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A pre-experimental study of an online micro intervention for improving psychological capital (PsyCap) and its impact on burnout in South African employees

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ORGANISATIONAL PSYCHOLOGY MASTERS RESEARCH REPORT

A pre-experimental study of an online micro intervention for improving psychological capital (PsyCap) and its impact on burnout in South African employees.

By

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"A research project submitted in partial fulfilment of the requirements for the degree of MA by Coursework and Research in the field of Industrial/Organisational Psychology in the Faculty of Humanities, University of the Witwatersrand, Johannesburg, 30 April 2021."

Declaration

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

Signature: 

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Abstract

Psychological Capital (PsyCap) is the combination of the four psychological capacities (hope, self-efficacy, optimism and resilience). Although unique in their own right, these constructs make up PsyCap, which is a reliable higher-order construct which is a potentially robust predictor of coping and health (Peterson, Luthans and Avolio., 2001). It is a positive individual characteristic; and its malleability and openness to development have made it the focus of considerable attention in recent years. This has become extremely relevant in the workplace as this environment is particularly stressful and challenging for many employees, which may possibly lead these individuals to experience burnout (Wilks, 2008; Ríos-Risquez et al., 2016). Having personal resources- such as psychological capital (hope, optimism, self-efficacy and resilience)- helps employees navigate this stressful environment (Lambert et al., 2003; Wilks, 2008; Hobfoll, 1989). These constructs are explained by the job demands resource model, as well as the conservation of resources model. Luthans (2006) suggests that a micro-intervention referred to as the Psychological Capital Intervention (PCI) is an effective way of developing these psychological capacities (Luthans et al., 2006; Guangyi & Shanshan, 2016; Peterson et al., 2011; Costantini et al., 2017; Zhang et al., 2014). The purpose of the study was to determine if an employee's PsyCap (with components of hope, self-efficacy, resilience, and optimism) can be developed through a highly focused online micro intervention directed towards *psychological capital: build your mental strength and flexibility*. The study has a secondary aim of determining whether the intervention is also effective in lowering individuals- specifically employees- burnout. Alongside identifying if the intervention is effective, the study takes a step further to determine if participation in the intervention worksheet had an impact on PsyCap and burnout scores.

This current research report focused on a non-probability sample of South African employees (n=32). These employees included those of any level of employment. Data was collected at two different times, whereby the pre-intervention (pre-test) used Google forms and questionnaires; the intervention used a narrated PowerPoint video; and the post-intervention used Google forms. The Psychological Capital – 24 (PCQ-24) was the measure used to capture psychological capital; and the Maslach Burnout Inventory – General Survey (MBI-GS) was used to measure burnout.

Based on existing theory, it was expected that this online micro intervention directed towards *psychological capital: build your mental strength and flexibility* would improve levels of PsyCap and reduce burnout levels of South African employees. The results of this study revealed that the micro intervention was effective- although it revealed a small effect size. It was effective in developing PsyCap as an overall construct; as well as effective in developing all four dimensions that encompass PsyCap, namely self-efficacy, hope, resilience, and optimism. However, individuals with high PsyCap scores did not result in a reduction of burnout. In addition, it was expected that participants who actively participated in the intervention worksheet (as well as the narrated intervention video) would result in improved PsyCap scores, which was confirmed in this study. However, participation in the intervention worksheet had no effect on individual's burnout scores. These results contribute to the accrual of scientific knowledge on a theory-driven and evidence-based HRD intervention.

Keywords: Psychological-capital, Burnout, Job-Demands Resource Model; Conservation of resources; Micro Online Intervention; South Africa

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Chapter 1: Introduction

In today's highly competitive environment, organisations are constantly needing to find ways to maximize employee's attitudes, competencies, and skills in order to sustain long-term organisational profitability which can be attained by performing beyond the formal job requirements (Soo & Ali, 2017). These various internal and external expectations placed upon employees expose them to various demands and challenges which can potentially result in individuals living stressful lives (Lambert et al., 2003; Ríos-Risquez et al., 2016). Various situations in the job environment can be physically, emotionally, and psychologically draining. This subsequently increases employee's susceptibility and vulnerability to developing stress (Cushman & West, 2006). Various stressors could include workload, decision making, deadlines, forced overtime, a lack of job security, lack of clarity about responsibilities, objectives and expectations, as well as role ambiguity (Anderson & Puluch, 2001; Levin-Epstein, 2002; Sarabia-Cobo, 2015; Fairbrother & Warn, 2003; Colligan & Higgins, 2006).

A particular consequence of prolonged exposure to stress and long-term reaction to stress is burnout (Pines & Keinan, 2005; Ried et al., 2006; Divaris et al., 2012). Burnout can lead to increases in job turnover and it lowers job satisfaction which occurs as a result in a depletion of resources necessary to meet job expectations (Anderson & Puluch, 2001; Levin-Epstein, 2002). The occurrence of engagement, burnout and stress can be explained using the JD-R model and COR theory (Salanova et al., 2010). The literature review (below) will include discussions surrounding engagement, burnout and stress; however, the current study will particularly focus on stress and burnout; therefore, engagement will merely be mentioned as part of discussing previous literature regarding the elements within the JD-R model. Interactions between job resources and job demands is what the JD-R model concentrates on (Leka & Houdmont, 2012), which can be used and applied to various workplace settings (Salanova et al., 2010). The COR theory expands on the JD-R model by emphasising the importance of personal resources and integrating them into the JD-R model (Alarcon et al., 2011; Halbesleben, 2006). Furthermore, COR theory focuses on resource gain and resource loss within a period of time (Alarcon, Edwards, & Menke, 2011). Both the JD-R model and the COR theory refer to "resources" that promote personal growth, assist in work success and reduce job demands (Robins et al., 2015).

A critical personal resource that employees would benefit from and that would help reduce the impact of various demands and challenges (which ultimately create stress and burnout) is

PsyCap - a pivotal construct in the current study. PsyCap is comprised of four positive psychological capacities, namely, hope, self-efficacy, resiliency and optimism (Luthans et al., 2004). This is commonly referred to as the acronym-HERO (hope, efficacy, resilience and optimism). Luthans et al. (2007) theory on PsyCap is similar to COR and JD-R in that individuals will be more satisfied workers and better performers if they possess all the positive psychological capacities (Costantini et al., 2017; Luthans et al., 2010; Rad et al., 2017). Individual resources such as PsyCap result in lower burnout according to previous research (Costantini et al., 2017; Avey et al., 2010), as well as various employee attitudinal, behavioral, and performance outcomes such as job satisfaction, organisational commitment (Luthans et al., 2007; 2008), being more supportive and adaptive to organisational change (Avey et al., 2008; 2010), and increased organisational citizenship behaviour (Avey et al., 2010).

Empirical research has revealed that the four components as a whole – PsyCap - has a synergistic power and stronger impact in predicting outcomes as compared to any of its individual components (Avey et al., 2010; Luthans & Jensen, 2005; Luthans et al., 2006; 2007; Riolli et al., 2012). Although every component of PsyCap has its own characteristics and intervention for development, PsyCap as a whole is greater than the sum of its parts (Costantini et al., 2017; Avey et al., 2010).

Research suggests individuals can sustain positivity and become more positive, which is consistent with the construct of PsyCap- as it is state-like. Thus, the various psychological capacities can be developed by engaging in specifically designed interventions (Luthans et al., 2006; Guangyi & Shanshan, 2016). Luthans (2006) suggests that a micro-intervention referred to as the Psychological Capital Intervention (PCI) is an effective way of developing these psychological capacities, which has been confirmed by many other studies (Luthans et al., 2006; Guangyi & Shanshan, 2016; Peterson et al., 2011; Costantini et al., 2017; Zhang et al., 2014). The "*psychological capital: build your mental strength and flexibility"* is an intervention by Martha Knudson (2015) that is based on the PCI in that it is focused on improving the various psychological capacities of hope, self-efficacy, optimism and resilience which will be utilised in this study.

Previous research that integrates personal resources into the COR theory and JD-R model, demonstrates that developing PsyCap through interventions can influence an employee's wellbeing (Luthans et al., 2007; 2008; Demerouti et al. 2011); however there are few studies where this has been the specific focus (Avey et al., 2008; 2010); and no known studies have

applied a micro intervention for improving PsyCap within a South African context. This provides a novel and unique context for application, warranting further research.

Lastly, burnout among employees is well researched, however, there is growing recognition that having higher PsyCap can reduce workplace burnout (Daya & Hearn, 2018; Gerber et al., 2015). Therefore, it is warranted to engage in further research surrounding this area. By empirically investigating if a micro intervention can develop individuals PsyCap and as a result lessen burnout; organisations can implement such interventions and ultimately promote positive individual functioning. Moreover, explicit theoretical conceptualisations of the underlying phenomena allow for sufficient comprehension and application of them within the workplace environment. Thereafter, the report then describes and defines various concepts such as engagement, stress, burnout and PsyCap: followed by outlining the processes involved which will be provided in a detailed description, of how stress and burnout may possibly occur if an individual does not have adequate resources explained by the JD-R theory. The research report will then go on to introduce, define and discuss personal resources using COR theory, followed by a thorough description and definition of PsyCap (a personal resource) and the ways in which this construct can be developed in employees.

1.2 Literature Review

Workplace stress

The workplace encompasses various internal and external expectations placed upon employees which potentially results in individuals living stressful and challenging lives (Lambert et al., 2003; Ríos-Risquez et al., 2016). These stressful and challenging situations usually requires a significant amount of physical and mental effort to overcome. Therefore, it refers to the change in one's mental or physical state with regards to responding to stressors (and various situations) that pose threat or challenge (Krantz et al., 1985; Zimbardo et al., 2003). Additionally, workplace stress is a condition that arises when an employee experiences a demand that "exceeds his or her real or perceived abilities to successfully cope with the workplace demand, resulting in disturbance to his or her psychological equilibrium" (Kolbell, 1995, p.6). Having said that, "perceived" is a critical key word in understanding workplace stress. The employee must perceive the situation as one that is threatening (Zimbardo et al., 2003).

Previous research describes workplace stress to be caused by factors such as forced overtime, a lack of job security, role ambiguity, decision making, deadlines, and workload or lack of clarity expectations, responsibilities and objectives. In terms of consequences, workplace stress has been shown to create pervasive patterns of dysfunction in the workplace, increase absenteeism and lower productivity (Anderson & Puluch, 2001; Levin-Epstein, 2002; Sarabia-Cobo, 2015; Fairbrother & Warn, 2003; Colligan & Higgins, 2006).

In relation to the above, distress occurs when those stressors are appraised as being negative. Such burdens ultimately cause individuals to experience significant physical illness and/or emotional distress (Colligan & Higgins, 2006; Zimbardo et al., 2003). Often when individuals think of stress, it is times when they are dealing with the everyday stressors that create general frustration or when they are under unpleasant pressure to perform (Ríos-Risquez et al., 2016). In such circumstances, individuals experience feelings of anxiety, loss of control in normal daily life, depression and nervousness (Soo & Ali, 2017). In some instances, however, a degree of stress can be somewhat beneficial in that it can propel individuals to achieve their goals (Colligan & Higgins, 2006; Zimbardo et al., 2003).

Beneficial stress is referred to as eustress, whereby the associated stressor has been appraised as positive or challenging (Ríos-Risquez et al., 2016). Thus, eustress is a force that stimulates individuals to productively work through challenging situations and tasks (Zimbardo et al., 2003). It is important to distinguish between these two types of stresses as they can either help

individuals meet their goals and stimulate positive productivity, or it can become crippling and lead to burnout, emotional turmoil, and physical illness (Lazarus, 2000).

In addition to the types of stress, a consideration of the wide-ranging effects on moods, behaviours and emotions that stress places upon individuals is warranted. When under stressful conditions, emotional, behavioural, psychological, and physical symptoms of stress will emerge (Soo & Ali, 2017). What in part explains the severity of those symptoms is whether the stress can be described as acute, episodic or chronic stress (Lazarus, 2000). Acute stress occurs when demands induce arousal levels above their threshold of adaptability as a result of new demands, expectations and pressures being placed on an individual. These demands can be in the form of unexpected meetings and receiving unrealistic work demands that thwart attempts to get work completed. Additionally, other situations that might cause frustration but generally last a short period of time (Lambert et al., 2003; Ríos-Risquez et al., 2016). Symptoms related to this type of stress include emotional disturbance such as increased worry, hostility, increased blood pressure, increased anxiety, frustration, fatigue, dizziness, rapid heart rate, headaches, confusion and inability to concentrate. With acute stress there is a clear onset and conclusion of symptoms (Zimbardo et al., 2003).

Episodic stress includes the same criteria as acute stress; however, it is experienced more consistently and frequently which occurs in multiple episodes. The person who experiences episodic stress will tend to exhibit impatience, aggressiveness, a sense of time urgency and low tolerance (Ríos-Risquez et al., 2016). Alongside the symptoms listed for acute stress, individuals also experience hypertension, asthma, at risk for heart disease, persistent headaches and chest pain (Lazarus, 2000; Colligan & Higgins, 2006; Zimbardo et al., 2003).

In more severe cases, chronic stress is defined as the accumulation of stressors that are long-standing and they persist (Çelik, 2018). It is associated with long-term illness, family problems, poverty (Lazarus, 2000), and job strain (Broadbent, 1985; Warr, 1990). Employees experiencing chronic work stress have been shown to develop unstable blood pressure, muscle tension, hypertension, increased cholesterol levels, diabetes, headaches, ulcers, clinical depression and substance abuse (Kivimäki & Steptoe, 2018). The employee also may experience significant anxiety, irritability and anger (Israel et al., 1989), which may affect his or her capacity to maintain interpersonal relationships outside of the organisation (Colligan & Higgins, 2006).

In general, individuals deal and cope with stress differently, and thus these responses are directly related to the individual's capacity to cope with the presented stressor. The characteristics of the individual (physiological, cultural, and psychological), and characteristics of the stressor, all ultimately influence how the individual responds to the stressor/s (Lazarus & Folkman, 1984). A mismatch will mean that there is a discrepancy between an individual's capacity to fulfil these demands and environmental demands (stressors) (Topper, 2007, Malach-Pines & Keinan, 2007; Clancy & McVicar, 2002; Colligan & Higgins, 2002). This could result in dismal consequences (Lambert et al., 2003; Zimbardo et al., 2003).

Job Burnout

One such consequence of prolonged exposure to stressors is burnout, which may be considered a long-term reaction to stress (Pines & Keinan, 2005; Ried et al., 2006; Divaris et al., 2012). This is confirmed in numerous studies which highlight a positive association between exposure to stressors and burnout (Alarcon et al., 2011; Divaris et al., 2012; Pines & Keinan, 2005; Rahmati, 2015). There is a great amount of research that pertains to burnout; however current research is shifting away from traditional scope of practice regarding burnout and expanding into more contemporary and diverse fields of investigation in which its meaning has undergone multiple revisions (Maslach, Schaufeli, & Leiter, 2001; Schaufeli, Martinez, Marques-Pinto, Salanova., & Bakker, 2002; Schaufeli, Leiter, Maslach, & Jackson, 1996; Yang, 2004).

The burnout syndrome was first described by Freudenberger (1974) as individuals who "fail, wear out, or become exhausted by excessive demands on energy, strength or resources" and that burned-out individuals "look, act and seem depressed" (as cited in Gauche, 2006, p. 4; Maslach, 1976; Maslach & Pines, 1977). As research surrounding burnout quantitatively and systematically progressed, it was recognised that burnout did, in fact, exist outside the scope of human services (Maslach & Leiter, 1997), expanding across various occupational groups (Maslach et al., 2001). Previously, burnout was initially assumed to occur only in individuals who worked closely with other people on a daily basis, such as social workers, health-care professionals, teachers, and nurses (Salanova, et al., 2002). Although the various stressors may differ depending on the type of occupation an individual has, all occupations have various demands that are placed on employees which could exceed an individual's capacity to fulfil these demands. As a result, many employees with various occupations experience stress and burnout (Maslach, Schaufeli & Leiter, 2001). The National Institute for Occupational Safety and Health (2006) was a survey that revealed that 26% of workers admitted that they are very

often burned out or stressed by their work; and 40% of workers reported that their job is extremely stressful (Patel et al., 2019).

As research surrounding this area has progressed, the most common and accepted definition of burnout is by Maslach and Jackson (1986), who conceptualise burnout as a syndrome of three elements. Burnout, under this conceptualisation is defined as a state of emotional *exhaustion*, a feeling of low personal accomplishment *(inefficacy)* and a tendency of depersonalisation (*cynicism)* (Maslach et al., 2001; Maslach & Leiter, 2006; Karimi et al., 2014; Rahmati, 2015).

Emotional *exhaustion* is the basic individual stress component of burnout. It refers to the feeling of being overexerted, overextended, and depleted of one's physical and emotional resources (Khan et al., 2019). Employees, therefore, feel used up and there is no source of replenishment (Maslach & Leiter, 2006). Feelings of tension and frustration arise due to individuals fears that they will be unable to provide previous levels of work performance as a result of emotional exhaustion (Cordes & Dougherty, 1993).

The feeling of low personal accomplishment (*inefficacy)* dimension of burnout refers to feelings of low competence and lack of productivity and achievement in work (Njim et al., 2019; Makara-Studzińska et al., 2019). Such employees begin to have negative regard for themselves as well as for others. This lowered sense of self-efficacy is exacerbated by a lack of job resources (which will be discussed later in the literature review), as well as by a lack of opportunities to develop professionally and a lack of social support (Cordes & Dougherty, 1993; Halbesleben & Buckley, 2004).

A tendency of depersonalisation (*cynicism)* represents the interpersonal context component of burnout (Makara-Studzińska et al., 2019). This ultimately refers to the callous, negative, or excessively detached response to various aspects of the job and people at work; it is an attempt to distance oneself cognitively and emotionally from people (at work) (Swider & Zimmerman, 2010). It usually occurs when individuals distance themselves from their work by creating dehumanizing perceptions of co-workers, tasks and clients; as well as an overload of emotional exhaustion (Kahn, Schneider, Jenkins-Henkelman, & Moyle, 2006; Schaufeli & Enzmann, 1998). This is done by ignoring the qualities of work that are engaging or unique whereby in doing so, individuals create buffers in an effort to relieve some of the negative outcomes they are experiencing (Maslach et al., 2001; Toker & Biron, 2012).

Based on the above, burnout occurs whereby involvement turns into cynicism, energy turns into exhaustion and efficacy turns into ineffectiveness. Job burnout results from a depletion over time of intrinsic energy resources and it develops gradually (Brill, 1984; Cherniss, 1980; Hallsten, 1993). Exhaustion and depersonalisation result from social conflict and work overload; whereas reduced personal accomplishment is more likely to emerge from a lack of relevant resources or inefficacy (Nikodijević et al., 2012; Rahmati, 2015; Sulea et al., 2015; Tukaev et al., 2013). High levels of depersonalization and emotional exhaustion, along with low levels of personal accomplishment are indicative of burnout (Swider & Zimmerman, 2010).

Although we refer to burnout as a three prolonged syndrome (i.e., cynicism [depersonalisation], exhaustion and low personal accomplishment), it is often solely referred to as burnout - as a whole - and not to the specific components. Having said that, emotional exhaustion is often the acknowledged construct of burnout (Schaufeli & Taris, 2005). Researchers have found, however, that cynicism, emotional exhaustion, and low personal accomplishment- all three constructs- were not maintained across all occupational groups. In particular, the emotional exhaustion and cynicism subscales tended to be one component when groups other than human service providers completed the Maslach Burnout Inventory (Leiter et al., 1994). The development of the Maslach Burnout Inventory -General Survey was created based on the need for developing a scale that measures burnout in occupational groups other than human service professionals (Schaufeli et al., 1996).

