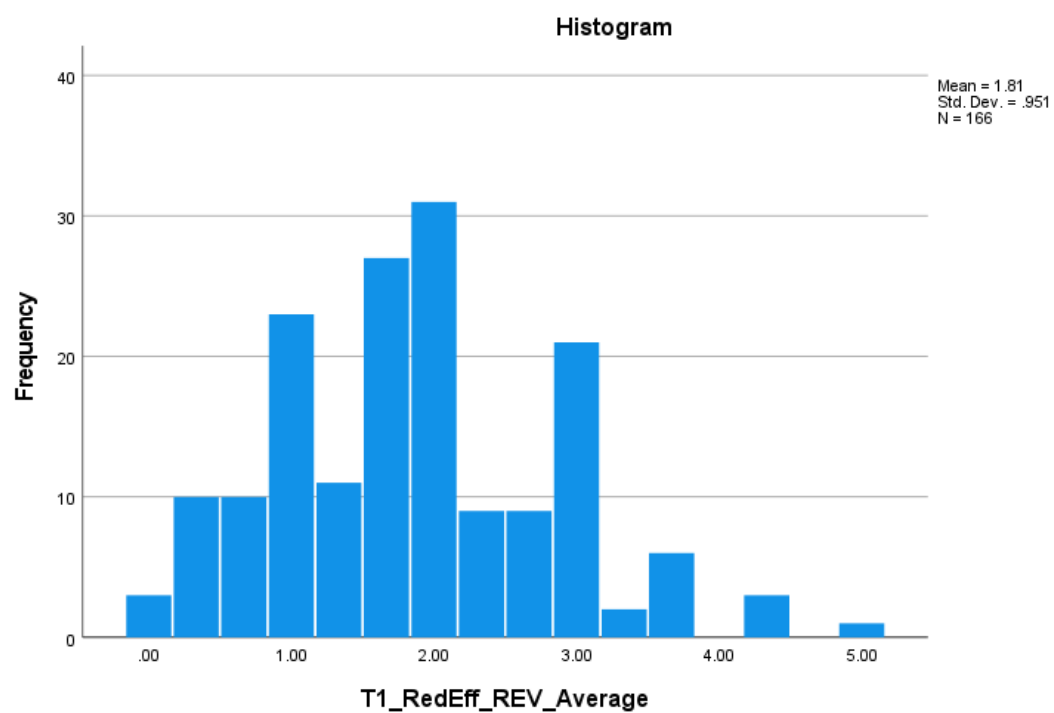
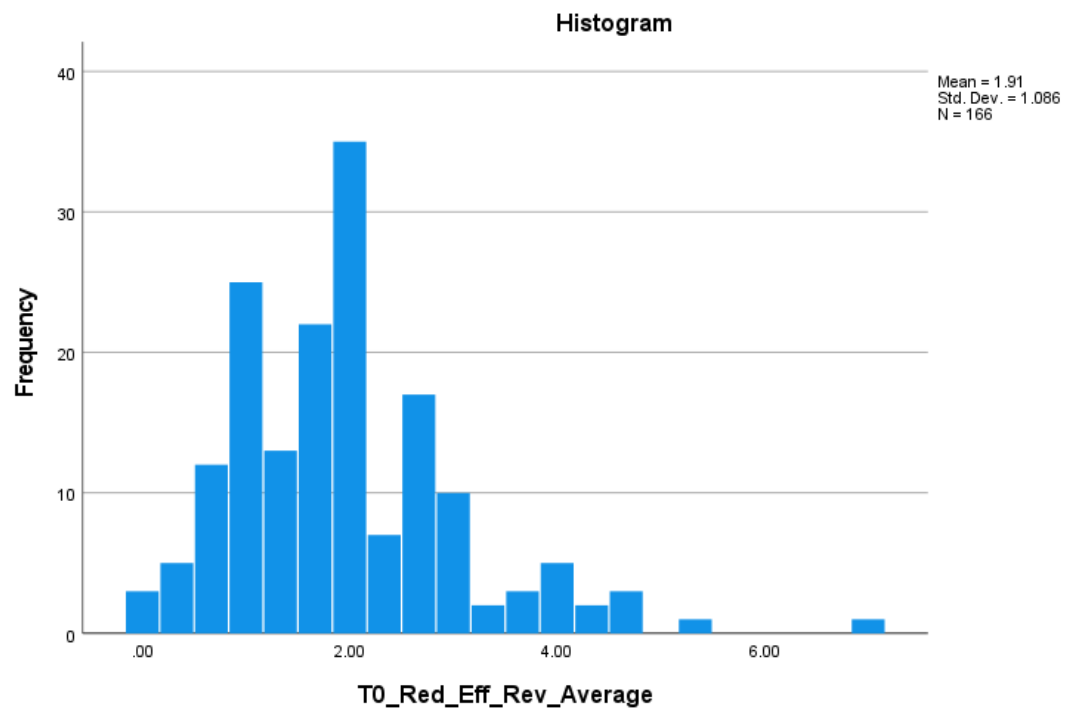
d. Experimental



e. Comparison

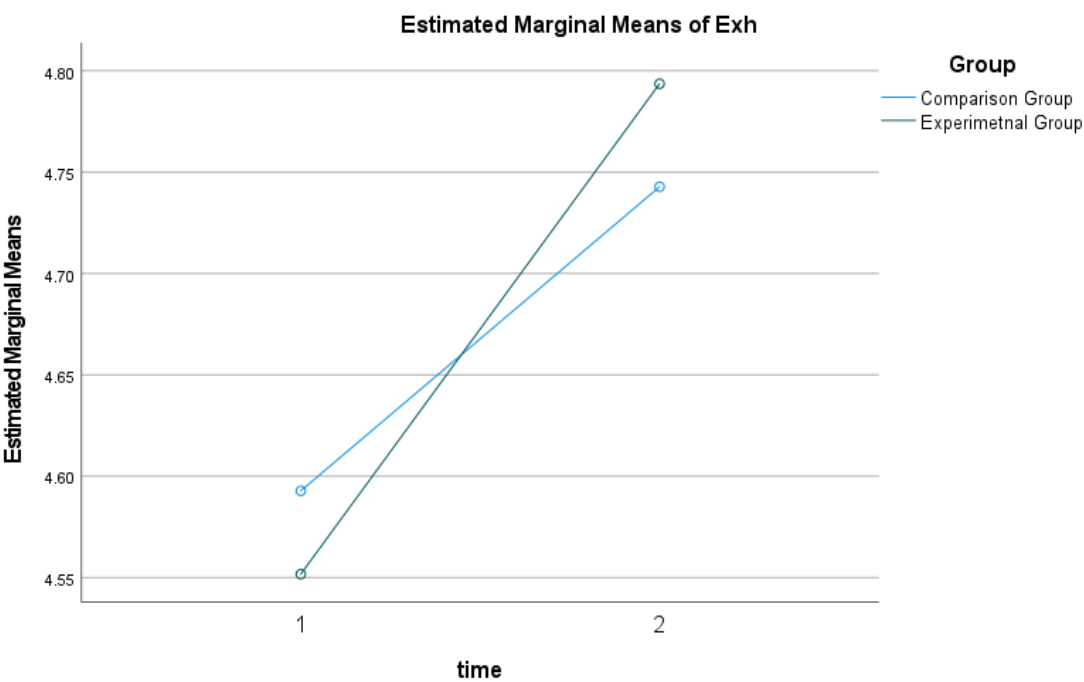
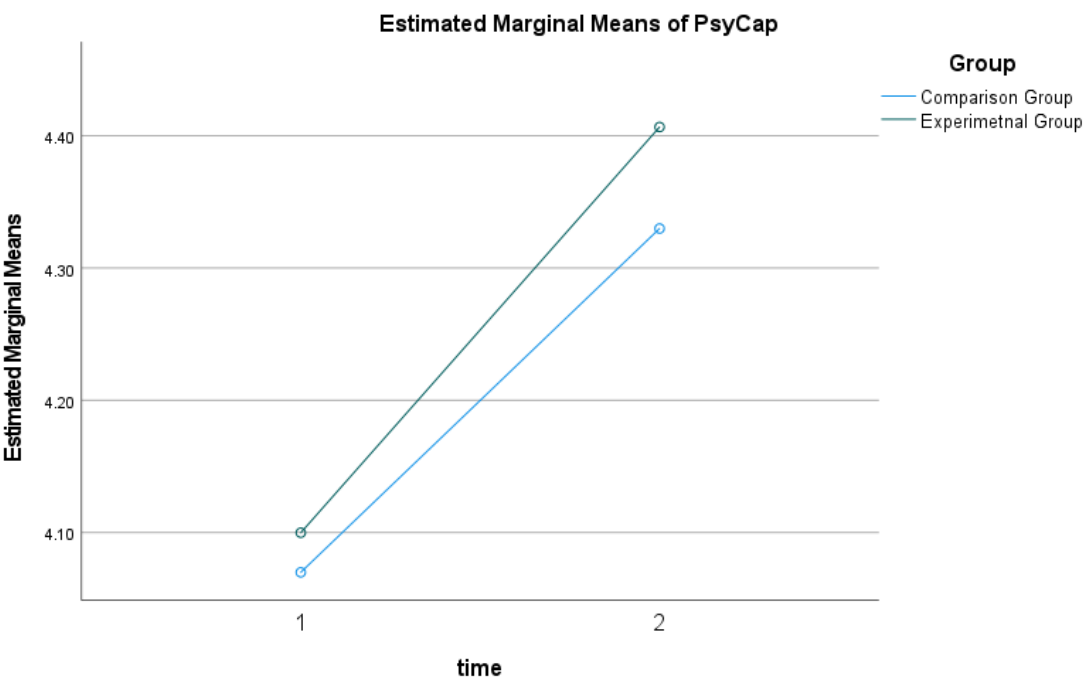