The various antecedents of burnout include a lack of work-life balance, being unsure about your expectations, being overworked or overloaded with work, a feeling of little control and a poor or toxic work environment, amongst many others (Maslach et al., 2001; Shirom, 2003; Swider & Zimmerman, 2010; Cordes & Dougherty, 1993; Drake & Yadama, 1996; King & Sethi, 1997; Miller, 1995). Previous research has revealed that although gender is not a strong predictor of burnout, males often score higher on cynicism and females often score higher on exhaustion. This is generally based on gender role stereotypes (i.e., mothers have dual roles of employment) and due to the fact that often women and men occupy different occupational roles, which results in a confounding of occupation and sex. Alongside this, research states that the level of burnout is higher among younger employees than is it among older employees (over 30 and 40) (Rahmati, 2015; Sulea et al., 2015). This is based on the premise that as you get more experienced in the job you tend to not stress about lesser demands (Sulea et al., 2015).

Having mentioned the above, it is clear that burnout has major consequences for both employees and organisations. The organisational consequences include reduced productivity, increased absenteeism, an increase in turnover and reduced performance (Cordes & Dougherty, 1993). Employee consequences include developing poorer mental health, fatigue, substance abuse, an inability to fulfil responsibilities and lower or no motivation (Rahmati, 2015; Crego et al., 2016, Garden, 1991; Shirom, 2003; Swider & Zimmerman, 2010). It is crucial to remember that burnout negatively affects the personal lives and the health of the employees experiencing it as well as services received by their customers, students, clients or patients (Yang, 2004; Maslach et al., 2001).

Previous research surrounding burnout reveals that the effects observed in cross-sectional studies are not generally reproduced in longitudinal studies (Schaufeli, 2003). Moreover, longitudinal research suggests that burnout can be rather stable, over periods of five, ten, or even fifteen years (Bakker et al., 2000; Hakanen, et al., 2011; Schaufeli, Maassen, et al., 2011). As a result of the above findings, a great deal of research has been devoted to the understanding of factors that contribute to burnout and its consequences for both the organisation and the employee. Based on this, it would appear critical to investigate what resources could be used and developed by employees to avoid possible burnout and to minimize psychological costs that could persist throughout an entire career.

Job-demands Resource Model (JD-R model)

The above constructs - stress and burnout - can be explained by the use of two complimentary models, the JD-R and the COR model, in that they both give explanation as to how burnout and engagement occur focusing predominantly on the workplace context (Salanova et al., 2010). Although every occupation may have its own specific work characteristics associated with burnout, it is still possible to model these characteristics in two broad categories—namely, job demands and job resources (Bakker & Demerouti, 2017). Demands are referred to as any aspect of the workplace that requires effort (Bakker & Demerouti, 2017). These can include psychological, physical, social or organisational aspects of the job (Bakker & Demerouti, 2017). Examples of demands include work overload, emotional demands, high work pressure, deadlines for work and poor environmental conditions (Radic et al., 2020; Adil & Baig, 2018; Bakker & Demerouti, 2017).

On the other hand, resources are described as aspects of the workplace or the individual that reduce job demands, promote personal growth and assist in work success (Bakker & Demerouti, 2017). Job resources may also include psychological, physical, social or organisational aspects of the job such as social capital (i.e. networking & support), human capital (i.e. knowledge and experience) and psychological capital (i.e. optimism, resilience, hope and self-efficacy) (Lambert et al., 2003; Wilks, 2008). Under normal circumstances, people become tired by their everyday work activities and thus their energetical resources need to be sufficient to meet the task demands (Bakker & Demerouti, 2017). Previous researchers (Grover et al., 2017; Frank et al., 2017; Dicke et al., 2018) proclaim that characteristics of the individual, as well as properties of the work situation, can buffer the effects of a stressor. The JD-R model states that many different job resources and types of job demand may interact in predicting job stress (Bakker et al., 2004).

The basic premise of the JD-R model is that the motivational process occurs when individuals experience high demands but hold various resources to adequately cope with these demands. This will enable engagement, resulting in the employee having improved or a good wellbeing (Lambert et al., 2003; Wilks, 2008). Job resources may play extrinsic motivational role because they are instrumental in achieving work goals, or an intrinsic motivational role because they foster employees' learning, development, and growth (Bakker & Demerouti, 2007). If the resources are intrinsic motivators, the job resources fulfil basic human needs, such as the needs for relatedness, competence, and autonomy (Bakker & Demerouti, 2007). An example of this is that feedback fosters learning thereby increasing job competence; whereas social support and decision latitude satisfy the need to belong and for autonomy, respectively (Bakker & Demerouti, 2007). In the case of resources being extrinsically motivating are work environments that offer many resources in order to foster the willingness to dedicate one's abilities and efforts to the work task (Bakker & Demerouti, 2007). In that case it is likely that the task will be completed successfully and that the work goal will be attained (Bakker & Demerouti, 2007).

On the other hand, the health impairment process occurs when individuals have high demands and a lack of (or no) resources to deal with these demands. This will ultimately lead to the experience of burnout (Demerouti et al., 2001; Robins et al., 2015; Bakker & Demerouti, 2017). Previous research reveals that work demands negatively associated with engagement are positively associated with burnout; whereas work resources are positively associated with engagement and negatively associated with burnout. This indicates that higher levels of job

resources are associated with lower levels of burnout (Luthans et al., 2010; Walker, 2012; Bakker et al., 2003; Schaufeli & Bakker, 2004; Bakker & Demerouti, 2017). Burnout and stress can clearly be understood using the JD-R model in that prolonged exposure to work demands with little or no resources contributes to work related stress and if further prolonged, high burnout. This is mainly owing to a depletion of resources necessary to meet job expectations. This jeopardises coping mechanisms, thereby negatively affecting health outcomes and inducing strain. This situation is further exacerbated when conflict is experienced between pressures of work and pressures of family, making it difficult to fulfil one role by virtue of the other (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964).

Work engagement

If employees, however, are experiencing various demands, with the assistance of various resources in order to cope with the demands then an employee will experience work engagement. It is critical to mention that work engagement is worth discussing given its centrality in the JD-R model; however, this current research study will not be particularly focused on this construct. As discussed in the introduction, the focus will remain on the burnout and personal resources aspects of the JD-R model.

Having said that, Bakker et al. (2003) define work engagement as a positive, fulfilling, work-related state of mind that is characterised by dedication, vigour and absorption (Bakker et al., 2004; Schaufeli & Bakker, 2004; Llorens et al., 2006). Dedication refers to being strongly involved in one's work and experiencing a sense of enthusiasm, importance, challenge, inspiration, challenge, and pride. Vigour is characterised by high levels of mental resilience and energy whilst working. Absorption is characterised by being fully concentrated on and happily engrossed in one's work, whereby time passes quickly, and one experiences difficulties with regard to detaching oneself from work (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002).

Work engagement research has confirmed the relationship between positive organisational outcomes and engagement (Donaldson & Ko, 2010). These include low turnover intention (Halbesleben & Wheeler, 2008), performance, organisational commitment (Demerouti, Bakker, de Jonge, Janssen & Schaufeli, 2001), good health and positive work affect (Rothbard, 2001) and job satisfaction (May et al., 2004; Schaufeli & Bakker, 2004). Disengagement is central to the problem of an individual's lack of motivation and commitment (May et al., 2004).

Therefore, employees need to have physical, emotional, and psychological resources to complete their work and to identify with it (Gonzalez-Roma & Bakker, 2002). Maslach and Leiter (1997) conceptualised burnout and engagement as being opposite poles of a continuum of work-related wellbeing. However, Schaufeli and Bakker (2004) believe that these two concepts cannot have a perfect negative correlation. Thus, in order to avoid burnout and enable engagement it is crucial for employees to have various critical resources to cope with various demands (Schaufeli & Bakker, 2004).

Conservation of resources model (COR model)

The resources explained in the JD-R model and their impact can be further supported by the COR model whereby its basic premise is that individuals aim to protect, retain and build necessary resources (Hobfoll et al., 2018). Resources are referred to as objects, conditions, personal characteristics and energies that are valued by individuals (Alarcon et al., 2011; Halbesleben, 2006; Hobfoll, 1989). Individuals seek to minimize their loss of resources when they are confronted with stress and additionally strive to develop a resource surplus for future possible losses when they are not confronted with stress (Hobfoll, 1989; Yang, 2004). This model focuses on limiting any circumstance that might endanger the quantity or quality of these resources (Lee, 2010). The disproportionate impact of resource loss compared to resource gain is expressed in the much greater effect expended to prevent resources loss, the length of time, the speed of that impact, and the impact remains salient (Holmgreen et al., 2017). As previously mentioned, resources influence an individual's ability to cope with stressors (Hobfoll et al., 2018).

Therefore, individuals will perceive a situation as stressful when their resources are threated and lost, or when these resources are invested and there is no gain of resources (Debus & Unger, 2017). These threats or depletion of resources are due to demands placed upon the individual (Hobfoll et al., 2018). It is believed that individuals experience stress, even when the stressor is merely perceived as a consequence of factors that threaten to diminish their resources. Individuals then seek to retain their resources in order to maintain equilibrium (Alarcon et al., 2011; Halbesleben, 2006; Hobfoll, 1989). Resources (either that individuals possess or those that are available to them) are used to cope with and mitigate the effects of various demands (Zhou et al., 2018). Demands are perceived as less taxing when the individual has adequate resources to successfully cope with the demand; whereas individuals whose resources are low

will perceive demands as more strenuous (Daya & Hearn, 2018; Gerber et al., 2015; Halbesleben, 2006; Halbesleben et al., 2014; Hobfoll, 1989).

In this context, burnout occurs when individuals have a loss of resources over time which results in maladaptive coping strategies, which further increase an individual's resource loss (Alarcon et al., 2011; Halbesleben, 2006; Halbesleben et al., 2014). On the contrary, an individual who has adequate resources, will effectively handle various demands by productively coping with them, which ultimately leads to more resources and individuals being more engaged (Alarcon et al., 2011; Halbesleben, 2006; Halbesleben et al., 2014).

Psychological Capital (PsyCap)

A critical personal resource that employees would benefit from and that would help reduce the impact of various demands is PsyCap (Tsaur et al., 2019). The construct is derived from the discipline of Positive Psychology, which focuses on strengths, vitality and health rather than weaknesses, illness and pathology (Luthans et al., 2004). This discipline's main focus is to help and enable healthy individuals' to become more productive and actualizing human potential (Luthans et al., 2004, 2007; Riolli et al., 2012). It is critical to remember that an individual's level of positivity can be determined by an individual's circumstances (e.g., age, income, location, appearance). However, an individual's level of positivity can also be under one's control, in which it is open to intentional development (Lyubomirsky, 2007).

Within positive organisational psychology, positive organisational scholarship (POS) and positive organisational behaviour (POB), are terms that are often used interchangeably as they are interrelated concepts or frameworks for using a positive orientation to study the modern world of work and organisations (James et al., 2020; Kour et al., 2019). Both POB and POS study positive approaches within the workplace settings in which emphasis is put on the accomplishment of work-related outcomes (Kelly & Cameron, 2017). The difference is that POS has been mostly concerned with the positive aspects of the organisational context, whereas POB is mainly concerned with individual psychological qualities and their impact on performance improvement (Cameron, 2005; Bakker & Schaufeli, 2008).

More specifically POB is defined as the application and study of "positively oriented human resource strengths and psychological capacities that can be measured, managed and effectively developed for performance improvement in today's workplace" (Luthans et al., 2006, p. 59; Campbell et al., 2010; Wright, 2003). Constructs need to be measurable, open to development, related to performance outcomes, grounded in theory, and have valid and reliable

measurements in order to be considered being part of the POB (Luthans et al., 2007; Luthans & Avolio, 2003). PsyCap is a resource that fits the POB inclusion criteria in that it can be measured (state-like traits), developed and related to performance outcomes, is grounded in theory and has valid and reliable measurements (Luthans et al., 2004).

PsyCap is comprised of four positive psychological capacities, namely, hope, self-efficacy, resiliency and optimism (Luthans et al., 2004). This is commonly referred to as the acronym-HERO (hope, efficacy, resilience and optimism) (Purwanto et al., 2021). *Hope* was defined by Snyder et al. (2002) as a positive motivational state, in which individuals are driven to accomplish their goals by their sense of agency (goal-directed energy). Moreover, it involves generating alternative pathways towards the accomplishment of their goals if the original pathways have been obstructed (Luthans et al., 2004; Luthans & Youssef, 2004; Snyder et al., 1991). On the basis of this definition, hope includes two key dimensions: agency, which is the "way power" of the manner (pathways) in which these goals can be obtained or the "willpower" or determination to pursue goals (Kim et al., 2017, p. 12).

Another component of PsyCap is *self-efficacy,* which is a term derived from Albert Bandura (1999). This is defined as an individuals level of confidence in their ability to perform or execute particular tasks; as well as the motivation, cognitive resources, and courses of action necessary to execute a specific course of action within a given context (Luthans et al., 2004). Self-efficacy can be developed using four approaches, which include: vicarious learning (modelling), social persuasion and positive feedback, mastery or success experiences; and psychological and physiological arousal (Newman et al., 2018; Stajkovic et al., 2018; Luthans et al., 2004). Stress reactions or tension are interpreted as signs of vulnerability to poor performance whereas positive emotions can boost confidence in our skills (Luthans et al., 2004). Thus, self-efficacy is a personality variable that reflects the belief of being able to control challenging environmental demands. Holistically, it refers to a person's optimistic self-beliefs about being able to deal with critical demands by means of adaptive actions (Schwarzer, 1993; Bandura, 1992).

Resiliency is the ability to bounce back from failure, adversity, uncertainty, or even positive but seemingly overwhelming changes such as increased responsibility (Masten, 2001). Resiliency allows the environment and individuals to focus on reducing their risks and enhancing their assets and/or reducing the risk factors (Luthans & Youssef, 2004). It represents the deployment of adapting to different adversities and how to effectively deal with these

various adversities, which is done by capitalizing on personal, social or psychological assets (Masten et al. 2009). Therefore, the strength of individuals and their coping mechanisms is highlighted in resilience and focused on successfully resolving and/or managing various situations (Baumgardner & Crothers, 2010).

The last psychological capacity is o*ptimism,* which is a concept from positive psychology's founding father, Martin Seligman (2000). Selgiman (2000) argues that optimistic individuals have a positive explanatory style when explaining events. This suggests that they attribute positive events to internal, permanent, and pervasive causes; and negative events to external, temporary, and situation-specific ones (Carver & Scheier, 2014). Thus, they take credit for favourable events, expect good things to happen which boosts their self-esteem and morale which in turn distances them from unfavourable life events (Carver et al., 2010). In addition, Carver et al. (2009) states that optimism is a generalized positive outlook that yields global positive expectancies. On the other hand, a pessimistic explanatory style attributes negative events to personal, permanent, and pervasive ones and positive events to external, temporary, and situation-specific causes (Seligman 1998). Moreover, pessimistic individuals perceive favourable events as coincidently occurring and negative events to be due to their mistakes and shortcomings (Carver & Scheier, 2014).

Luthans et al. (2007) suggests that individuals are better performers and are more satisfied workers if they possess all the positive psychological capacities. Additional research demonstrates that individual resources result in lower burnout. For example, Greenglass and Burke (1999) report that lower emotional exhaustion, cynicism, and higher professional efficacy is predicted by high levels of self-efficacy in employees.

PsyCap as a core construct

The combination of the four psychological capacities (hope, self-efficacy, optimism, and resilience) - although unique in their own right - make up PsyCap. As a reliable higher-order construct, PsyCap is potentially a robust predictor of coping and health (Peterson et al., 2009). Empirical research revealed that the four components as a whole – PsyCap - has a synergistic power and stronger predictive power as compared to its individual components (Avey et al., 2010; Luthans & Jensen, 2005; Luthans et al., 2006; 2007; Riolli et al., 2012). Although every component of PsyCap has its own characteristics and intervention for development, PsyCap as a whole is greater than the sum of its parts. Therefore, rather than being in isolation and completely independent psychological constructs, these four psychological capacities should

be an interactive resource set (Luthans et al., 2015). Taking this into consideration, there will be a greater impact on performance enhancement (increased PsyCap) if all four components are developed, as opposed to just one individual component (Costantini et al., 2017; Luthans et al., 2010; Rad et al., 2017).

Noting the above, it is critical to state that developing one individual component of PsyCap does tend to boost the other components as well due to them being highly interrelated (Carmona–Halty et al., 2019). An example of this is that other PsyCap factors may act as pathways to resilience (i.e. those who are hopeful, optimistic and efficacious are more likely to bounce back from adversity than those who are not) (Riolli et al., 2012). Thus, developing one component of PsyCap could ultimately result in the development of the other components resulting in an increase in an individual's overall PsyCap. Its potential, however, may not be of equivalence to developing all four individual components (Costantini et al., 2017).

Further commonalities among optimism, resilience, self-efficacy, and hope include that they share a sense of agentic goal pursuit, control and intentionality. They also share the common theme of "positive appraisal of circumstances and probability for success based on motivated effort and perseverance" (Luthans et al. 2007, p. 550). An example of this would be that optimistic individuals will view their chances of success to be high (Xu et al., 2017). Additionally, being confident (i.e., having high self-efficacy), influences the intentional choice of challenging goals and the motivation to achieve them. "Hope will promote the generation and pursuit of multiple pathways toward those goals, and resilience will allow for recovery from setbacks when pathways are blocked" (Novitasari et al., 2020, pg. 5). As a whole, these psychological capacities will help maintain an internalized sense of intentionality and control while goals are being pursued and accomplished (Carmona–Halty et al., 2019).

Developing PsyCap

In relation to the above, research suggests individuals can become more positive whereby individuals positivity will be developed and sustained if given enough attention, which is consistent with the state-like conceptualization of PsyCap (Çelik, 2018). The various psychological capacities can be developed by engaging in various interventions. *Hope* can be developed through effective goal setting, mental rehearsals of challenging and important pathways and goals at the individual level, and contingency planning (Luthans et al., 2015, Youssef-Morgan & Dahms, 2016).

Developing *self-efficacy* includes mastery experiences whereby building self-belief in an area will be of great importance in order to succeed (Stajkovic et al., 2018). Secondly, vicarious learning or modelling from relevant others, allows individuals to observe people (particularly role models) succeed by their sustained effort. This raises their beliefs that they too possess the capabilities to master the activities needed for success in that area (Newman et al., 2018). Social persuasion and positive feedback can also be used to develop self-efficacy in that being persuasive means that you are more likely to put in the effort and sustain it when problems arise (Newman et al., 2018; Stajkovic et al., 2018; Luthans et al., 2004). Lastly, physiological and psychological arousal (Bandura 1997), whereby the state that an individual is in will influence self-efficacy. Depression, for example, can dampen confidence in individuals' capabilities (Newman et al., 2018).

The psychological capacity-*optimism*- can be developed through learned thinking patterns that promote leniency for the past, appreciation for the present, and opportunity seeking for the future, as well as positive "self-talk" (Schneider 2001). Finally, r*esilience*- can ultimately be developed through, risk-focused, asset-focused, and process-focused strategies, which emphasize the building and effective deployment of assets to mitigate risk factors (Masten et al., 2009). Each of these developmental guidelines is then pulled together for relatively short PsyCap training interventions (Luthans et al.; 2015; Youssef-Morgan & Dahms, 2016).

Research has confirmed and demonstrated that high levels of PsyCap is related to various employee behavioral, attitudinal and performance outcomes (Costantini et al., 2017; Avey et al., 2010). These workplace outcomes include organisational commitment and job satisfaction (Luthans et al., 2007; 2008), being more supportive and adaptive to organisational change (Avey et al., 2008; 2010), and increased organisational citizenship behaviour (Avey et al., 2010). Therefore, individuals who have a high PsyCap are more likely to be committed to and engaged in their jobs (Avey et al., 2009; Avey et al., 2011; Luthans & Yousef, 2007; Luthans, et al., 2007). Moreover, other relatable studies revealed that high levels of PsyCap was negatively related to job outcomes such as turnover intentions (Avey et al., 2010), job stress (Avey et al., 2009), and absenteeism (Avey et al., 2006). Various experimental studies have revealed that PsyCap can be developed, and that change is achieved through relatively short training interventions (Dello et al., 2015; Demerouti et al., 2011; Ertosun et al., 2015; Luthans et al., 2010; 2014), including a web-based intervention (Luthans et al., 2008). Additionally, longitudinal studies support that PsyCap changes over time (Peterson et al.,2011; Avey et al., 2010). It is important to note that demographics - such as tenure, gender, work

experience and age- are often controlled, but rarely related to PsyCap, and if they are, the relationship is often weak (Avey 2014).

Furthermore, there is empirical evidence which states that PsyCap is negatively associated with occupational stress and burnout (Cetin et al., 2013; Rad et al., 2017; Wang et al., 2012; Herbert, 2011; Hansen et al., 2015); and that individuals with a low PsyCap are more likely to be predisposed to burnout and have a decreased work performance (Rad et al., 2017; Cheung, Tang & Tang, 2011; Brouze, 2013). The effects of exhaustion and disengagement that individuals experience is dealt with by individuals drawing on the positive psychological resources in PsyCap to counter its effects (Cetin et al., 2013). Such findings suggest that positive personal resources (PsyCap), help to combat the dysfunctional effects of stress in the modern workplace (Luthans et al., 2002). Multiple studies (Avey et al., 2010; Cetin et al., 2013; Costantini et al., 2017; Datu & Valdez, 2016; Zhang et al., 2014**)** confirmed that individuals who maintain a higher PsyCap will perceive their environment as being less distressing than individuals who have a low PsyCap. Thus, despite a very stressful environment, a hopeful, resilient, optimistic and efficacious individual is likely to believe that they have the necessary and sufficient resources to prevent being overwhelmed, stressed and burned-out (Riolli et al., 2012). However, other research also states that there is evidence for "too much of a good thing" in terms of overconfidence (Yeo & Neal, 2006), unrealistic optimism (Peterson & Chang, 2002; Schneider, 2001), and false hope (Polivy & Herman, 2002), which also needs to be taking into account.

Multiple studies have looked at developing PsyCap, due to its beneficial outcomes to individuals, which includes Luthans et al. (2006) who conducted a series of 3 individual studies that comprised of a 1-3-hour Psychological Capital Intervention (PCI). The various samples that Luthans used included management students, practicing managers, and engineering managers (Luthans et al., 2006). These studies concluded that the PCI increased the participants level of PsyCap, while the control groups did not increase (Luthans et al., 2006; 2010). Having said that, previous empirical studies (Luthans et al., 2006; Guangyi & Shanshan, 2016) revealed that participants increase in PsyCap from the intervention is not very large (3% or just below). Nonetheless , the increase still resulted in improved performance (Luthans et al., 2006).

In relation to the above, Dello et al. (2015) conducted a study using the above-mentioned PCI to identify its generalizability and effectiveness (Luthans et al., 2006). The sample comprised of Bulgarian students and professionals and concluded that the intervention resulted in a

significant improvement in three PsyCap dimensions (hope, self-efficacy and optimism), and that these improvements remarkably remained stable over one month (Dello et al., 2015). The remaining dimension of PsyCap, resiliency, did not improve immediately after the intervention, however, it appeared to show a significant improvement in the follow-up (Dello et al., 2015). Additionally, an easy-to-use "self-study" PsyCap intervention program, was conducted to a sample of 234 employees in five Chinese companies. The intervention program was designed based on the PCI model (Luthans et al., 2006) which included various reading materials. Its effectiveness was confirmed whereby participants PsyCap increased after the intervention (Zhang et al., 2014).

Similarly, a 2-hour web-based online intervention conducted by Luthans et al. (2008) revealed that participants PsyCap significantly increased. This study comprised of 364 working adults that came from a wide variety of organisations, job levels, and job types; representing a wide cross-section of industries including sales, manufacturing, government and service (Luthans et al., 2008). The pre and post-intervention results in this study suggest that employee performance can be enhanced, despite the various job titles or industries within which a participant works (Costantini et al., 2017). Thus, the above confirms that these psychological capacities can be managed and developed and are worthwhile investing in (Luthans et al., 2008).

Newman et al. (2014) reviewed 66 PsyCap studies for behavioural, performance, attitudinal, and well-being outcomes at the organisational, individual and team levels, whereby those who had high levels of PsyCap had favourable attitudes, behaviour, performance and had an overall positive wellbeing. Avey et al.'s (2011) meta-analysis of 51 independent samples, with more than 12,000 employees, supports PsyCap as a predictor of desirable employee attitudes (organisational commitment, job satisfaction, and psychological well-being) and performance (self-rated and supervisor-rated). They also found that PsyCap negatively relates to undesirable attitudes (turnover intentions, anxiety, cynicism and work stress) and undesirable behaviour (deviance) and positively with desirable organisational citizenship behaviours (Tüzün et al., 2015).

It is important to mention that PsyCap and positive psychology have been applied in various countries, in which many of them succeeded whereby it resulted in desirable outcomes in the work, social, and political arenas, which includes South Africa (Cascio & Luthans, 2014, Reichard et al., 2014). Having said that, based on the findings gathered from these studies,

positive psychology has been scrutinized for its transferability and applicability across cultures as the meaning and manifestations of positivity may be different or even contradictory (Fineman 2006).

Thus, various cultures may have differing views regarding what is considered positive. An example of this could be that cultures who place a high value on humility may view confidence as a sign of conceit and arrogance (Caza et al., 2010) and being positive in general is not necessarily perceived favourably across cultures. Some cultures place a higher weight on cynicism, realism, or even melancholy, which may be perceived as a sign of life experience, responsibility, wisdom and knowledgeability (Caza et al., 2010). Hedonistic ideas tend to be dominant in western, individualistic cultures, where pursuit of individual happiness is a recognized personal and social goal; this is not the case in collectivistic cultures, that of which South Africa is considered to be collectivistic in nature (Lu & Gilmour, 2004). Thus, interventions to develop PsyCap have been found to be more effective in individualistic cultures than in collectivistic cultures (Sin & Lyubomirsky, 2009). Despite South Africa being a predominantly collectivist country, a study conducted by Herbert (2011) revealed that full-time South African employees whose occupation was in the construction industry found that higher levels PsyCap total score and higher levels of self-efficacy, optimism, hope and resilience, were associated with reduced occupational stress and decreased levels of burnout (Herbert, 2011).

Conclusion

The above clearly communicates that PsyCap is a higher order construct that is an important personal resource that individuals can use to mitigate the presence of various stressors. This may ultimately lead to reduced burnout as individuals with high PsyCap perceive situations to be less “threatening” or less stressful. The above empirical research gave clear conclusions that these psychological capacities can be developed and harnessed for overall improvement in work performance and work-based outcomes using the PCI. This current research study seeks to identify if PsyCap can be improved using a micro-intervention based upon PCI. This online micro intervention was conducted on South African employees, with the specific intention to identify if individual’s burnout levels are associated to PsyCap and more importantly, whether improvements in PsyCap are associated with the intervention. There are limited reported studies on developing PsyCap within a South African organisational-employee environment, especially using a micro-online intervention necessitating further research.

1.1 Rationale

The workplace environment is particularly stressful and challenging for many employees, which may possibly lead these individuals to experience burnout (Wilks, 2008; Ríos-Risquez et al., 2016). Having personal resources - such as PsyCap (hope, optimism, self-efficacy and resilience) - helps employees navigate these stressful environments (Lambert et al., 2003; Wilks, 2008; Hobfoll, 1989). Previous research (Luthans et al., 2006; Campbell et al., 2010; Wright, 2003) states that PsyCap can be managed, developed, and harnessed for performance improvement and to ultimately mitigate the presence of various stressors and reduce burnout amongst employees. Therefore, Luthans (2006) suggests that a micro-intervention referred to as the Psychological Capital Intervention (PCI) is an effective way of developing these psychological capacities, which has been confirmed by many other studies (Luthans et al., 2006; Guangyi & Shanshan, 2016; Peterson et al., 2011; Costantini et al., 2017; Zhang et al., 2014). The "*psychological capital: build your mental strength and flexibility"* is an intervention by Martha Knudson (2015) that is based on the PCI in that it is focused on improving the various psychological capacities of hope, self-efficacy, optimism and resilience (Appendix A).

A large array of research (Datu & Valdez, 2016; Riolli et al., 2012; Tugade & Fredrickson, 2004; Luthans et al., 2007; Avey et al., 2010; Walker et al., 2012) has focused on the theoretical understandings of PsyCap, its possible outcomes and its association with stress and burnout in the work context. However, little has been done on developing PsyCap using micro-interventions to help individuals mitigate these stressful environments; and to invest in and leverage resources (PsyCap) for a future return. This gap in academic research is particularly prominent in the South African context. Therefore, the current research will explore whether the "*psychological capital: build your mental strength and flexibility"* intervention when conducted as an online intervention is effective in improving PsyCap scores and lowering psychological burnout amongst South African employees.

1.3 Research aims

The aim for this study is to determine if an employee's PsyCap (with components of hope, self-efficacy, resilience, and optimism) can be developed through a highly focused online micro intervention (Appendix B). The intervention will be directed towards the "*psychological*

capital: build your mental strength and flexibility" intervention, which is a method empirically demonstrated to be effective (Knudson, 2015; Luthans et al., 2006). As previous research has shown that high levels of PsyCap are associated with reduced burnout, the study has a secondary aim of determining whether the intervention is also effective in lowering individuals burnout. Alongside identifying if the intervention is effective, the study takes a step further to determine whether active participation in the intervention worksheet (Appendix C) had an impact on PsyCap and burnout scores.

1.4 Research questions

1.4.1. Main research questions

1. Does the online micro intervention produce higher levels of PsyCap?
2. Does the online micro intervention produce lower levels of burnout?
3. Is there a difference in the PsyCap scores for those that participated in the worksheet compared to those that did not?
4. Is there a difference in the burnout scores for those that participated in the worksheet compared to those that did not?

1.4.2. Sub research question

1. Is there a relationship between PsyCap and burnout?

Chapter 2: Methods

2.1. Introduction

This chapter will primarily focus on introducing and explaining the method through which the current study was conducted. The method primarily focused on investigating if an online micro intervention produces higher levels of PsyCap and lower levels of burnout; as well as if there a difference in the PsyCap and burnout scores for those that participated in the worksheet compared to those that did not. This study focused on South African employees which has been neglected in previous studies. This section will discuss the research design, the type of participants that were sampled and studied, the procedure of data collection, and the different types of instruments that were used to collect data for this current study. Lastly, it will discuss how the data was analysed in order to get concluding results for the above-mentioned questions and the ethical consideration surrounding that.

2.2 Research Design

The research design of this current study is a quantitative, pre-experimental design, that is longitudinal (data was collected at two different time points with the same participants) and correlational in nature. This design indicates the implementation of a micro- intervention to observe its effects on PsyCap and burnout. There was no control group, only an experimental group who participated in the PsyCap micro intervention; and no random assignment (Field, 2013). A single group of participants was utilised whereby the study had a pre-test-post-test design (Knapp, 2016). Lastly, it was correlational in nature as it seeks to explore and determine if there is a relationship between PsyCap and burnout.

2.3 Sample and Sampling

The final sample used in the current study consisted of 32 (thirty-two) full-time and part-time employees of any job title and any level of employment within a South African organisation. The participants area of work included teaching, agriculture, finance, fashion, hospitality, legal, health care, marketing, retail, and engineering, which is thus inclusive of many job fields. The study used a non-probability convenience (volunteer) sampling strategy, therefore meaning that not everyone in the population had an equal chance of participating in the study (Cozby, 2009). The expected sample size - which was 15 (fifteen) participants for pre-test and the same 15 (fifteen) participants for post-test- is the least number of participants required for an

experimental study to be valid (Cohen et al., 2007). Thus, the actual sample size (thirty-two) exceeded the expected sample size. Since participation was of a voluntary nature, the study relied on the availability and willingness of employees to respond and participate, the sample was one of convenience (Rosnow & Rosenthal, 2005).

A total of 38 (thirty-eight) employees submitted the questionnaire, however, only 32 (thirty-two) participants were included in the study because 6 (six) participants failed to submit both the pre-test and post-test questionnaire. The employee sample comprised of 19 (nineteen) females (61.3%) making up the majority; and a remaining number of 13 (thirteen) males (38.7%) (see table 1 below).

Table 1

Descriptive Statistics for gender, race, province, level of employment and area of work.

Variable	Frequency (n)	Percentage (%)
Gender		
Male	13	38.7
Female	19	61.3
Race		
Black	7	19.4
White	15	48.4
Coloured	5	16.1
Asian	1	3.2
Indian	4	12.9
Other	0	0
Province		
Gauteng	32	100
Level of employment		
Entry level	9	29
Clerical	1	3.2
Administration	5	16.1
Junior management	4	12.9
Intermediate management	2	6.5
Senior management	4	12.9
Executive	3	9.7
Senior executive	2	3.2
Other	2	6.5

In terms of race and ethnicity, White/Caucasian was 48.4%, 19.4% of the sample were Black/African, followed by Coloured (16.1%), Indian (12.9%), and Asian (3.2%) (See Table 2 above). All 32 (thirty-two) employees reside in the Gauteng province in South Africa. There were 9 (nine) different levels of employment, with the majority of the sample (nine participants) being entry level employees (29%). This was followed by employees within the

administrative domain (five participants) (16.1%) and four participants each (12.9% each) who were part of the junior and senior management domain. Three participants (9.7%) occupy the executive level of the employment domain; and two of the participants (6.5%) job domain was within intermediate management. The penultimate category included two senior executive (3.2%) and one clerical participant (3.2%). Lastly, two of the participants (6.5%) identified their work domain as being part of the "other" category. These participants specifically mentioned that they worked within senior customer service and as a marketing intern. Participants could have placed themselves in one of the categories provided, however, it is likely that this was not done due to a lack of understanding of the various job domain categories.

In addition to describing the type of employees that were sampled, the majority of the participants have workdays that are 8 (eight) hours, which constitutes 35.5% of the participants. Thereafter, 5 (five) participants (16.1%) have 9-hour workdays; 3 (three) participants have 7-, 6- and 5-hour workdays. Additionally, 2 (two) participants had an average of 11 hours of work a day (6.5%). The rest of the participants, 4 (four), had workdays of either 2,4,8.5 or 10 hours (see table 2). Their ages ranged from 21- 56 years (twenty-one years old to fifty-six years old), that of which the mean age was 33 (thirty-three) (see table 2 below).

Table 2

Descriptive Statistics for number of hours in a workday, and age.

Variable	N	Mean	Standard deviation	Skewness coefficient	Kurtosis coefficient	Min	Max
Number of hours in a workday (hours)	32	7.58	1.94	-0.80	1.17	2	11
Age	32	33	10.24	1.08	0.18	21	56

2.4 Procedure

In order to secure and collect data from the expected sample, the procedure was as follows. As an initial step, ethical clearance was requested from the University of the Witwatersrand's Human Ethics Committee. Once this permission was granted (MAORG/20/012 – Appendix

D), the researcher invited prospective participants via social media platforms (i.e., Facebook, Instagram and LinkedIn) by putting up a post explaining the study with a link to Google Forms. This link was accompanied by a brief explanation of pertinent information regarding what the study was about and the types of participants that were required for the current research study. Additionally, the link gave participants access to partake in the questionnaire as well as to participate in the intervention. The electronic questionnaire remained open on social media platforms for approximately five months for employees to access and complete.

The procedure went as follows:

Individuals began by registering (i.e., providing their email addresses) their participation, which was required to ensure alignment between the pre and post measure for the questionnaires. Thereafter, individuals were presented with an electronic participant information sheet (Appendix E) and other important information (i.e., consent form- appendix E), in which participants gave consent by clicking and accepting to participate in the study (Appendix E). This information included the approximate time it would take to complete the online questionnaire (approximately 10-15 minutes); and how long the intervention will take (approximately 30 minutes). Moreover, it contained information which notified employees that participation was strictly voluntary in nature; and that they had a right to withdraw from the study at any given point in time prior to final submission of the questionnaire without any repercussions (Appendix E).

All participants then filled in the demographic questionnaire, the Psychological Capital Questionnaire – 24 item (PCQ-24) and the Maslach Burnout Inventory – General Survey (MBI-GS) questionnaire, which took approximately 10-15 minutes to complete. Once these questionnaires were complete, the last page of the questionnaire had an embedded video, together with the URL link which led participants to the intervention webpage on YouTube. The intervention was approximately 30 minutes long and it was administered through a narrated PowerPoint presentation using *Screencast-o-matic*. Therefore, information, videos and exercises were presented in a video-like format.

The intervention began by the facilitator/researcher giving an introduction of PsyCap and a bit of background surrounding this particular construct. Thereafter, participants engaged in a written exercise (Appendix C) that is aimed at developing all four psychological capacities (hope, optimism, resilience, and self-efficacy). The intervention to improve PsyCap is based on 8 steps, with the first step comprising of the facilitator encouraging participants to think of

a work-related challenging situation that participants are currently facing. The facilitator then explained how participants should reflect on their mindset in the second step, whereby they should take a minute to understand the nature of their mindset when the situation first occurred, when they initially assessed the risk, and the way in which they responded (Knudson, 2015).

Participants then engaged in the third step of framing the situation again in terms of its actual impact (i.e., is the risk in or out of their control, what are their options and look at the challenging situation in a different way/s). Thereafter, participants identified and listed helpful skills and resources (i.e., knowledge, work ethic, colleague networks, ideas from others, finances, creativity, or past experiences) that they can use to respond to the challenge (Knudson, 2015). Step five involved participants setting one specific goal, one that was directly related to overcoming the work-related challenge they are facing. It must be a S.M.A.R.T. (Specific, Measurable, Attainable, Relevant, and Timely) goal, and broken down into more manageable steps if it was a large goal.

Participants needed to identify multiple ways to achieve/accomplish their goal in step six. Therefore, all the possible pathways to achieve their goal were then considered; as well as the various skills and resources that is needed for each pathway (Knudson, 2015). Participants then identified and planned ways to overcome potential obstacles in step seven that could get in the way of each pathway they identified in the step above. The final step participants did was to set aside 10 minutes every day to think through the steps above and visualize their success. They imagined using their resources to navigate the different pathways toward their goal (Knudson, 2015).

Two months after completion of the intervention, all participants were sent an e-mail of the same two questionnaires (PCQ-24 and MBI-GS) to complete again for the post-measure. Results were then collected (including the completed worksheets of those who handed it in). Once a sufficient number of responses were received, data was extracted and put into excel and SPSS to do the various analyses stipulated below.