f. Experimental

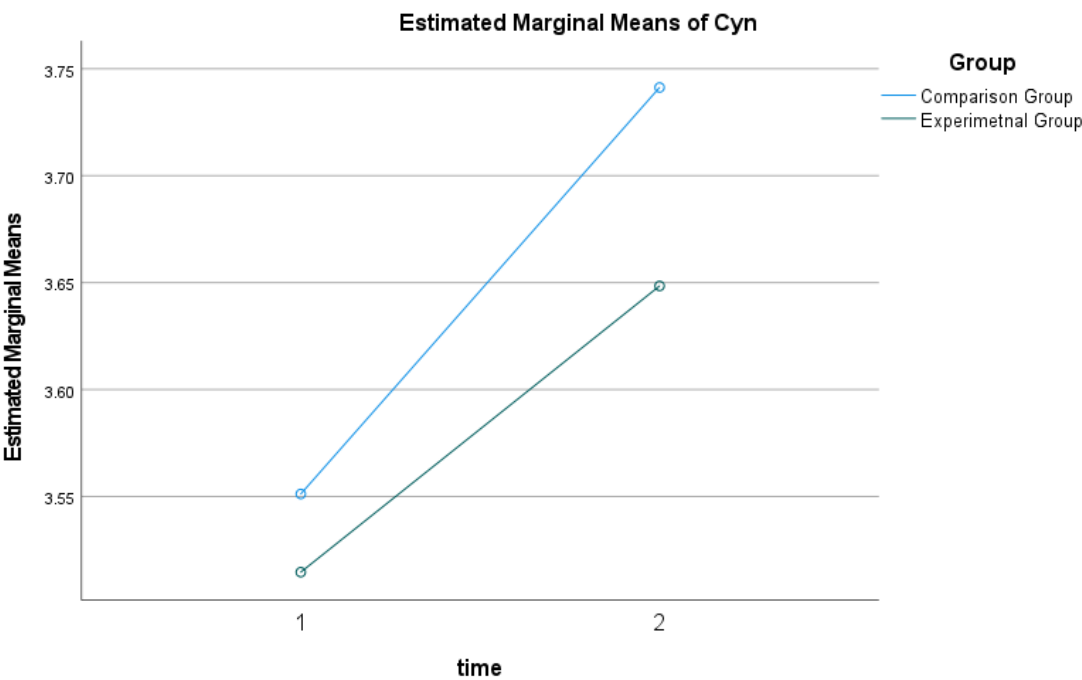


APPENDIX 13: Profile Plots