2.5 Instrumentation

This section describes the reliability analyses regarding each of the instruments used. Huck (2004) defines reliability as the stability and dependability of the instruments that are intended to be used to measure particular constructs in this current research study (PsyCap and burnout),

Reliability is described using the internal consistency which refers to the degree to which the different facets of the instrument measure the same concept (Huck, 2004). Therefore, internal consistency reliability assesses reliability by using the study participants responses at one point in time to effectively establish the extent to which the items in the scales or subscales measure the same concept (Huck, 2004). In order to determine the internal consistency reliability of the instrumentation utilised in the current study, Cronbach alpha coefficients were calculated for each of the scales and/or subscales. Therefore, the internal consistency will be recorded for the Psychological Capital Questionnaire-24 and the Maslach Burnout Inventory General Survey.

The following instruments were combined into one questionnaire and used to collect the necessary data for the current study. This questionnaire included the use of a self-developed demographic questionnaire (Appendix F) to capture important information about the sample. The Psychological Capital Questionnaire (PCQ-24) was used to measures individuals level of PsyCap (Appendix G) (Luthans et al., 2007). Lastly, the Maslach Burnout Inventory General Survey (MBI-GS) was used to measure individuals level of burnout (Appendix H) (Schaufeli et al., 2002). The demographic questionnaire was filled out once by participants, whereas the PCQ-24 and the MBI-GS were filled out twice per participant (pre-test and post-test). The entire questionnaire took participants approximately 10-15 minutes to complete.

2.5.1 Demographic Questionnaire (Appendix F)

A self-developed demographic questionnaire was used to gather important demographic information about participants, such as the participants gender, age, race, area of work and level of employment. The average number of hours devoted each day to their work was asked, as well as the province in which they reside. This was to gather important information about the sample and sample's characteristics. The questionnaire comprised of close-ended, as well as open-ended questions. This questionnaire also asked for the participant's e-mail address which was for the purpose of sending them the questionnaire the second time and was deleted from the final data set.

2.5.2. Measuring Psychological Capital (Appendix G)

PsyCap was measured before and after the intervention (pre and post measure) using the Psychological Capital Questionnaire (PCQ-24) (Luthans et al., 2007). This questionnaire was originally constructed and developed for the use of employees in the workplace (Luthans et al., 2007).

Only half of the questions are presented in appendix G, due to Copyright constraints. Permission was granted by www.mind.garden.com to use the PCQ-24 (Appendix I). This questionnaire has 24 items and four subscales: self-efficacy, hope, optimism, and resilience, which consists of 6 (six) items per component that make up PsyCap.

The PCQ-24 is a self-report questionnaire, with a 6-point Likert-type scale that ranges from strongly disagree (1) to strongly agree (6). Examples of some of the questions that are asked include: "I feel confident in representing my work area in meetings with management" (self-efficacy); "There are lots of ways around any problem" (hope) and "I always look on the bright side of things regarding my job" (optimism). Only a few examples have been stated, as this questionnaire is copyrighted. High scores in this questionnaire result in high scores of overall PsyCap, and the opposite applies for low scores. Additionally, high scores for each component score (i.e., hope) results in high scores for that particular component. The total score is obtained by calculating the mean of all 24 items, bearing in mind that certain scores are reverse scored. The items that were reverse scored include items 13, 20 and 23. For individual subscale scores, the mean is calculated for that particular subscale to get the total score (Riolli et al., 2012).

In previous research the Cronbach alpha internal consistency reliability of the overall PsyCap scale ranged between an acceptable 0.88-0.93. It had good internal consistency in the subscales whereby it ranged from 0.72-0.80 for hope, 0.66-0.72 for resilience; 0.69-0.79 for optimism and 0.75-0.85 for self-efficacy (Dello et al., 2015; Luthans et al., 2007; Riolli et al., 2012). Acceptable reliability coefficients have been reported in South African samples for the four dimensions with the alpha coefficients ranging from 0.67 to 0.83 (Herbert, 2011). The PCQ-24 was validated by Luthans, and his colleagues (2007); and further validated by a South African study (Görgens-Ekermans & Herbert, 2013) which concluded that the PCQ-24 revealed evidence of construct and discriminant validity; as well as face and content validity.

In the current study, the instrument measuring PsyCap (PCQ-24) has various items that were reverse scored, that of which include items 13, 20 and 23. The overall PsyCap score, as well as the four subscales (i.e., self-efficacy, hope, resilience and optimism) were subsequently calculated. The Cronbach alpha score for overall PsyCap was 0.92 whereby the internal consistency was excellent and there is a good correlation between different items on the same test (see table 3 below). Subscales were found to be 0.83 for hope, 0.66 for resilience, 0.70 optimism and 0.81 for self-efficacy, respectively. This is interpreted to be excellent, satisfactory, very good and excellent (look at table 3 below). Results from the reliability

analysis conducted indicated that the deletion of an item would not improve the internal consistency, thus all the items were included (see table 4 below).

Table 3

Reliability (internal consistency) Interpretation

Cronbach Alpha Value (α)	**Interpretation**
0.8+	Excellent
0.7-0.79	Very good
0.6-0.69	Satisfactory
< 0.6	Suspect

Table 4

Reliability/ internal consistency for the PCQ-24 and MBI-GS

Scale	**Number of items**	**Cronbach Alpha (α)**
Psychological Capital	24	0.92
Questionnaire- 24		
Hope	6	0.83
Self-efficacy	6	0.81
Optimism	6	0.70
Resilience	6	0.66
Maslach Burnout	16	0.80
Inventory -General Survey		
Exhaustion	5	0.82
Cynicism	5	0.83
Personal- Efficacy	6	0.70 which changed to 0.82 (See table 5 below)

2.5.3. Measuring Burnout (Appendix H)

Workplace burnout was measured using the Maslach Burnout Inventory-General Survey (MBI-GS) (Appendix H). This survey is focused on employees and workplace burnout (Schaufeli et al., 1996). This was created by Schaufeli et al. (1996) as a 16-item questionnaire comprised of three subscales, 6 (six) items on professional efficacy, 5 (five) items on exhaustion and 5 (five) items on cynicism. The MBI-GS is a self-report questionnaire and is anchored by a 7-point Likert-type scale. It ranges from strongly disagree (1) to strongly agree (7). Examples of the particular questions in the questionnaire includes, "I feel used up at the end of a workday" (exhaustion), "I can't really see the value and importance of my work" (cynicism/depersonalisation) and "I am immersed in my work" (personal efficacy/accomplishment). Burnout can be the result when scores are low on personal accomplishment and when scores are high on exhaustion and depersonalisation (Schaufeli et al., 1996).

According to previous research (Bria et al., 2014), internal consistencies (Cronbach's alpha) for the overall questionnaire of Maslach Burnout Inventory-General Survey (MBI-GS) were concluded to be very good (0.70) (Bria et al., 2014). Additionally, the subscales in the questionnaires from previous research were as follows, exhaustion 0.78, cynicism/depersonalisation 0.78, and efficacy 0.71 (Schaufeli et al., 1996; Galán et al., 2011). This demonstrates that the internal consistencies of the sub-scale were all very good (see table 3).

In the current study, Cronbach alpha scores for overall MBI-GS (burnout) scale is 0.80 which is a good internal consistency, this internal consistency score was only obtained when the personal efficacy items were reverse scored. The internal consistencies of the subscale of the burnout scale were as follows, exhaustion had an internal consistency of 0.82 (excellent), cynicism was 0.83 (excellent) and professional efficacy had an internal consistency of 0.69 (satisfactory) (See table 3 and 4 above).

Having taken the above into consideration, personal efficacy's internal consistency with all 6 items (as shown above) is 0.70; however, table 5 below indicates that if item 6, which is part of the personal efficacy in the MBI-GS is removed, the internal consistency will increase to 0.82 which is an excellent internal consistency. Item 6 stated the following, "it is difficult to detach myself from my job" and is not highly correlated with the rest of the items (see table 5). This could possibly be due to many participants misunderstanding the statement or

misunderstanding the meaning of "detach". Therefore, item 6 was removed, leaving there to be a total number of 15 items in the MBI-GS, instead of 16.

Table 5

Item total statistics for the subscale personal efficacy which is in the burnout scale

Item total statistics

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Item_3	24.91	18.22	0.41	0.55	0.66
Item_6	26.63	20.50	0.02	0.38	0.82
Item_9	24.72	15.63	0.78	0.76	0.56
Item_12	24.84	16.33	0.51	0.58	0.63
Item_14	24.50	18.20	0.52	0.44	0.64
Item_15	25.19	15.51	0.60	0.40	0.60

2.6. Data Analysis

Once data was collected and coded onto a spreadsheet into excel, the data was analysed using the Statistical Package for Social Sciences (SPSS) (Version 26, IBM, 2020). Due to the current study being quantitative in nature, it was appropriate to include descriptive statistics, which includes means (measures of central tendency), standard deviations, frequencies, minimum and maximum scores, skewness, kurtosis coefficients and histograms which are used for normality checks. Additionally, correlations and summary statistics were used to examine the scale and subscale totals. Moreover, the necessary reliability analyses (Cronbach alpha) were conducted for the various instruments (scales) which were used to gather the data. Alongside this, various other analyses were conducted to answer each research question, which included paired sample t-test and mixed model ANOVAs.

Main research questions

<u>Question 1:</u> Does the online micro intervention produce higher levels of PsyCap?

This research question has one factor (IV) (time) and one DV (PsyCap). The IV consists of two related groups, which indicates that the same subjects are present in both groups whereby each subject has been measured on two occasions on the same dependent variable (PsyCap). Additionally, the obtained PsyCap (DV) scores may be converted into categorical variables, and the aggregated scale scores may be treated as continuous variables, thus, this current research will be treated as a continuous variable because it is a Likert-type scale which makes it at least interval. In addition, this study looks at a within-subjects design (same participants for the pre-measure, intervention and post-measure). Therefore, this question aims to identify if there is a difference between the PsyCap scores before and after participation in the intervention (the difference between two variables for the same subject). Thus, the question was analysed using a **paired sample t-test** to assess the PsyCap scores pre and post implementation of the micro intervention.

<u>Question 2:</u> Does the online micro intervention produce lower levels of burnout?

This research question has one factor (IV) (time) and one DV (burnout). The IV consists of two related groups, which indicates that the same subjects are present in both groups whereby each subject has been measured on two occasions on the same dependent variable (burnout). Additionally, the obtained burnout (DV) scores may be converted into categorical variables, and the aggregated scale scores may be treated as continuous variables, thus, this current research will be treated as a continuous variable because it is a Likert-type scale which makes it at least interval. Moreover, this study looks at a within-subjects design (same participants for the pre-measure, intervention and post-measure). Therefore, this question aims to identify if there is a difference between the burnout scores before and after participation in the intervention (the difference between two variables for the same subject). Thus, the question was analysed using a **paired sample t-test** to assess the burnout scores pre and post implementation of the micro intervention.

<u>Question 3</u>: Is there a difference in the PsyCap scores for those that participated in the worksheet compared to those that did not?

This research question has two IVs, time and group, which is participation in the intervention worksheet. The DV is PsyCap whereby the obtained PsyCap scores may be converted into categorical variables, and the aggregated scale scores may be treated as continuous variables,

thus, this current research will be treated as a continuous variable because it is a Likert-type scale which makes it at least interval. Moreover, this research question is focused on if there is a difference in the PsyCap scores for those that participated in the worksheet and those that did not. Therefore, the purpose of this question was to see if the extent of change in PsyCap scores for those that completed the worksheet was greater than it was for those that did not complete and hand in the worksheet. Thus, the research question will be analysed using a **mixed model ANOVA** if the parametric assumptions have been met (see results section)**.**

<u>Question 4:</u> Is there a difference in the burnout scores for those that participated in the worksheet compared to those that did not?

This research question has two IVs, time and group, which is participation in the intervention worksheet. The DV is burnout whereby the obtained burnout scores may be converted into categorical variables, and the aggregated scale scores may be treated as continuous variables, thus, this current research will be treated as a continuous variable because it is a Likert-type scale which makes it at least interval. Moreover, this research question is focused on if there is a difference in the burnout scores for those that participated in the worksheet and those that did not. Therefore, the purpose of this question was to see if the extent of change in burnout scores for those that completed the worksheet was greater than it was for those that did not complete and hand in the worksheet. Thus, the research question will be analysed using a **mixed model ANOVA** if the parametric assumptions have been met (see results section)**.**

Sub-research Question

<u>Question 1:</u> Is there a relationship between PsyCap and burnout?

As part of the sub research question in this current study, Pearson r correlations (dependent on if parametric assumptions were met) between PsyCap (IV) and burnout (DV) were analysed. This was to view the nature and strength of the relationship between the two variables. PsyCap and burnout are continuous variables in this current study because it is measured using a Likert-type scale which makes it at least interval. It is important to note that a relationship between two variables does not necessarily indicate causality, it simply means that the two variables have some sort of relationship (Huck, 2004). These coefficients will be discussed in more depth in the results section of this research report.

2.7. Ethical considerations

This section outlines the relevant ethical concerns for the current study. Before this study could begin, it needed to obtain ethical clearance from the Human Research Ethics Committee at the University of the Witwatersrand [MAORG/20/012]. The appropriate ethical clearance was approved (Appendix D). Thereafter, the electronic participant information sheet mentioned participants responsibilities and obligations regarding their participation in the study (Appendix E). Important information mentioned in the participant information sheets is that participation in this study requires you to participate in a pre-measure (approximately 10-15 minutes), intervention (30 minutes) as well as a post-measure (approximately 10-15 minutes). This participant information sheet (Appendix E) was given to participants before they started the questionnaire in order to obtain informed consent first (Appendix E). Informed consent was deemed to have been given once the 'yes' button was selected on the electronic participation information sheet.

Participants were made aware that anonymity cannot be ensured, as participants were required to give their e-mail addresses in order to be sent the post-measure, which was administered two months after the intervention. Having said that, their email addresses were removed from the final data set and replaced with a 5-digit identification code. Ultimately this ensured confidentiality whereby the data collected was only viewed by those engaged in the current research (i.e., researcher and supervisor). All data is stored on a password-protected electronic device, to which only the researcher and supervisor have access to. Participation in the study is completely voluntary. Participants were informed that they may withdraw from the study at any moment before final submission of the questionnaires in which there will be no consequences attached to their withdraw. There was no benefit nor negative consequence to any employee who chose to participate in this study (or who chose not to participate). Therefore, if employees chose not to participate in the survey, it did not disadvantage them in any way. Moreover, the researcher deemed the study to show no harm or foreseeable risks to those who chose to participate.

It was the responsibility of the researcher to fully inform participants of the research purpose, duration and procedures. I provided participants with my e-mail address, as well as my supervisor's email address in case they had any questions. Lastly, the participants were provided with information of where they can obtain the results of the study/research article, which will be submitted to the University of the Witwatersrand; whereby it can be found on the online Witwatersrand library which is called "wired space" via the university's online

portal. Any individual with access to the wired space will therefore effectively have access to the final research report.

Chapter 3: Results

3.1. Introduction

The results chapter will convey all the data analyses that was stipulated above to provide statistical results and thus conclusions to the various research and sub research questions posed. Statistical Package for Social Sciences (SPSS) (Version 26, IBM, 2020) was utilised to conduct the various analyses.

Before undertaking any analysis, the descriptive statistics, which include standard deviation, skewness coefficients, kurtosis coefficients, mean, maximum and minimum scores for each of the interval variables in this study are provided (see table 6). Alongside this, percentages and frequencies and histograms are provided (see table 7 and Appendix J which is figure 1-4). The normality of the data is also discussed with reference to which assumptions have been met and whether a parametric test or non-parametric test will be used (see table 8 and 9). Lastly, the research questions presented in chapter one and the associated findings will be discussed in this section.

As previously mentioned in Chapter two, there were multiple analysis run in order to answer the research questions. First and foremost was the **paired samples t-test** where the PsyCap and burnout scores were compared across time (pre-test and post-test). These analyses addressed research question one ("Does the online micro intervention produce higher levels of PsyCap?") and research question two ("Does the online micro intervention produce lower levels of burnout?").

Subsequently, two **mixed model** 2-Way **ANOVA**s were conducted to examine whether the changes overtime in PsyCap and burnout scores were consistent for both the individuals who completed and submitted the intervention worksheet and those that did not.

Please note an alpha of 0.05 was used for all statistical analyses. Significance is represented by $p<a$. All post hoc tests were based on the Tukey analysis.

In order to assist the reader in understanding the statistical analysis, it is important to ensure the statistical abbreviations are understood. Below is a list of the relevant statistical abbreviations for the reader's convenience.

Abbreviation for statistical analysis

Abbreviation	Variable
DV	Dependent variable
IV	Independent variable
*	Significant
Std. Deviation	Standard deviation
N	Number of participants

3.2 Descriptive Statistics

The researcher ran descriptive statistics for various variables in the current study, with the aim of describing the nature and characteristics of sample that was researched. This can be seen in table 1 (page 35) and table 2 (page 36). Additionally, more descriptive statistics will be conveyed on table 6 and 7, whereby the mean, standard deviation, skewness coefficient, kurtosis coefficient, minimum and maximum scores was recorded for pre-test scores for PsyCap and burnout; as well as post-test scores for PsyCap and burnout.

Table 6

Descriptive Statistics for PRE-intervention scores for PsyCap (optimism, self-efficacy, resilience and hope) and burnout (exhaustion, personal efficacy and cynicism).

Variable	N	Mean	Std. Deviation	Skewness coefficient	Kurtosis coefficient	Min	Max
Pre **PsyCap**	32	108.65	13.84	-0.44	0.33	71	133
Pre **hope**	32	27.84	4.52	-0.49	-0.25	18	36
Pre **self -efficacy**	32	27.03	4.97	-0.63	0.02	15	35
Pre **resilience**	32	25.78	4.13	-0.21	-0.06	17	35
Pre **optimism**	32	23.41	3.23	0.18	0.41	16	31
Pre **burnout**	32	60.78	9.10	-0.31	-0.46	41	77
Pre **exhaustion**	32	18.69	6.22	0.14	-0.12	7	33
Pre **cynicism**	32	15.47	6.49	0.30	-0.82	5	29
Pre **personal efficacy**	32	30.16	4.86	-0.19	0.68	20	38

Table 7

Descriptive Statistics for POST-intervention scores for PsyCap (optimism, self-efficacy, resilience and hope) and burnout (exhaustion, personal efficacy and cynicism).

Variable	N	Mean	Std. Deviation	Skewness coefficient	Kurtosis coefficient	Min	Max
Post **PsyCap**	32	112.68	11.21	-0.64	1.75	74	126
Post **hope**	32	29.22	3.94	-0.22	-0.68	21	36
Post **self -efficacy**	32	28.88	4.18	-0.97	0.64	17	34
Post **resilience**	32	26.78	3.29	-0.95	1.93	17	33
Post **optimism**	32	24.53	3.08	0.15	-0.22	18	31
Post **burnout**	32	60.72	7.41	-0.12	-0.20	40	79
Post **exhaustion**	32	16.44	5.94	0.48	-0.04	5	31
Post **cynicism**	32	14.25	6.76	0.59	-0.38	5	28
Post **personal efficacy**	32	30.03	5.51	-0.68	0.46	16	38

3.3 Tests of normality

It is crucial to test if a certain dataset is normally distributed and has met various assumptions, in order to determine what appropriate psychometric test should be used (i.e., parametric test or non-parametric test). Data can be described as being normally distributed when the skewness coefficient is between -1 and +1; the kurtosis coefficient is between -3 and +3 and the sample size is greater than 30 (Field, 2009). Moreover, Shapiro Wilks and Kolmogorov Smirnoff tests were also run to check the normality.