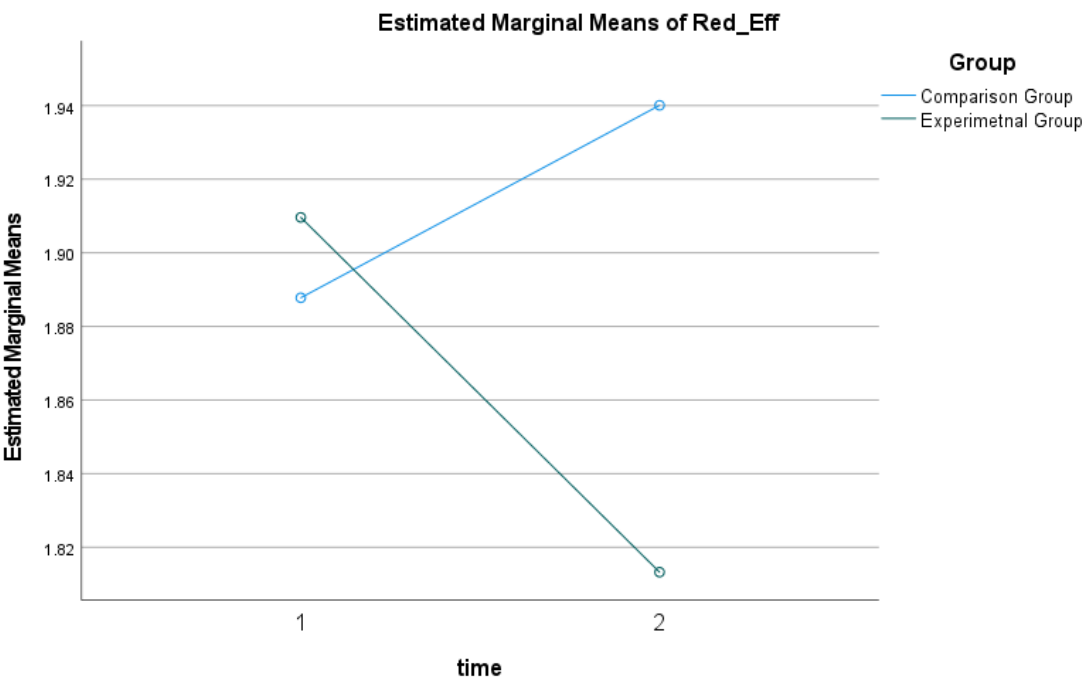
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b.

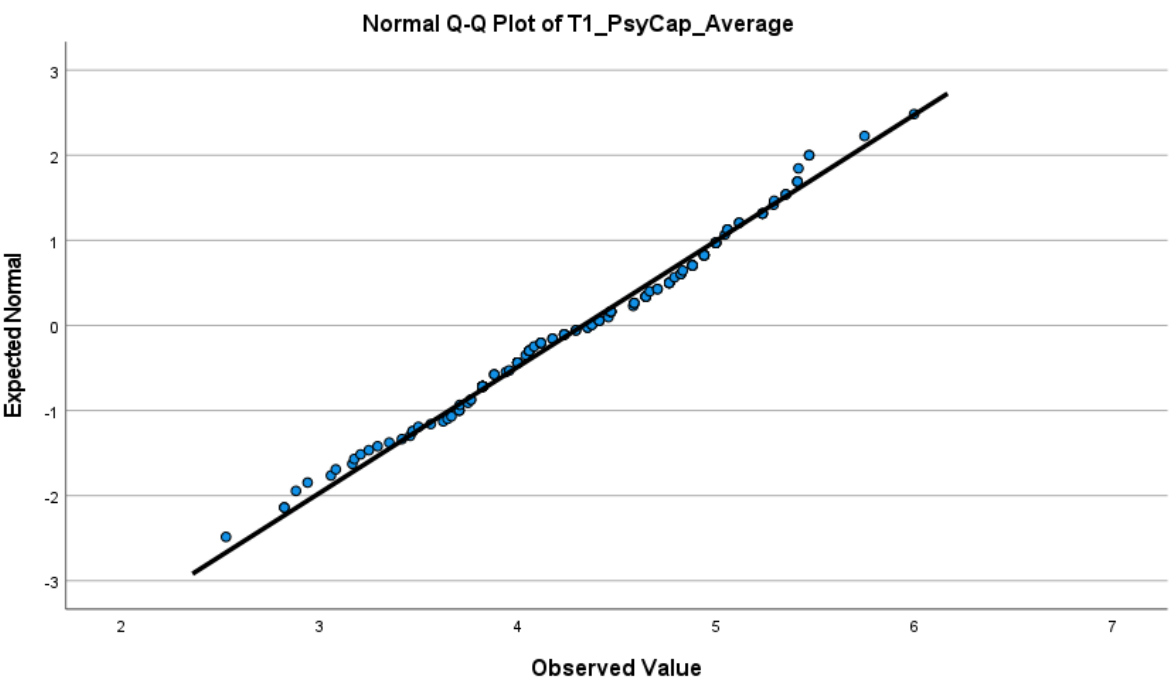
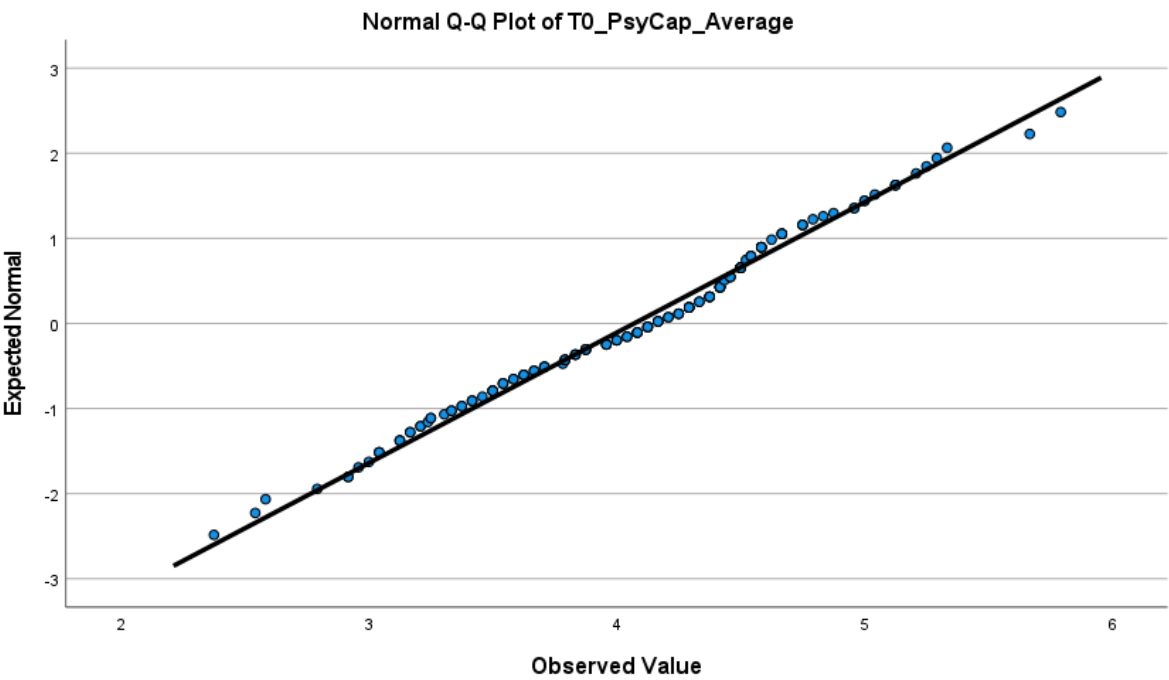


c.