Table 8:

Tests of normality, skewness, and kurtosis for PRE-intervention for PsyCap and burnout

	Kolmogorov-Smirnoff			Shapiro-Wilks		
Variable	**Statistic**	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Pre PsyCap	0.13	32	0.19	0.94	32	0.08
Pre burnout	0.13	32	0.20	0.98	32	0.73

Table 9:

Tests of normality, skewness, and kurtosis for <u>POST-intervention</u> for PsyCap and burnout

	Kolmogorov-Smirnoff			Shapiro-Wilks		
Variable	**Statistic**	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Post PsyCap	0.12	32	0.20	0.96	32	0.28
Post burnout	0.13	32	0.20	0.94	32	0.06

Having mentioned the information above, it is clear that the main variables in the study reveals a dataset that is normally distributed. This conclusion can be made based on the premise that table 6 and 7 shows all the main variables to have a skewness coefficient between -1 and +1, whereby the skewness coefficient for pre PsyCap is -0.44; post PsyCap is -0.64; pre burnout is -0.31 and post burnout is -0.12. The skewness coefficient for the pre PsyCap subscales were as follows: pre hope is -0.49, pre self-efficacy is -0.63, pre resilience is -0.21 and pre optimism is 0.18. The post PsyCap subscales skewness coefficients were as follows: post-test hope is -0.22, post-test self-efficacy is -0.97, post-test resilience is -0.95 and post-test optimism is 0.15 (see table 7 above).

The pre burnout subscales skewness coefficients calculated was 0.14 for pre-test exhaustion, 0.30 for pre-test cynicism and 0.19 for pre-test personal efficacy (see table 8 and 9). The post burnout subscales are as follows: post-test exhaustion is 0.48, post-test cynicism is 0.59 and post-test personal efficacy is -0.68 (see table 7). Therefore, all the values mentioned above are between -1 and +1 which conveys that the data are normally distributed.

Additionally, table 6 and 7 conveys that the kurtosis coefficient for pre-test PsyCap is 0.33 and post-test PsyCap is 1.75; and pre-test burnout is -0.46 and post-test burnout is -0.20. The pre-test PsyCap subscales were as follows: pre-test hope is -0.25, pre-test self-efficacy is 0.02, pre-test resilience is -0.06 and pre-test optimism is 0.41. The post-test PsyCap subscales skewness coefficients is as follows, -0.68, 0.64, 1.93 and -0.22 for hope, self-efficacy, resilience and optimism (see table 6 and 7 above).

The pre-test burnout subscales kurtosis coefficients is as follows, exhaustion cynicism -and personal efficacy is -0.12, 0.82 and 0.68(see table 6 and 7). The post-test burnout subscales are as follows, -0.04 (exhaustion), 0.38 (cynicism) and 0.46 (personal efficacy) (see table 7).

Therefore, all the values mentioned above are between -3 and +3 which conveys that the data are normally distributed.

In addition to the above, table 8 and 9 reveals the Kolmogorov Smirnoff whereby the pre-test PsyCap significance value is 0.19; $p > 0.05$, thus it is not statistically significant which indicates that the data set is normally distributed. Additionally, the post-test PsyCap has a significance value of 0.20, $p > 0.05$; thus, it is not statistically significant, which indicates normality. The pre and post burnout significance value is 0.20, $p > 0.05$, thus it is not statistically significant, which suggests that the data are normally distributed.

Additionally, the Shapiro-Wilks test on table 8 and 9 conveys that the pre-test PsyCap has a significance value of 0.08; $p > 0.05$ thus, the data are normally distributed. Post-test PsyCap has a significance value of 0.28; $p > 0.05$, which suggests the data are normally distributed. The Shapiro-Wilks of the pre-test burnout has a significance value of 0.73; and the post-test burnout score has a value of 0.06 whereby both these values exceed 0.05 ($p > 0.05$) which suggests that the data are normally distributed.

Alongside this, the sample size for the current research study is 32, whereby the central limit theorem states that if the sample size is greater than 30, the data can be considered normally distributed (Field, 2019). Lastly, the histograms further indicated a normal distribution, due to its close replication of a bell-shaped curve (see appendix J). Due to these conclusions, the normality assumption was met, and parametric analyses were used to answer the current study's research questions.

3.4 Assumptions for paired sample t-test for question 1 and 2:

Once the researcher completed the assumption tests for normality, other assumptions were considered in order to see if a paired sample t-test was appropriate for the first and second research question. The relevant assumptions include:

1. Continuous variable in which PsyCap (DV) and burnout (DV) are both continuous variables as they are measured using a Likert-type scale which is interval and thus continuous.
2. Your IV should consist of two categorical, "related groups" or "matched pairs". The current research study has the same group of participants being tested before the intervention and after the intervention.

3. The DV's (PsyCap and burnout) are normally distributed, in which the skewness coefficient for PsyCap is -0.074 and kurtosis coefficient is -1.154; thus, these are normally distributed.
4. The DV's do not contain any outliers (see appendix k).

3.5 Main research question:

Question 1: Does the online micro intervention (IV) produce higher levels of PsyCap (DV)?

Table 10:

Paired samples t-test descriptive statistics for PsyCap

Condition	**N**	**Mean**	**Std. Deviation**
Pre PsyCap (before intervention)	32	108.65	15.74
Post PsyCap (after intervention)	32	112.68	13.70

Table 11:

Paired samples t-test results for PsyCap

Mean Difference	**Std. Deviation**	**Std. Error mean**	**T**	**df**	**sig**
-4.03	10.61	1.91	-2.12	30	0.04

[The alpha value is 0.05]

Table 10 reveals the descriptive statistics of PsyCap, whereby the mean of pre PsyCap is equal to 108.65 (SD= 15.74) and the post PsyCap mean is equal to 112.68 (SD= 13.70). It is also noted that the correlation between the two conditions was estimated at r = 0.75, p = 0.00, suggesting that the paired samples t-test is appropriate in this case. The mean difference between the pre PsyCap and post PsyCap was -4.03, whereby it is a negative value because the post PsyCap scores are higher than the pre PsyCap scores. Thus, the amount by which the experimental intervention changes the outcome on average is -4.03. The null hypothesis of PsyCap means [on the PsyCap variable] was rejected [t(30)= -4.03, $p < 0.05$]. Thus, the post

PsyCap mean was statistically significantly higher than the pre PsyCap mean, meaning participants had a higher PsyCap score after they participated in the micro intervention.
Additionally, Cohen's d was estimated at -0.38 (d= mean difference divided by standard deviation difference), whereby the negative sign indicates that the pre PsyCap score had a lower score than the post PsyCap score. It is a small effect size based on Cohen's guidelines (Gignac & Szodorai, 2016). The paired samples t-test results that were calculated for this data suggest that PsyCap increased after the online micro intervention.

In conclusion, to answer the first research question above, the online micro intervention was effective in that it produced higher scores of PsyCap in the post-test compared to that of the pre-test scores. However, it had a small effect size (-0.38).

3.6 Additional Analyses: Paired samples t-test

Another analysis was conducted to assess whether burnout levels were reduced after participation in the online micro intervention. This was done based on the premise that PsyCap has a strong negative correlation with burnout, thus meaning that the higher an individual PsyCap is, the lower burnout he/she will experience (Maslach, Schaufeli & Leiter, 2001; Schaufeli et al., 2002). A paired samples t-test was conducted utilising burnout as the DV, and the two related groups that were used include pre burnout (August 2020) and post burnout (October 2020)

Question 2: Does the online micro intervention (IV) produce lower levels of burnout (DV)?

The assumptions for this analysis are considered on page 54.

Table 12:

Paired samples t-test descriptive statistics for burnout

Condition	N	Mean	Std. Deviation
Pre burnout (before intervention)	32	46.58	12.60
Post burnout (after intervention)	32	43.90	12.68

Table 13:

Paired samples t-test results for burnout

Mean difference	Std. Deviation	Std. Error mean	T	df	sig
2.68	10.92	1.96	1.37	30	0.18

[The alpha value is 0.05]

Table 12 reveals the descriptive statistics of burnout, whereby the mean for pre burnout is 46.58 (SD= 12.60) and the mean for post burnout is M= 43.90 (SD= 12.68). The mean difference between the pre burnout and post burnout was 2.68, whereby it is a positive value because the post burnout scores are lower than the pre burnout scores. The null hypothesis however was not rejected [t(30)= 2.68, p > 0.05]. Thus, the online micro intervention did not have a statistically significant impact on the employee's burnout. Moreover, the subscales of burnout (exhaustion [t(30)= 1.49, p=0.15], cynicism [t(30)= 1.17, p= 0.25] and personal efficacy [t(30)= -0.14, p= 0.89] were also not statistically significant. Thus, the online micro intervention did not have a statistically significant impact on the employee's burnout (and burnout subscale) scores.

In conclusion, to answer the second research question above, the online micro intervention did not produce lower levels of burnout in the post-test compared to that of the pre-test scores.

3.7 Assumptions for mixed model ANOVAs for question 3 and 4:

In line with the above, the third and fourth research questions of the current study sort to identify whether the changes overtime in PsyCap and burnout scores were consistent or not for both the individuals who completed and submitted the intervention worksheet and those that did not. Assumptions of this test were explored prior to conducting the analysis. These assumptions include:

1. The DVs (PsyCap and burnout) are continuous, due to the variables both being Likert-type scales, thus they are at least interval.
2. The within subjects factor should consist of at least two categorical pairs, which includes pre PsyCap (time 1) and post PsyCap (time 2); as well as pre burnout (time 1) and post burnout (time 2).

3. The between subjects should consist of at least 2 categorical independent groups. In the current study, this consists of those who participated in the worksheet and those that did not participate in worksheet.
4. The significant outliers in any group of the within subjects factor (time 1 and time 2 of PsyCap and burnout) or between subjects factor (participated in worksheet and those that did not participate in worksheet) were removed (see appendix L, M and N, Figures 3-11) and thus there were no outliers.
5. The DV (PsyCap and burnout) should be approximately normally distributed for each combination of the groups of your 2 factors (look at page 12 and 13). Thus, the DVs are normally distributed, and this can be seen by the box and whisker plots, as well as the histograms (Appendix G, F, H).
6. There is homogeneity of variance, whereby the p-value for the test of homogeneity of variances was 0.06 for pre PsyCap (see table 13). Therefore, p> 0.05 which suggests that it is not significant therefore there is homogeneity of variance.

   Additionally, p-value for the test of homogeneity of variance for post-test PsyCap is 0.43, thus p>0.05 which means it is not significant therefore there is homogeneity of variance. Table 13 shows that the p-value for the pre-test burnout is 0.89, thus p>0.05 which is not significant therefore homogeneity of variance. Additionally, post-test burnout is 0.88, thus p>0.05 which means it is not significant therefore there is homogeneity of variance. As such we can conclude that the variances between those who completed the worksheet and those that did not are equal.

7. The final assumption is sphericity, whereby the differences between the related groups of the within subjects (time) for all groups of the between subjects' factor (group/intervention worksheet) is equal. This is the case in the current study as the p-value for time and group (0.71 and 0.32) exceed 0.05, therefore, there is sphericity.

3.8. The assumptions stated above are further explained below:

Mixed model ANOVA

Having met the assumptions for a mixed model ANOVA, research question 3 and 4 looked at whether there is a difference in the PsyCap and burnout scores for those that participated and submitted the worksheet compared to those that did not. The mixed model ANOVA results for the PsyCap and burnout scores is reported below.

Table 14:

Tests of normality for PsyCap and burnout

	Kolmogorov-Smirnoff			Shapiro-Wilks		
Variable	**Statistic**	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Pre PsyCap	0.10	32	0.20	0.99	30	0.96
Post PsyCap	0.17	32	0.03	0.95	30	0.16
Pre burnout	0.10	32	0.20	0.98	32	0.68
Post burnout	0.10	32	0.20	0.99	32	0.93

Table 14 reveals that the Shapiro Wilks for all the variables (pre PsyCap, post PsyCap, pre burnout and post burnout) all exceed 0.05, thus these variables are normally distributed. Additionally, the box and whisker plots (appendix R, S) for pre and post PsyCap reveal that there are no outliers. Moreover, for pre burnout and post burnout (appendix T and U) the box and whisker plots show that there are no outliers in burnout. Thus, both DVs (PsyCap and burnout) are normally distributed.

Table 13:

Homogeneity of variance for PsyCap

		Levene statistic	**Df1**	**Df2**	**Sig.**
Pre PsyCap	**Based on Mean**	4.62	1	27	0.06
	Based on Median	2.90	1	27	0.10
	Based on Median and with adjusted df	2.90	1	23.75	0.10
	Based on trimmed mean	4.33	1	27	0.08
Post PsyCap	**Based on mean**	0.63	1	27	0.43
	Based on median	0.31	1	27	0.59
	Based on median and with adjusted df	0.31	1	27	0.59
	Based on trimmed mean	0.65	1	27	0.43

Table 14:

Homogeneity of variance for burnout

		Levene statistic	Df1	Df2	Sig.
Pre burnout	**Based on Mean**	0.02	1	27	0.89
	Based on Median	0.54	1	27	0.82
	Based on Median and with adjusted df	0.54	1	24.17	0.82
	Based on trimmed mean	0.03	1	27	0.87
Post burnout	**Based on mean**	0.03	1	27	0.88
	Based on median	0.03	1	27	0.88
	Based on median and with adjusted df	0.03	1	22.33	0.88
	Based on trimmed mean	0.03	1	27	0.88

Table 13 reveals that both PsyCap and burnout has homogeneity of variance because the p-values are all above 0.05, therefore meaning that they have homogeneity of variance, thus, this assumption has been met.

Question 3: Is there a difference in the PsyCap scores for those that participated in the worksheet compared to those that did not?

The assumptions for this analysis are considered on page 56-58

Table 14:

Results of within-subjects (time) and between subjects (participation in intervention worksheet) for PsyCap

Variable	df	Mean squares	F	sig	Partial eta squared
Time	1	352.78	5.48	0.03	0.17
Group (participated in the intervention worksheet or not)	1	84.39	0.58	0.46	0.02
Time*Group	1	23.20	0.36	0.55	0.01

The results in table 14 above reveal that out of all three variables (time, group and an interaction between time and group), only time (pre PsyCap -time one; and post PsyCap-time two) had a significant result whereby the p-value was 0.03 which is less than 0.05. Therefore, there was only a main effect for time and not for group, which is due to the fact that the p-value for groups was 0.46 is greater than 0.05. Additionally, the results were not statistically significant with regards to the interaction between time and group because the p-value (0.55) was greater than 0.05 (Appendix W).

Table 15:

Pairwise comparisons for within subjects (time)

				95% confidence interval for difference	
Time	**Mean - difference**	**Std. Error**	**Sig.**	**Lower bound**	**Upper bound**
1 (pre PsyCap)	-4.96	2.12	0.03	-9.30	-0.61
2 (post PsyCap)	4.96	2.12	0.03	0.61	9.30

Therefore, table 15 is interpreted as both time one (pre PsyCap) and time 2 (post PsyCap) had a significant result, in that they both had a p-value of 0.03 which is greater than 0.05. This means that the online micro intervention alone only had an effect on the participants PsyCap

score (pre and post). Therefore, participation in the intervention worksheet had no effect on the participants PsyCap scores.

In conclusion, to answer the third research question above, there was no difference in participants PsyCap scores of those who participated in the intervention worksheet and those that did not.

Question 4: **Is there a difference in the burnout scores for those that participated in the worksheet compared to those that did not?**

The assumptions for this analysis are considered on page 56-58.

Table 16:

Results of within-subjects (time) and between subjects (participation in intervention worksheet) for burnout

Variable	df	Mean squares	F	sig	Partial eta squared
Time	1	5.56	0.14	0.71	0.01
Group (participated in the intervention worksheet or not)	1	26.27	0.22	0.64	0.01
Time*Group	1	40.73	1.02	0.32	0.04

The results in table 16 above reveal that out of all three variables (time, group and an interaction between time and group), none of the variables had a significant result regarding the participants burnout scores. Thus, the results were not statistically significant. This is due to the fact that all the p-values for all three variables were greater than 0.05. Therefore, there was no main effects for time and group; and there was no statistically significant interaction between time and group because the p-value (0.32) is greater than 0.05 (Appendix Z).

In conclusion, to answer the fourth research question above, there was no difference in participants burnout scores of those who participated in the intervention worksheet and those that did not. In addition, there was no effect whatsoever due to the fact that the micro

intervention was not effective in reducing burnout levels, thus due to this there was no interaction effect as well.

3.9 Additional Analyses: Correlation

The last and final analysis that was conducted was to assess whether PsyCap and burnout are related (i.e., if there is a relationship between PsyCap and burnout).

Assumptions for correlations:

1. The two variables -PsyCap and burnout- are continuous, but the convention in psychological research is that we treat aggregated interval level data as continuous.
2. There is a linear relationship between the two variables (PsyCap and burnout) (Appendix O)
3. There are no significant outliers (Appendix P)
4. PsyCap and burnout are approximately normally distributed (see Appendix Q).

All the above-mentioned assumptions have been met, therefore a parametric test- the Pearson's R correlation was conducted.

Question 5: Is there a relationship between PsyCap and burnout?

The assumptions for this analysis are considered on page 62-63.

Table 20:

Pearson's Correlation Coefficients for PsyCap and Burnout

		Pre-test PsyCap	**Pre-test Burnout**
Pre-test PsyCap	**Pearson Correlation**	1	-0.30
	Sig.		0.10
	N	32	32
Pre-test Burnout	**Pearson Correlation**	-0.30	1
	Sig.	0.10	
	N	32	32

The results presented in table 20 state that the p-value for PsyCap and burnout (0.10) is greater than alpha (0.05), thus the results were not statistically significant. Due to this, the correlation coefficients do not get interpreted. This will be further explained in the discussion.

Chapter 4: Discussion

4.1 Introduction

The objective of the current study was to critically evaluate the impact that an online micro intervention – "*psychological capital: build your mental strength and flexibility"* – has on employees PsyCap and burnout scores and if participation in the intervention enabled employees to improve their PsyCap and decrease their burnout. More specifically, using an integration of PsyCap theory, JD-R theory and COR theory, the current study examined whether PsyCap could be influenced by participation in an online, micro intervention aimed at facilitating the development of hope, optimism, resilience and self-efficacy; and further, whether participation in that intervention influenced participants' perceptions of burnout. Moreover, the current study aimed at identifying if participants who participated in the intervention worksheet influenced their PsyCap and burnout scores, due to the fact that they were more engaged in the intervention. This was particularly conducted on South African employees from all levels of employment which include administration, fashion, agriculture, business management, psychology, marketing, and engineering.

This current chapter will focus on discussing and interpreting the results that were presented in chapter 3 (three); as well as discussing these results in relation to previous findings and literature. In doing so, reference will be made to all areas (organisational and academic) that include any research on PsyCap and burnout. In addition, theoretical contributions, and practical implications of the results; and the limitations of the current study and directions for future research will be outlined. This section is divided into the five research questions to ensure a coherent and clear presentation of results.