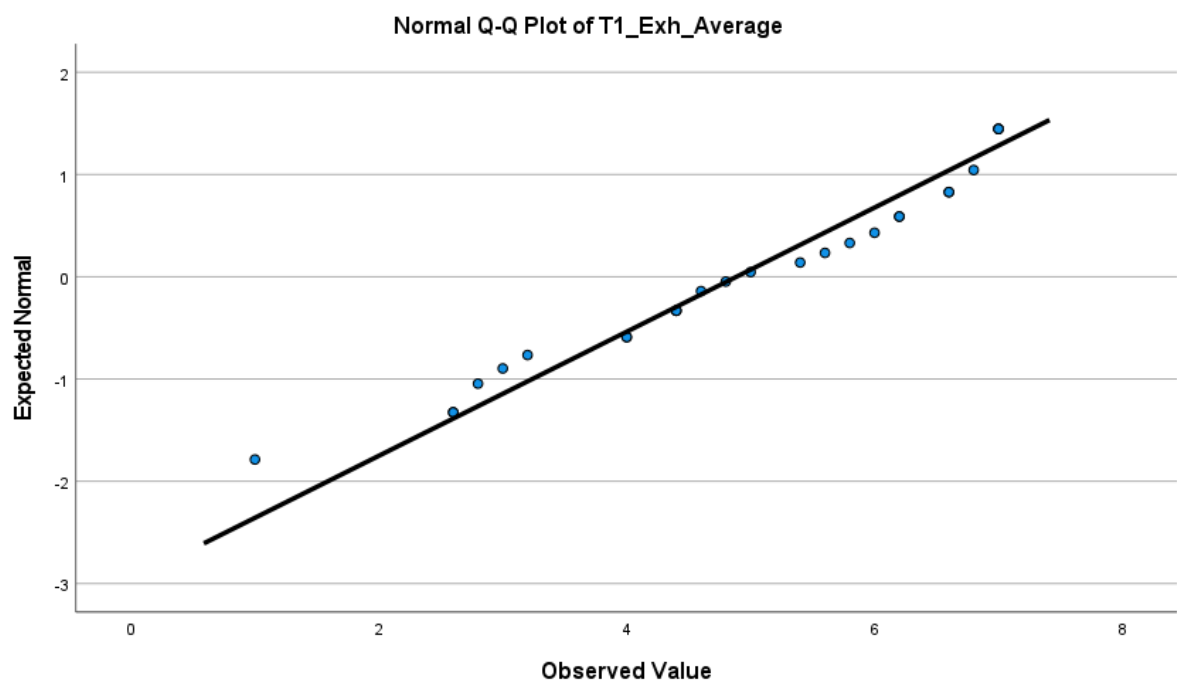
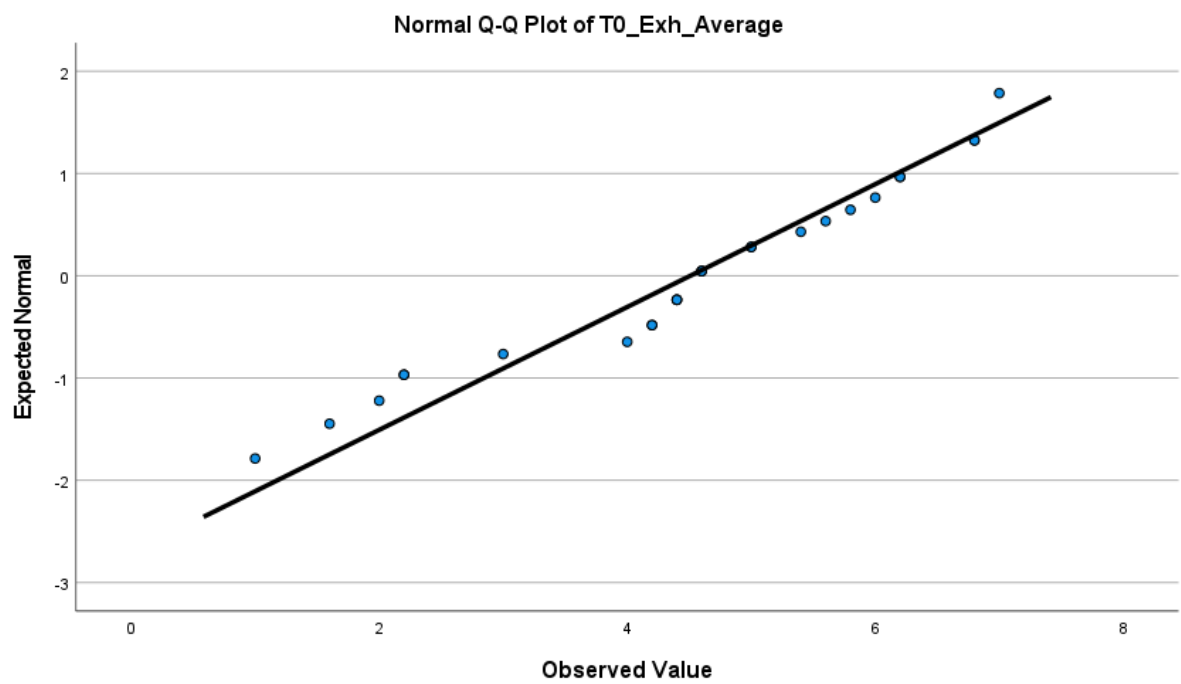


APPENDIX 14: Q-Q PLOTS

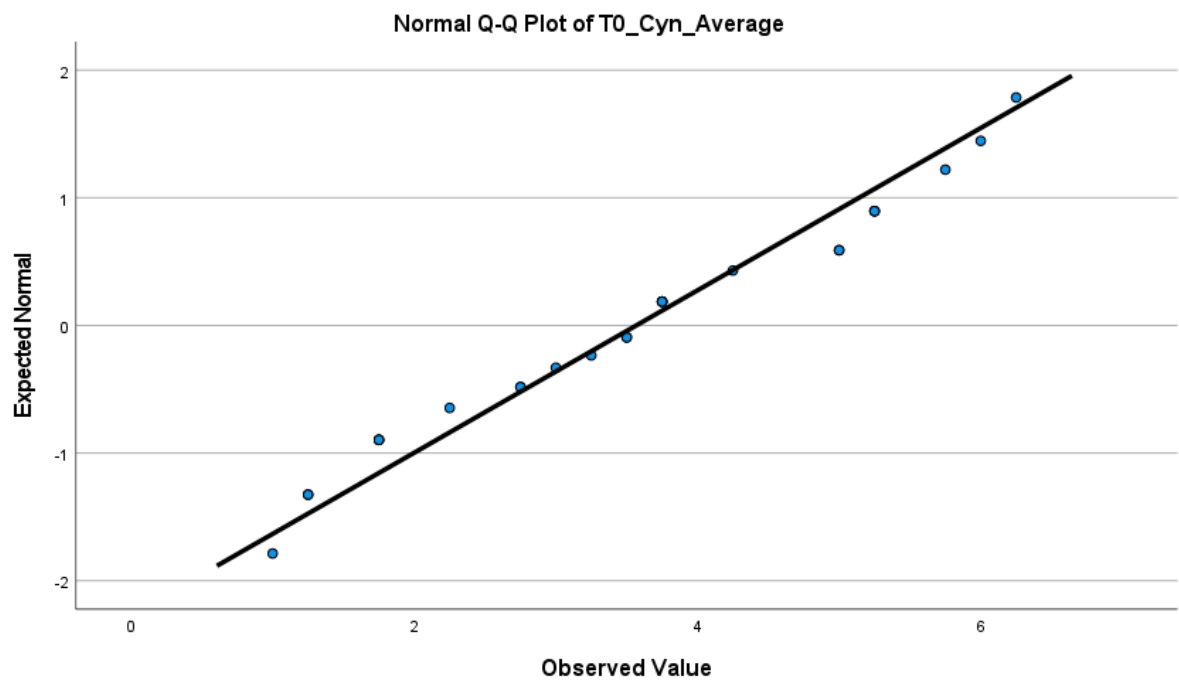