4.1.2 Research Question 1: Does the online micro intervention produce higher levels of PsyCap?

The findings presented in Chapter 3 demonstrated the impact of an online micro intervention on PsyCap – in which a significant result was yielded (t = -2.12, p (0.04) < 0.05). This finding explicitly addressed research question one. The results suggest that this intervention was effective in producing higher levels of PsyCap. This can be further explained by using some descriptive statistics. The pre PsyCap mean score (employees average score before participation in the online micro intervention) (*M)* was *108.65* whereas after the employees participated in the online micro intervention (post PsyCap), their mean PsyCap score increased to *M=112.68* (see table 1). According to the scoring, lower scores are interpreted as employees

having a low PsyCap, whereas higher scores are interpreted as employees having a high PsyCap (Luthans et al., 2014). The lowest score that participants could have scored is 24 and the highest a participant could have scored was 144. Before participation in the micro-online intervention, the participants had a moderate PsyCap score on average, however this slightly increased after the intervention. Therefore, the results reveal a 4.03 mean difference between their pre PsyCap and post PsyCap scores. Based on Cohen's guidelines (Gignac & Szodorai, 2016) however, this analysis yielded a small effect size (-0.38). The small effect size suggests that whilst in a highly monitored and analysed study such as this, the increase in the PsyCap score will be noticeable, the true effect in the population may be slightly diminished. It is important to mention that although the percentage increase in PsyCap found in these studies to date may not seem very large, utility analysis demonstrates even small effect could result in competitive advantage for employees (Luthans, Youssef, & Avolio, 2014).

The conclusion for this research question is consistent with previous research in that previous experimental studies have revealed that PsyCap can be developed, and that change is achieved through relatively short training interventions (Dello Russo & Stoykova, 2015; Demerouti et al., 2011; Ertosun et al., 2015; Luthans et al., 2006; 2008; 2010; 2014), including a web-based intervention (Luthans et al., 2008). Therefore, PsyCap has been accentuated and proven to be a developable state-like psychological resource (Luthans & Youssef, 2004). Our results in this study support the malleability of PsyCap.

Previous studies have concluded that similar online interventions as utilised in this study increased participants level of PsyCap, while the control groups in the studies did not see any increase (Luthans et al., 2006; 2010). Notable however, is that previous empirical studies (Luthans et al., 2006; Guangyi & Shanshan, 2016) reveal that participants increase in PsyCap from such interventions is not very large (3% or just below). Despite this, the increase still appear to result in improved performance (Luthans et al., 2006). This was confirmed in another study by Dello et al. (2015) which concluded that the sample had a significant improvement in three PsyCap dimensions (hope, self-efficacy and optimism), in which these improvements remarkably remained stable over one month. Our results also support the findings of previous researchers who have demonstrated that the micro-intervention model developed by Luthans et al. (2006) is possibly applicability in a South African sample. This opens the door for further possible research. Usually, the pursuit of happiness is a recognized personal and social goal in individualistic cultures, but not collectivistic cultures. That our research showed some effect for a South African sample introduces the possibility of considering whether that effect would

extend to more homogenous collectivist groupings within the population (Lu & Gilmour, 2004).

This research also supports Luthans et al.'s (2008) conclusion that employee PsyCap can be enhanced, despite the various job titles or industries within which a participant works (Costantini et al., 2017). Thus, the current research study reiterates that these psychological capacities can be managed and developed and are a worthwhile investment (Luthans et al., 2008). The previous findings offered above are all consistent and supportive of the findings presented in the current study.

Additionally, previous research (Avey et al., 2010; Luthans & Jensen, 2005; Luthans et al., 2006; 2007; Riolli et al., 2012) states that although every component of PsyCap has its own characteristics and intervention for development, PsyCap as a whole is greater than the sum of its parts. This was confirmed whereby the online micro intervention increased all 4 psychological capacities, as all four components were statistically significant (p-value is 0.02 for hope, 0.01 for self-efficacy, 0.04 for resilience and 0.00 for optimism), which is less than 0.05 (table 6). Hope increased to *M= 29.22* from *M=27.84*; self-efficacy increased to *M= 28.88* from *M= 27.03*; resilience increased to *M= 26.78* from *M=25.78*; and lastly, optimism increased to *M= 24.53* from *M= 23.41*.

This lends support to the fact that the current research study looked at the effect of the total PsyCap score, as well as all the sub-components which also appeared to have been positively impacted. Therefore, interventions are preferable as research has shown the interventions aimed at all of the dimensions yield more positive results that specifically targeted ones. This is supported by previous research in that the four components as a whole – PsyCap - has a synergistic power and stronger predictive power as compared to its individual components (Avey et al., 2010; Luthans & Jensen, 2005; Luthans et al., 2006; 2007; Riolli et al., 2012). Thus, PsyCap as a whole is greater than the sum of its parts. Rather than being in isolation and completely independent psychological constructs, these four psychological capacities should be an interactive resource set (Luthans et al., 2015). Taking this into consideration, there will be a greater impact on performance enhancement if all four components are developed, as opposed to just one individual component (Costantini et al., 2017; Luthans et al., 2010; Rad et al., 2017).

Therefore, the current study concludes that the micro-online intervention (*psychological capital: build your mental strength and flexibility)* aimed at facilitating the development of hope, optimism, resilience, and self-efficacy; increased participants PsyCap score. Additionally, the micro-online intervention also increased all four psychological capacities (hope, self-efficacy, resilience and optimism). These results nonetheless need to be interpreted in the context of the pre-experimental research design and the limitations of the conclusions that can be drawn are considered in the relevant section below.

4.1.3 Research Question 2: Does the online micro intervention produce lower levels of burnout?

The findings presented in Chapter 3 (three) demonstrated the impact of an online micro intervention on burnout in which it did not reveal a statistically significant result (t = 1.37, p (0.18) > 0.05). This finding explicitly addressed research question two and suggests that the online micro intervention is not effective in reducing burnout when participants take part in the *psychological capital: build your mental strength and flexibility.* Thus, this analysis revealed that the results were not statistically significant regarding participation in that intervention influencing participants' perceptions of burnout.

The descriptive statistics revealed that the employees average burnout score on the MBI-GS before participation in the online micro intervention was (*M= 60.78)* (see table 6). After the employees participated in the online micro intervention, their mean burnout score was *(M= 60.72)* (see table 6). According to the scoring, higher scores on exhaustion and cynicism and lower scores on personal efficacy are interpreted as employees having or experiencing burnout. The lowest burnout score participants can score is 51; whereas the highest burnout score participants can score is 69. Moreover, the subscales of burnout (exhaustion [t(30)= 1.49, p=0.15], cynicism [t(30)= 1.17, p= 0.25] and personal efficacy [t(30)= -0.14, p= 0.89] also showed a non-significant result. In conclusion, the online micro intervention did not have a statistically significant impact on the employee's burnout scores nor the sub-components of burnout (see table 6).

The conclusion of question two in this current study may possibly be accounted for by the fact that previous longitudinal research suggests that burnout can be rather stable, over periods of five, ten, or even fifteen years (Bakker et al., 2000; Hakanen, Bakker, & Jokisaari, 2011; Schaufeli, et al., 2011). If this is the case, it is possibly not surprising that burnout scores were not significantly decreased after participation in the micro intervention. Many other research states that burnout is a construct that needs to be continuously worked on and dealt with in

order for it to be reduced, which is based on the premise that burnout occurs from prolonged stress and is a consequence that occurs over a long period of time. The efficacy of a once off micro-online intervention under such conditions is dubious (Costantini et al., 2017; Luthans et al., 2010; Rad et al., 2017).

Having said the above, the current research study included this particular research question, due to the fact that previous research has stated that PsyCap is negatively associated with occupational stress and burnout (Cetin et al., 2013; Rad et al., 2017; Wang et al., 2012); and that individuals with a low PsyCap are more likely to be predisposed to burnout and have decreased work performance (Rad et al., 2017). Other findings suggest that positive personal resources, such as PsyCap, help to combat the dysfunctional effects of stress in the modern workplace (Luthans et al., 2002). Multiple studies (Avey et al., 2010; Cetin et al., 2013; Costantini et al., 2017; Datu & Valdez, 2016; Zhang et al., 2014**)** confirmed that individuals who maintain a higher PsyCap will perceive their environment as being less distressing than individuals who have a low PsyCap. Thus, despite a very stressful environment, a hopeful, resilient, optimistic and efficacious individual is likely to believe that they have the necessary and sufficient resources to prevent being overwhelmed, stressed and burned-out (Riolli et al., 2012). As such, the small effect upon PsyCap that the intervention appeared to have if sustained overtime, may lead to positive reductions in burnout amongst employees. Further research appears warranted here.

An additional reason as to why the micro-online intervention did not appear to decrease burnout could be based on the small sample size used and the reduced effects sizes that result. Thus, if a bigger sample size was used, a clearer picture of the relationship between the intervention and perceived burnout levels would be possible. A further significant factor as to why the current study did not get a significant result is based on the premise that the responses for time 1 (pre-test) and time 2 (post-test) were gathered too close together resulting in insufficient time for the impacts of reduced burnout to be noticeable. In the current study, the time period between time 1 and time 2 was a total of 2 months.

The context of data collection can also not be ignored. The data was gathered between August to October 2020, which was during one of the peaks of the Covid-19 pandemic in South Africa. Given the multitude of stressors (i.e., uncertainty of their health, financial strain and job insecurity) with which people were faced during this time, a limited intervention on PsyCap (particularly one that is once off and not reinforced) will have limited effect.

Furthermore, the research had no knowledge of the type of work participants' engaged in. The researcher was only aware of what level of work the employees were involved in. The type of work that individuals engaged in could have been of particular importance, due to the fact that burnout could be more prevalent in certain types of job, rather than just be related to the level of work. Moreover, burnout was measured using a self-report questionnaire, whereby individuals were rating what they perceive their burnout levels to be. This could be extremely subjective and not provide an accurate result, which could be a reason as to why the participants scores did not reduce.

In conclusion, although the PsyCap intervention did not reduce participants burnout levels, perhaps further research is needed in this regard, whereby an aspect of reducing burnout in the intervention could be included for future research.

4.1.4 Research Question 3: Is there a difference in the PsyCap scores for those that participated in the worksheet compared to those that did not?

The mixed model ANOVA presented in chapter 3 (three) explicitly reveals that out of all three variables (time, group and an interaction between time and group), only time (pre PsyCap - time one; and post PsyCap-time two) had a significant result whereby the p-value was 0.03. Therefore, there was only a main effect for time (pre PsyCap score and post PsyCap score); and there was not a significant result for "group", namely those who submitted the intervention worksheet and those that did not. The mean difference between pre PsyCap and post PsyCap scores were 4.96, whereby the participants PsyCap score after they participated in the intervention was slightly higher than what it was before they participated in the intervention.

This result confirmed research question one in which the online micro intervention was effective in improving and increasing participants PsyCap scores. Thus, the main effects in question 3 demonstrate that the "time" variable which is pre PsyCap and post PsyCap scores were the only variables that had a significant effect. Moreover, this current study revealed that there was no interaction between time and group, meaning that there was no difference in PsyCap scores between those who chose to submit the intervention worksheet, as opposed to those who did not. Therefore, the conclusion can be made that the online micro interaction is effective without the participants having to submit the intervention worksheet to the intervention coordinator. The intention behind encouraging participants to submit their worksheet was merely a means to foster engagement by participants, it did not, however, appear to actively change their PsyCap scores.

It was expected that participants PsyCap scores would be higher if they also participated in the intervention worksheet, based on the premise that it would ultimately indicate that those who did the worksheet proactively participated and did the various exercises that the video encouraged them to do. Therefore, the intervention worksheet was created and given to participants for the purpose of identifying the degree of engagement, in which it was expected to increase their engagement in the intervention. However, based on the results of the current research study this was not the case and thus the intervention itself was sufficient for increasing participants PsyCap scores. It is also possible that more participants did use the intervention worksheet for their own personal use but chose not to submit it.

Additionally, the intervention worksheet not improving PsyCap scores could be due to various other reasons that have been previously mentioned for the other two research questions. This could include, a small sample size, not having a control group, or by not including a specific instrument that can measure participants level of engagement.

4.1.5 Research question 4: Is there a difference in the burnout scores for those that participated in the worksheet compared to those that did not?

In addition to the above research question, the results for question 4 (four) is slightly similar in that the mixed model ANOVA presented in chapter 3 (three) explicitly reveals that all three variables (time, group and interaction between time and group) were not statistically significant. The p-value for time (pre PsyCap and post PsyCap) was 0.71; the p-value for group (those who participated in the intervention worksheet and those that did not) was 0.64; and lastly, the p-value for the interaction between time and group was 0.32. Therefore, these values are all not statistically significant because they are all greater than 0.05, meaning that there was no difference in burnout scores for those that participated in the worksheet compared to those that did not. Alongside this, the PsyCap intervention alone did not have an effect on reducing participants' burnout levels which is in line with the results of research question 2 (two). Lastly, the groups alone (those who participated and those who did not) revealed no difference.

The analysis and results in chapter 3 (three) revealed that the intervention that was focused on improving PsyCap did not reduce participants burnout. This question was posed based on the premise that previous empirical evidence states that PsyCap is negatively associated with occupational stress and burnout (Cetin et al., 2013; Rad et al., 2017; Wang et al., 2012; Herbert, 2011; Hansen et al., 2015); and that individuals with a high PsyCap are more likely to combat burnout and have an increased work performance (Rad et al., 2017; Cheung, Tang & Tang, 2011; Brouze, 2013). Moreover, individuals draw on the positive psychological resources in PsyCap to counter the effects of exhaustion and disengagement (Cetin et al., 2013). Such

findings suggest that positive personal resources, such as PsyCap, help to combat the dysfunctional effects of stress in the modern workplace (Luthans et al., 2002). Accordingly, the current research study expected participants burnout to reduce, especially when they participated and submitted the intervention worksheet.

In alignment with research question 3 (three), the intervention worksheet was merely there to encourage participation in the intervention, however, it did not decrease burnout scores. This is further confirmed whereby after analysing results for research question 2 (two), the current research study was expecting an insignificant result for research question 4 (four), due to the fact that the micro intervention did not decrease burnout, thus there would be no main effects in research question 4, as well as no interaction between time and group.

One consideration to keep in mind is that the insignificant results could be related to the fact that the participants burnout score was not so high to begin with, thus there was not a great amount of burnout that was to be reduced. Alternative reasons could be that the study had a small sample size, it did not have a control group, and it did not have a specific instrument that measured participants level of engagement.

4.1.6 Question 5: Is there a relationship between PsyCap and burnout?

This current research study included analysing if there was a relationship between PsyCap and burnout, whereby a parametric test- Pearson's r correlation test- was conducted. The relationship between PsyCap and burnout was analysed due to the fact that previous findings conclude that PsyCap and burnout are two constructs that have a strong negative relationship (Cetin et al., 2013; Rad et al., 2017). This implies that when an individual has a high level of PsyCab (hope, optimism, resilience and self-efficacy) they will experience low or no burnout at all. Alternatively, if an individual has a low PsyCap level then the individual will be more predisposed to stress which will lead to burnout (Cetin et al., 2013; Rad et al., 2017; Wang et al., 2012; Herbert, 2011; Hansen et al., 2015).

The results presented in chapter 3 (three) for this research question show a p-value for the correlation between PsyCap and burnout of 0.10. This value exceeds 0.05 in which this research study demonstrates that PsyCap and burnout do not have a relationship, thus these constructs are not related to each other. This finding was not expected because many empirical research reveals that there is a strong negative relationship between PsyCap and burnout (Herbert, 2011; Hansen et al., 2015). A possible reason as to why no relationship was found in this current study could be due to the sample that was used. It only used 32 participants, which can be small for a quantitative study; despite it being sufficient for an experimental study, the results could

have still been affected. Moreover, both of these instruments that were used (PCQ-24 and MBI-GS) to determine participants PsyCap and burnout were self-report, that of which could have affected the results based on the premise that these measures are subjective rather than objective.

Furthermore, the researcher had no knowledge of the type of work participants engaged in, only their area of work. The type of work that individuals engaged in could have been of particular importance due to the fact that highly skilled jobs could results in employees experiencing greater burnout as opposed to lower skilled jobs. Thus, the specificity of what job the individual had would have been of great importance.

4.2 Theoretical Contributions

The current study makes a unique contribution to PsyCap literature by affirming that PsyCap is a construct that can be developed and improved. Therefore, the online micro intervention used in this current study - "a *psychological capital: build your mental strength and flexibility"*- can be added to the literature as an alternative to PCI intervention in the past. Therefore, this intervention, focusing on all the individual components of PsyCap, can be used as a steppingstone to improve employees PsyCap. Although the effect size of this micro intervention is small, it can still be used as a base to develop individuals PsyCap.

Secondly, no studies for improving PsyCap- especially using an online platform- within a South African context existed, which ultimately provided a gap for research. Therefore, the integration of PsyCap in the JD-R/COR model within a working context, coupled with the significant findings for question 1 (one) presented in the current study, provided evidence to fill the aforementioned research gap. It also provided valuable insights regarding the applicability of this online micro intervention to a wide variety of various levels of employment.

Several intervention methods to develop PsyCap have been proposed in literature (Luthans et al., 2006; Wen & Qi, 2009; Zhong, 2007). However, nearly all these methods, including the psychological capital intervention by Luthans (2008), which demand the consumption of many human, material, and time resources; thus, they are only practicable to a limited extent. The intervention method introduced in the current study was demonstrated to be effective in South African companies, and, moreover, was simple to conduct as it was online and cost-effective. Thus, the intervention could be administered by managers after limited training, and it could be used on a large scale in organisations.

By investing in and developing their own and their people's positive psychological capital, organisational leaders and human resource development initiatives may be able to leverage and obtain a high return on development with resulting competitive advantages (Luthans, Avey et al., 2006; Luthans, Youssef, & Avolio, 2007). The findings should be of interest to those interested in the management and well-being of people in the workplace.

4.3 Limitations

Although the pre-experimental design, that had evidence for reliable and valid measurement, and data collection at two points in time contribute to the strength of the study, there are also some potential limitations that need to be recognized. These limitations are as follows:

Firstly, the current study's sample size (N = 32) may be considered too small to effectively generalise the findings to a South African employee population. The employee sample could have been more diverse. This is a limitation in the study because 48.4% of the sample comprised of white participants therefore only leaving 19.4% for black participants, 16.1% coloured participants, 12.9% Indian and 3.2% Asian. Therefore, the study could have included more participants with diverse ethnicities, given the fact that South African is so rich in various diverse cultures.

Secondly, 61.3% of the sample were female, whilst only 38.7% were male. Consequently, this may also limit the generalisability of the current study's results to female-dominate groups, omitting male dominated employee groups such as engineers. Another limitation concerns itself with 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 certain employees, particularly those who were more willing, were likely to participate in the current research (Cozby, 2009; Rosnow & Rosenthal, 2005). While the sample was a volunteer/ convenient one, this does limit the generalisability of the study.

The use of self-report measures serves as a limitation in the current study as it increases the likelihood for common methods bias to occur, which may have partly influenced the results of the current study. The method of self-report questionnaires could be critiqued as this relies heavily on participant's truth and commitment to the research (Babbie, 2013). However, the intervention worksheet completed by participants should limit this concern. The variables were measured using common methods such as multiple-item scales compiled within one questionnaire. Such a method may induce false effects due to the measurement instruments rather than the variables being measured (Kamakura, 2011; Friedman, 2014). Therefore, the manner in which participants answered the questionnaires could have been a result of social

desirability effects and priming effects (Kamakura, 2011). Furthermore, another limitation would be that the current research study was a pre-experimental study, thus it did not have a control group and as a result could not control for extraneous variables.

While previous research has demonstrated a positive relationship between PsyCap and important outcomes such as performance (e.g., Luthans, Avey et al., 2008; Luthans, Avolio et al., 2007; Luthans et al., 2005; Luthans, Norman et al., 2008), satisfaction and/or commitment (Larson & Luthans, 2006; Luthans, Avolio et al., 2007; Luthans, Norman et al., 2008), and absenteeism (Avey et al., 2006), the specific learning, behaviours, or outcomes were not obtained from this specific study. Thus, the effect of this web based PsyCap training intervention study results cannot be extended beyond developing PsyCap, which could be a limitation. Moreover, although the effect size provides support for the potential utility for increasing participant PsyCap, it cannot substitute for a cost– benefit analysis. While the study's results do provide at least initial support that the intervention was able to increase PsyCap, and previous research does support that PsyCap is related to performance outcomes, a cost– benefit analysis would need to be calculated to determine the appropriateness of the intervention in a specific context.