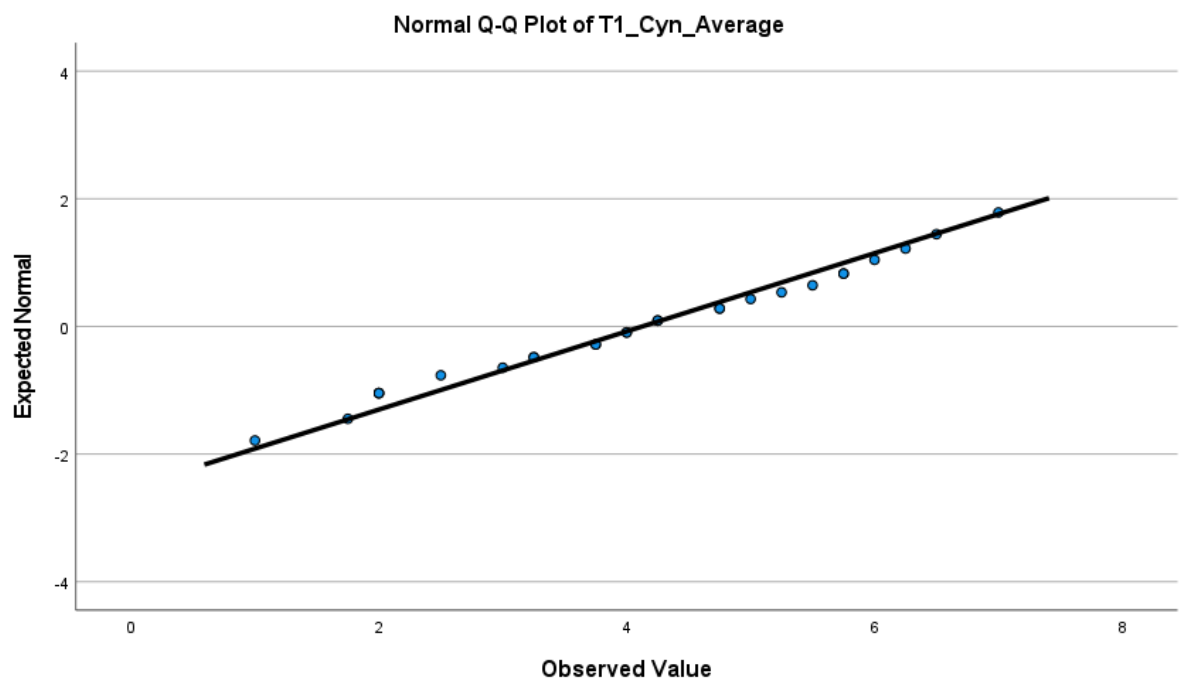
a.



b.



C.



d. .