This study did not compare this web-based (online) intervention to a typical face-to-face classroom or training intervention. Thus, we cannot say, nor do we intend to imply that this training intervention works as well, better, or worse than a face-to-face intervention in developing PsyCap. The results simply suggest that online delivery for the PsyCap intervention may be effective.

Additionally, the fact that the current study was shared via social media platforms, thus only giving employees who have social media an opportunity to participate in the study. Alongside this, the current study was conducted online, and participants needed access to a computer/electronic device and the internet/web in order to participate (answer the questions and watch the intervention). This is a major limitation particularly in South Africa because of the digital divide, whereby this study automatically disadvantages those who do not have access to an electronic device and the internet, which is a big part of the population.

With regards to using the MBI (burnout instrument) have most often constructed three different scales corresponding to the three dimensions of emotional exhaustion, cynicism, and reduced personal effectiveness. Based on this several authors interpreted from the MBI manual and empirical evidence that an overall score of the MBI should not be used (Kristensen et al., 2005). This could be a limitation in the current study as an overall burnout score was used in some

statistical analyses. In having mentioned the above, components of burnout are expected to evolve in which it is the result of prolonged exposure to stress at work (Maslach, 1982), thus the fact that the study gathered data from the participants 2 months a part does not give the construct of burnout a long enough time to be reduced.

The effect size of research question 1 (one)- the online micro intervention was effective and improved PsyCap- was small, which could have been due to the duration of the intervention, as this current studies intervention was only 30 minutes, other interventions surrounding developing PsyCap rage from between 1 to 3 hours, which could have perhaps affected the effect size. Lastly, the online micro intervention could have affected the human aspect of a workshop, in which individuals were not able to ask questions during the interview as the intervention was a video and therefore this could have caused room for misunderstanding.

4.4 Recommendations for future research

The above-mentioned discussion has important implications for the study of developing PsyCap and reducing burnout in South African employees. Nonetheless, recommendations for future research include the use of a bigger sample size (60 participants or more). This would be ideal in that it could potentially provide more accurate results. Hence, the study should be replicated, using a more rigorous sample and sampling method to ensure the representativeness of the general working population as well as the various ethnicities and genders in South Africa, in which simple random sampling could be utilized to randomly select participants and thus create a highly representative sample. It is important for future studies to have a follow up a few months later after the post intervention to see how long the effects lasted of the PsyCap increasing.

Additionally, future research should collect measures over a longer time span, especially because certain constructs (resilience and burnout) are more stable and thus take longer to develop or decrease. Moreover, researchers should rather use a quasi-experimental or true-experimental design that it contains both the experimental group as well as the control group. This would have been beneficial in order for the study to account for extraneous variables and to increase its validity. Thus, it could have assisted in the studies credibility, whereby it could have compared the experimental and control group to confirm or reject that the intervention was effective based on the comparison.

Additionally, this current research study could have included the specific learning, behaviours, or outcomes that can be obtained through this online micro intervention, whereby the results

of this study can be extended beyond developing PsyCap and thus also add what outcomes (performance) can be obtained. Moreover, future studies can compare this web-based (online) intervention to a typical face-to-face classroom or training intervention. This should be conducted to determine which training intervention works as well, better, or worse. In accordance with dealing with the digital divide that is especially prominent in South Africa, future South African researchers should consider doing face-to-face interventions which will ensure that the whole working population is able to participate and thus not be excluded.

In relation to the MBI (burnout instrument measure), future research studies must solely focus on isolating each burnout component (cynicism, personal efficacy and emotional exhaustion) and treat them as separate variables, as opposed to one complete variable. This will enable the study to demonstrate more accurate results. Alongside this, future online interventions should be longer in duration (longer than 30 minutes) to see if the duration of the intervention increases the effect size.

Finally, South African studies which include the PCQ-24 as a measurement tool have found inconsistent results with regard to the structure of PsyCap within a South African context (du Plessis & Barkhuizen, 2012; Pillay, 2012; Brouze, 2013). The results indicate that PsyCap elicits a different interpretation by South African individuals in comparison to the cited American studies (Brouze, 2013). While the current study did not examine the structure of PsyCap, future research should focus on conducting thorough psychometric analysis on the PCQ-24 measurement model in the South African context, and more specifically, the South African organisation context.

4.5. Conclusion

The aim of the current study was to improve and develop PsyCap using an online micro-intervention named *psychological capital: build your mental strength and flexibility*, which is a method empirically demonstrated to be effective (Knudson, 2015; Luthans et al., 2006). As previous research has shown that high levels of PsyCap are associated with reduced burnout, the study had a secondary aim of determining whether the intervention is also effective in lowering individuals'-specifically employees- burnout. Alongside identifying if the intervention was effective, the study takes a step further to determine if participation in the **intervention worksheet** (Appendix C) had an impact on PsyCap and burnout scores. This was investigated within a South African employee-workplace context.

Developing and improving PsyCap is a fairly new construct with not much literature specifically focusing on the ways in which PsyCap can be developed and improved. The main contribution of the current study adds to PsyCap literature by finding support for the online micro intervention for improving PsyCap, using the *psychological capital: build your mental strength and flexibility* intervention which is similar to that of the PCI.

A quantitative, longitudinal, pre and post intervention, pre-experimental study was conducted with 32 participants. Multiple statistical analyses such as paired sample t-test, mixed model ANOVA and a correlation was run in order to answer the 5 proposed research questions (see Chapter 2). The results demonstrate a significant result between their pre-intervention PsyCap and post-intervention PsyCap score thus indicating that the online micro intervention had an effect in improving PsyCap, albeit with a small effect size. Additionally, the PsyCap intervention was not effective in reducing burnout levels. Moreover, participants PsyCap and burnout scores were not affected by the intervention worksheet. Thus, with an intervention that is inclusive of all the PsyCap components (hope, self-efficacy, optimism and resiliency), individuals are able to improve a key capital -psychological capital- which is an immensely important and beneficial resource to inhibit and develop.

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Appendices

Appendix A:

Main points from the intervention of *Psychological Capital: Build Your Mental Strength & Flexibility*

Psychological Capital (PsyCap) – the powerful combination of our resilience, optimism, hope, and confidence – helps us to keep our competitive edge while managing workplace stress. Research links high levels of PsyCap with better job performance, a greater ability to overcome obstacles, higher job satisfaction, and elevated well-being (Avey, Reichard, Luthans, & Mhatre, 2011; Luthans, Youssef-Morgan, & Avolio, 2015). PsyCap can be thought of as positive mental strength and flexibility. It can be developed by building these four mental capacities:

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

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

The steps will be as follows:

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

STEP 2: Reflect on your mindset.

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

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

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

STEP 4: Identify helpful skills and resources. [Note: these can include your knowledge, work ethic, colleague networks, ideas from others, finances, creativity, past experience, and the like.]

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

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

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

STEP 6: Identify multiple ways to goal accomplishment.

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

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

- List the obstacles that could get in the way of each path you identified in Step 6.

- List how you can deal with each of these obstacles. Are there ways around them? Be specific.

STEP 8: Take time to visualize your success.

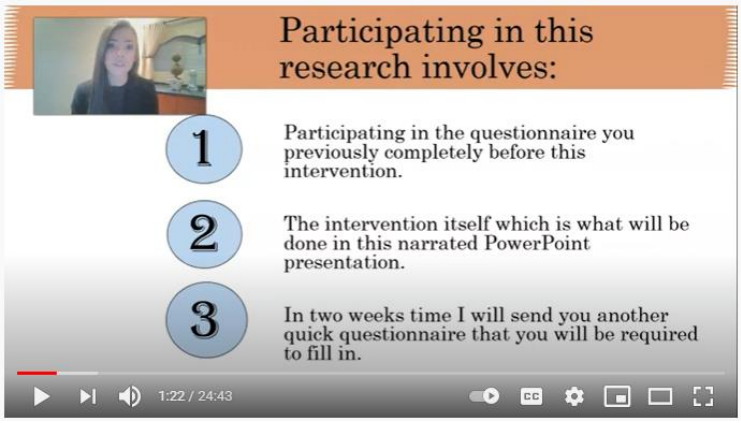
- Set aside 10 minutes every day to think through the steps of this worksheet and visualize your success. See each step with as much detail as possible.
- Imagine using your resources to navigate the different paths toward your goal with you confidently getting around any obstacles in your way.
- Then,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

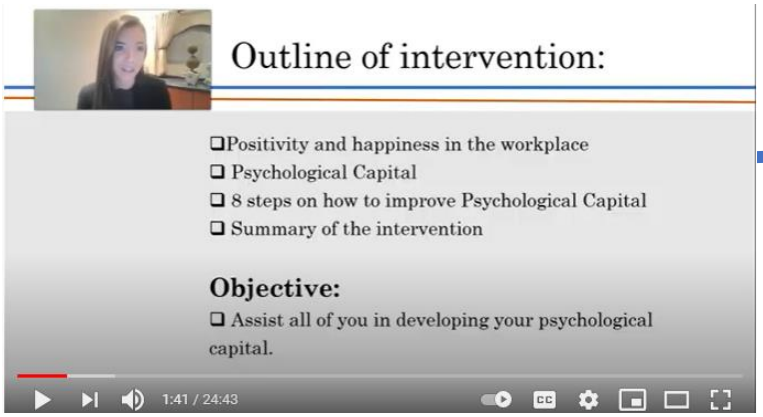
Appendix B:

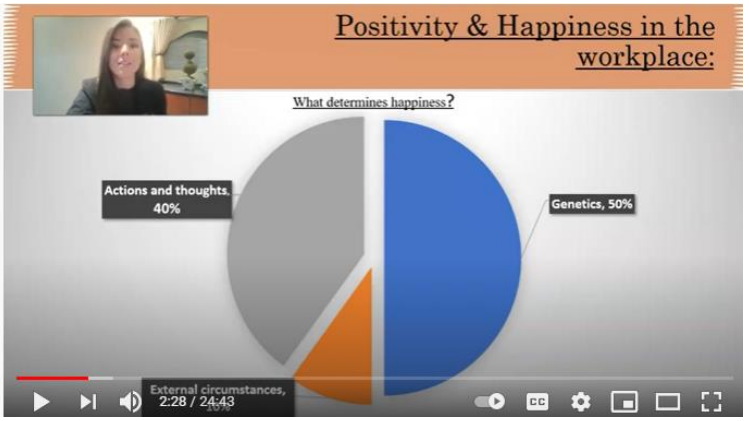
<u>Online micro intervention *psychological capital: build your mental strength and flexibility.*</u>

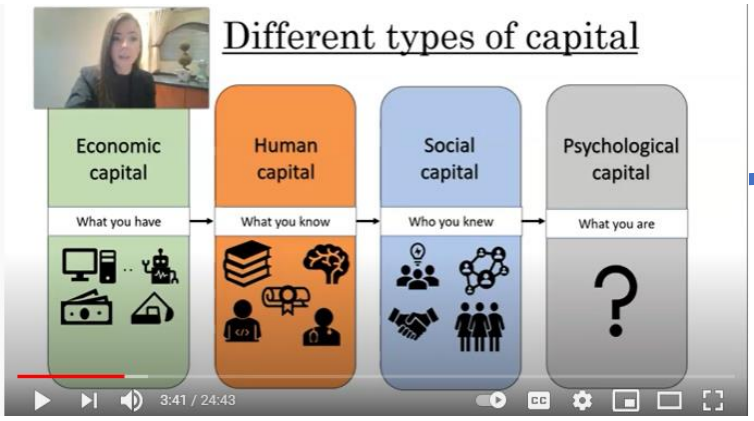
This was used as a YouTube video that was explained and conducted using a narrated PowerPoint presentation by the researcher of this research report.

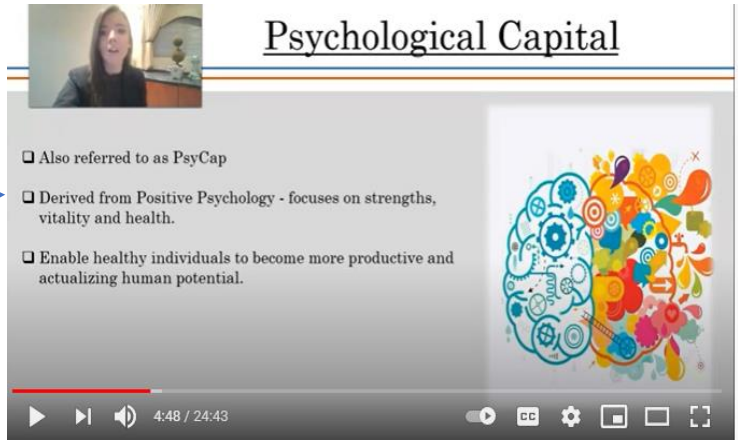






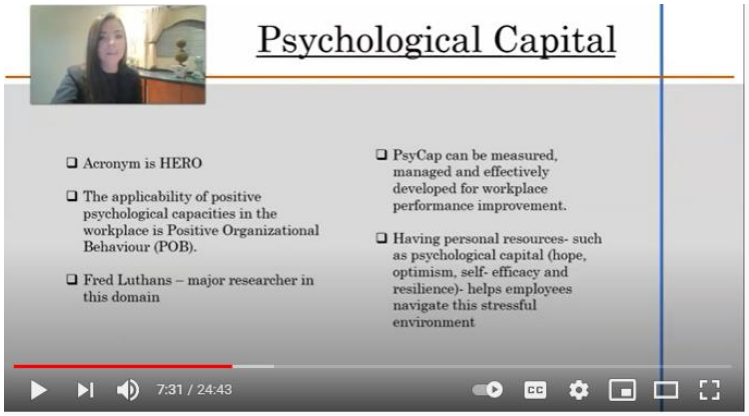







PsyCap comprises of…
Hope
The ability to see a better future, and believe that it can be created.
Efficacy
Confidence in the ability to achieve a specific goal in a certain situation.
Optimism
Seeing events as having internal factors that can be controlled, and external ones that cannot.
Resilience
Not just the ability to overcome adversity, but to also use it as a growth opportunity.
5:30 / 24:43


Positivity & Happiness in the workplace:
Actions and thoughts, 40%
Genetics, 50%
External circumstances,
7:24 / 24:43

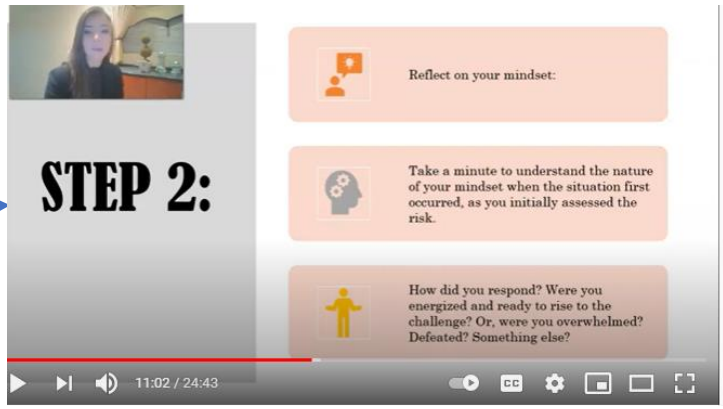

Psychological Capital
Acronym is HERO
The applicability of positive psychological capacities in the workplace is Positive Organizational Behaviour (POB).
Fred Luthans – major researcher in this domain
PsyCap can be measured, managed and effectively developed for workplace performance improvement.
Having personal resources- such as psychological capital (hope, optimism, self- efficacy and resilience)- helps employees navigate this stressful environment
7:31 / 24:43

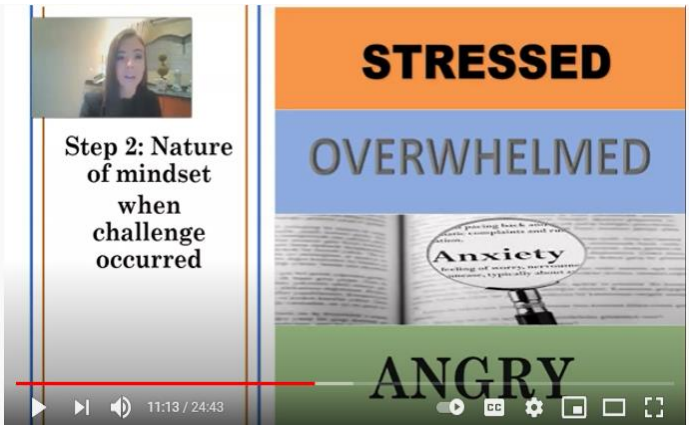

Benefits of increasing Psychological Capital
Less likely to experience burnout
Job Satisfaction
Commitment to the company you work at.
An increase in job performance
More adaptive to changes that occur in the workplace
Less Job stress
Less likely to have intentions to quit
8:12 / 24:43

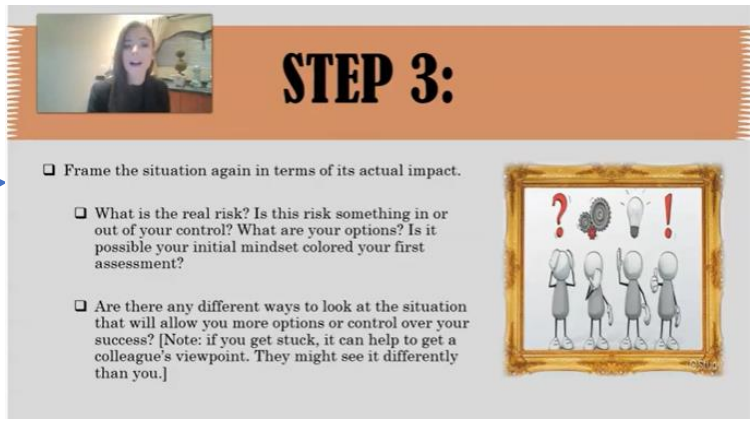

The Intervention
9:00 / 24:43


CHALLENGES AHEAD
STEP 1:
Describe a challenging situation that is not going as you would like.
9:18 / 24:43


WORK
FAMIL
Step 1: The challenging situation
STRESSED
9:40 / 24:43


STEP 2:
Reflect on your mindset:
Take a minute to understand the nature of your mindset when the situation first occurred, as you initially assessed the risk.
How did you respond? Were you energized and ready to rise to the challenge? Or, were you overwhelmed? Defeated? Something else?
11:02 / 24:43


Step 2: Nature of mindset when challenge occurred
STRESSED
OVERWHELMED
Anxiety
ANGRY
11:13 / 24:43

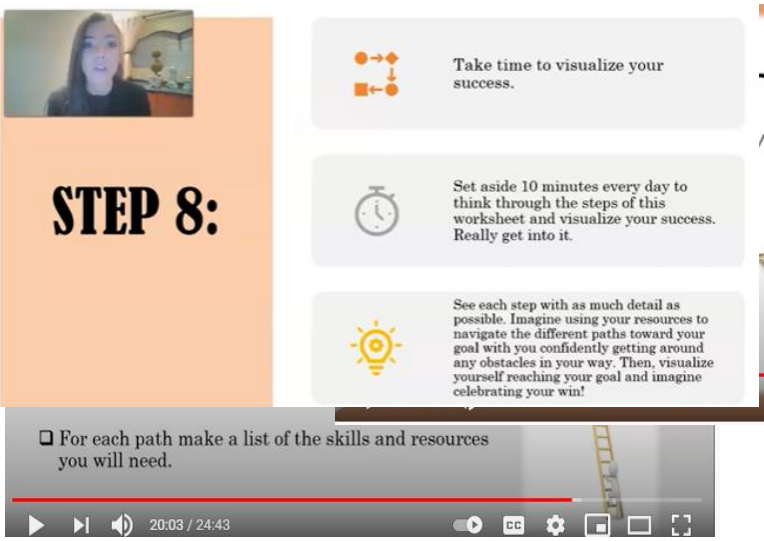

STEP 3:
Frame the situation again in terms of its actual impact.
What is the real risk? Is this risk something in or out of your control? What are your options? Is it possible your initial mindset colored your first assessment?
Are there any different ways to look at the situation that will allow you more options or control over your success? [Note: if you get stuck, it can help to get a colleague's viewpoint. They might see it differently than you.]

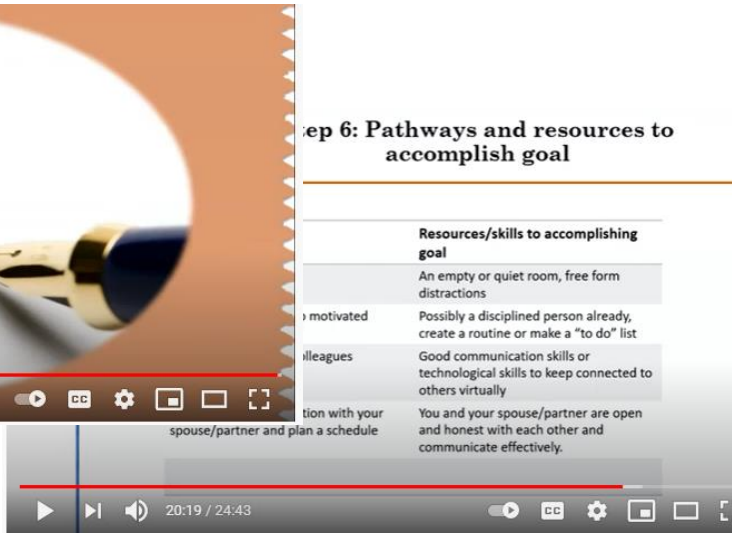

It's not how things are, but how we see them that impacts our behaviors.
Step 3: Reframe the situation

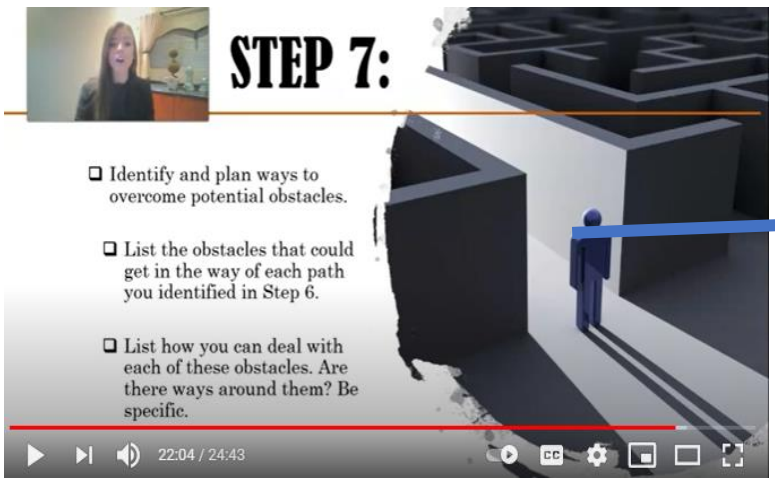

Identify helpful skills and resources. [Note: these can include your knowledge, work ethic, skills, colleague networks, ideas from others, finances, creativity, past experience, and the like.]
List the skills and resources you have used to respond to the challenge.
Are there other resources available you haven't considered?
STEP 4:

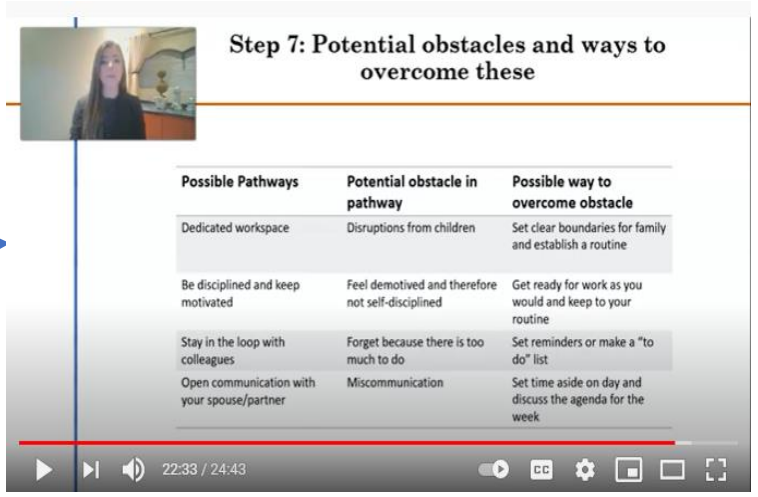

STEP 5:
Set
Set a goal that is directly related to overcoming your challenge.
Write down
Write down your goal using S.M.A.R.T. criteria – Specific, Measurable, Attainable, Relevant, and Timely. [Note: pick a goal you want to achieve rather than avoid.]
Break
Break your goal into manageable small steps and list them in sequential order.


Step 5: Write down a S.M.A.R.T goal
Example: To prioritize and complete all work projects successfully and to meet deadlines, as well as make time for children and their schoolwork at the end of each week while the Covid-19 restrictions require me to be at home office.
S
Specific goals are well defined and clear on what needs to be accomplished. What outcomes do you need to see in order to consider the goal accomplished?
M
Measurable goals enable you to evaluate whether or not the goal was achieved or not. How will you decide whether the goal is completed or not?
A
Attainable goals are realistic about what is possible given the availability of resources, knowledge, and time. How likely is it that you can accomplish this goal?
R
Relevant goals are important to you and will make a material impact on achieving your larger objectives. Does it make a difference to your overall objectives if this goal is met?
T
Time-Based goals lock goals into a specific timeframe and specify when they will be completed by. When do you need the goal completed by?
17:34 / 24:43

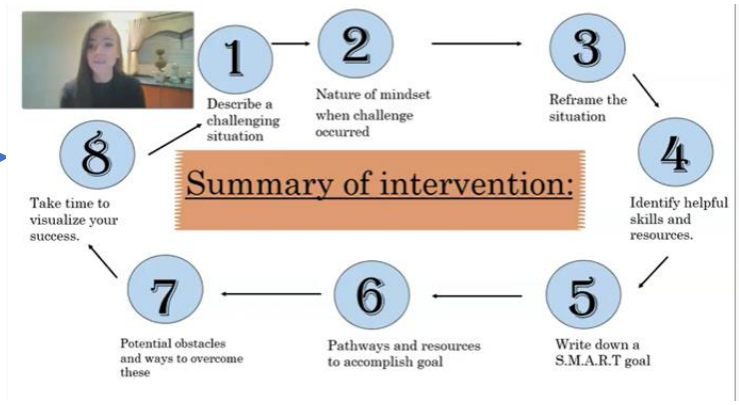

STEP 8:
Take time to visualize your success.
Set aside 10 minutes every day to think through the steps of this worksheet and visualize your success. Really get into it.
See each step with as much detail as possible. Imagine using your resources to navigate the different paths toward your goal with you confidently getting around any obstacles in your way. Then, visualize yourself reaching your goal and imagine celebrating your win!
For each path make a list of the skills and resources you will need.
20:03 / 24:43


ep 6: Pathways and resources to accomplish goal
Resources/skills to accomplishing goal
An empty or quiet room, free form distractions
motivated
Possibly a disciplined person already, create a routine or make a "to do" list
lleagues
Good communication skills or technological skills to keep connected to others virtually
tion with your spouse/partner and plan a schedule
You and your spouse/partner are open and honest with each other and communicate effectively.
20:19 / 24:43


STEP 7:
Identify and plan ways to overcome potential obstacles.
List the obstacles that could get in the way of each path you identified in Step 6.
List how you can deal with each of these obstacles. Are there ways around them? Be specific.
22:04 / 24:43


Step 7: Potential obstacles and ways to overcome these
Possible Pathways
Potential obstacle in pathway
Possible way to overcome obstacle
Dedicated workspace
Disruptions from children
Set clear boundaries for family and establish a routine
Be disciplined and keep motivated
Feel demotived and therefore not self-disciplined
Get ready for work as you would and keep to your routine
Stay in the loop with colleagues
Forget because there is too much to do
Set reminders or make a "to do" list
Open communication with your spouse/partner
Miscommunication
Set time aside on day and discuss the agenda for the week
22:33 / 24:43


STEP 8:
Take time to visualize your success.
Set aside 10 minutes every day to think through the steps of this worksheet and visualize your success. Really get into it.
See each step with as much detail as possible. Imagine using your resources to navigate the different paths toward your goal with you confidently getting around any obstacles in your way. Then, visualize yourself reaching your goal and imagine celebrating your win!


1
Describe a challenging situation
2
Nature of mindset when challenge occurred
3
Reframe the situation
4
Identify helpful skills and resources.
5
Write down a S.M.A.R.T goal
6
Pathways and resources to accomplish goal
7
Potential obstacles and ways to overcome these
8
Take time to visualize your success.
Summary of intervention:

Appendix C:

Participant worksheet for developing Psychological Capital (this was optional)

Step one: Describe a challenging situation that is not going as well as you would like.

_____

_____

Step two: How did you respond when the situation first occurred?

_____

Step three: Frame the situation again in terms of its actual impact. This is done by first stating what the real risk is (in or out of your control)?

_____

_____

Are there any different ways to look at the situation that will allow you more options or control over your success?

_____

_____

_____

_____

Step four: Identify helpful skills and resources that you have or are going to use to respond to the challenge? [Note: these can include your knowledge, work ethic, skills, colleague networks, ideas from others, finances, creativity, past experience, and others]

_____

_____

Are there other resources available that you haven't considered in relation to the above?

Step five: Set a goal that is directly related to overcoming your challenge. Write down your goal using S.M.A.R.T. criteria – Specific, Measurable, Attainable, Relevant, and Timely.

If your goal is large, break it down into manageable small steps and list them in sequential order.

Step six: Identify and write multiple pathways to achieving the goal mentioned above. For each path make a list of the skills and resources you will need.

Step seven: List the obstacles that could get in the way of each path you identified in Step 6, and list how you can deal with each of these obstacles. _____

_____

_____

_____

_____

Step eight: Set aside 10 minutes every day to think through the steps of this worksheet and visualize your success.

Appendix D:



SCHOOL OF HUMAN AND COMMUNITY DEVELOPMENT ETHICS COMMITTEE

CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

CLEARANCE CERTIFICATE:	**PROTOCOL NUMBER: MAORG/20/012**
PROJECT TITLE:	An experimental study of an online micro intervention for improving psychological capital (PsyCap) and its impact on burnout in South African employees.
INVESTIGATOR	Menezes Chayla (1359780)
SCHOOL/DEPARTMENT OF INVESTIGATOR	SHCD/Psychology
DATE CONSIDERED	12 July 2020
DECISION OF THE COMMITTEE	Approved unconditionally

RISK LEVEL Minimal Risk

EXPIRY DATE 31 December 2022

ISSUE DATE OF CERTIFICATE 25 July 2020 **CHAIRPERSON**



(Dr Colleen Bernstein)

cc: Mr Ian Siemers (Supervisor)

DECLARATION OF INVESTIGATOR

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

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



_____ **__30____/__04_____/_2020__**

Signature **Date**

Appendix E:

An intervention for improving psychological capital and reducing burnout (Experimental study)

Participant Information Sheet

Good day potential participant,

My name is Chayla Menezes 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 completing this degree, I am required to conduct research and present the results and information I find in the form of a research report.

My research is focused around testing the efficacy of an intervention that is directed towards **improving Psychological Capital and reducing burnout in South African employees.** Psychological Capital refers to a set of resources a person can use and develop to help improve their performance on the job and their success.

This research will require you to participate in two sections:

Section 1:

- Complete **two online questionnaires**, which will take approximately **10-15 minutes** to complete.
- Participating in a **30-minute online intervention** which will include **completing a worksheet** that will enable you to develop your PsyCap and that you can constantly refer back to constantly develop your PsyCap in the future. You can submit this at the end of doing the intervention (if you feel comfortable doing so).

Section 2:

- 2 weeks after the intervention you will be required to fill in the same **two online questionnaires** that you previously filled in. This will take approximately **10-15 minutes** to complete.

You can participate in my study if you are an **employee of any job title, any level of employment and at least 18 years old or above.** You can begin by filling in the below registration questions, in which I will then send you the questionnaires and the intervention via email a week after you have registered.

Your participation in the study will not provide anonymity, as the registration question below requires you to provide your e-mail address. However, your responses will be replaced with a 5-digit identification code in the final data set, which will ensure confidentiality whereby the data collected will only be viewed by the researcher and her supervisor.

Participation in the study is completely voluntary and you may withdraw from the study at any moment, before final submission of the final two questionnaires in which there will be no consequences attached to withdrawing from the study. The benefit of participating in the study includes gaining personal insight into your behaviour. There is no concerning risks or harm that is associated with participation in the study. Lastly, you can obtain the results from the study/research article on the University of Witwatersrand online library.

Your participation in my research would be greatly appreciated.

For any **further questions** please contact
Chayla Menezes: **c.menezesresearch@gmail.com**

* 3. Occupation

atersrand

* 4. What is your age?

med consent?

* 5. What is your email address?

study

* 6. Confirm email address (write email again)

Done

Appendix F

Self-developed Demographic Questionnaire

1. E-mail Address: (For the purpose of alignment between pre and post measure questionnaire):

   _____

2. What is your age?

   _____

3. What is your gender? (Please choose the appropriate option)

Male	Female	Intersex	Non-binary	Non-conforming	Transgender: Click either: male/female

If not mentioned above, please state: _____

4. What racial group or ethnicity best describes you?

Coloured	Black	White	Asian	Indian	Other

If other, please specify: _____

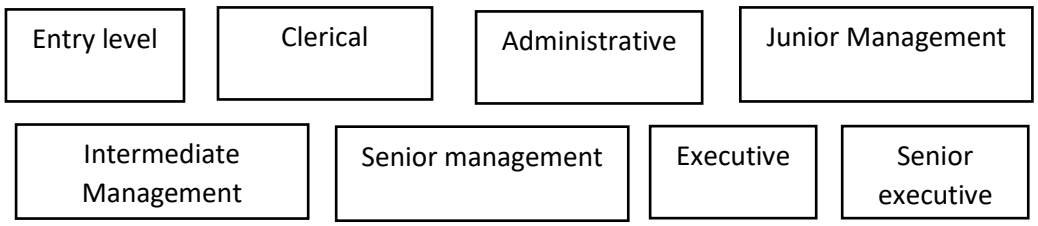
5. Which South African Province do you live in?

Gauteng	KwaZulu-Natal	Western Cape	Eastern Cape	North West	Other

If other, please specify: _____

6. What area of work are you in? _____

7. What is your level of employment?



If not mentioned above state here: _____

8. What is the average number of hours you spend doing work on a daily basis?

_____

Appendix G:

The below instrument can only show 3 sample item questions, as stated in the permission letter (Appendix I)

Psychological Capital (PsyCap) Questionnaire (PCQ)
Self-Rater Version

Instructions: Below are statements that describe how you may think about yourself **right now**. Use the following scale to indicate your level of agreement or disagreement with each statement.

Strongly Disagree	**Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**
1	2	3	4	5	6

1.	I feel confident analyzing a long-term problem to find a solution.	1	2	3	4	5	6
2.	I feel confident in representing my work area in meetings with management.	1	2	3	4	5	6
3.	I feel confident contributing to discussions about the organization's strategy.	1	2	3	4	5	6

Appendix H:

Maslach Burnout Inventory – Genera Survey (MBI-GS)

Please indicate the extent to which you agree or disagree with the following statements:

		disagree (1)	disagree (2)	disagree (3)	(4)	agree (5)	agree (6)	agree (7)
1	I feel drained when I finish work.							
2	I feel increasingly less involved in the work I do.							
3	I efficiently solve any problems that may arise in my work.							
4	I feel used up at the end of a work day.							
5	I have become less interested and enthusiastic about my job.							
6	It is difficult to detach myself from my job.							
7	It is getting increasingly difficult for me to get up for work in the morning.							

8	I can't really see the value and importance of my work.							
9	In my opinion, I am good at my job.							
10	When I finish work, I feel so tied I can't do anything else.							
11	I doubt the significance of my work.							
12	Other people say I am good at doing my job.							
13	I find it hard to relax after a day's work.							
14	I am competent in my job.							
15	I am immersed in my work.							
16	I have become less enthusiastic about my work.							

Appendix I:

Chayla Menezes

mind garden

To whom it may concern,

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

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

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for his/her thesis/dissertation research.

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Sincerely,

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Appendix J: Histograms to show normality

Figure A: A histogram showing the normality of the pre PsyCap score

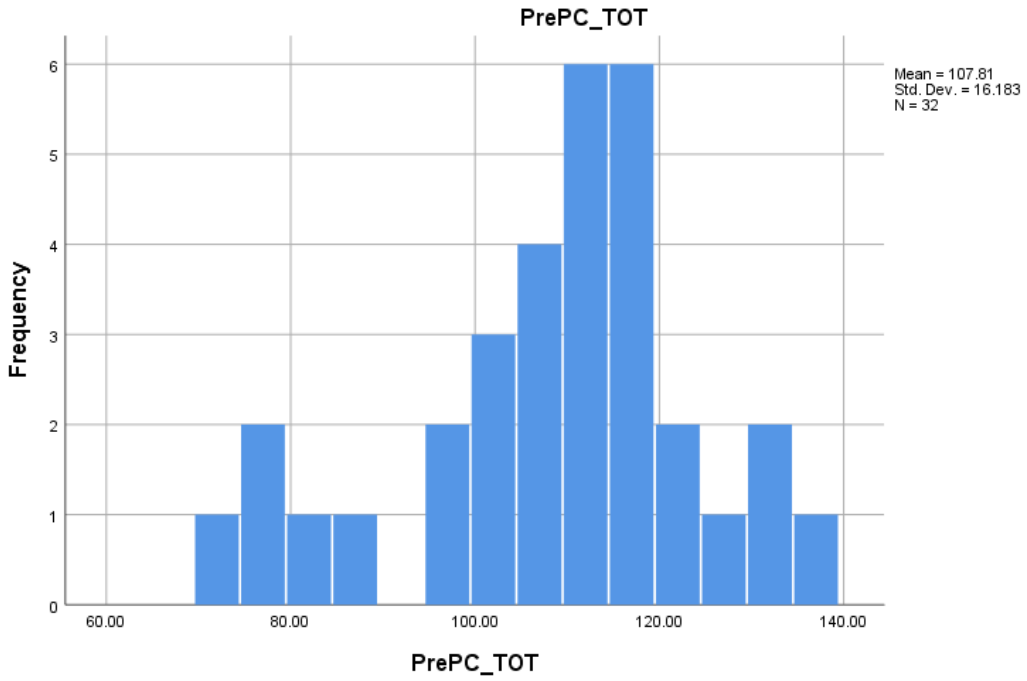


Figure B: A histogram showing the normality for the post PsyCap score

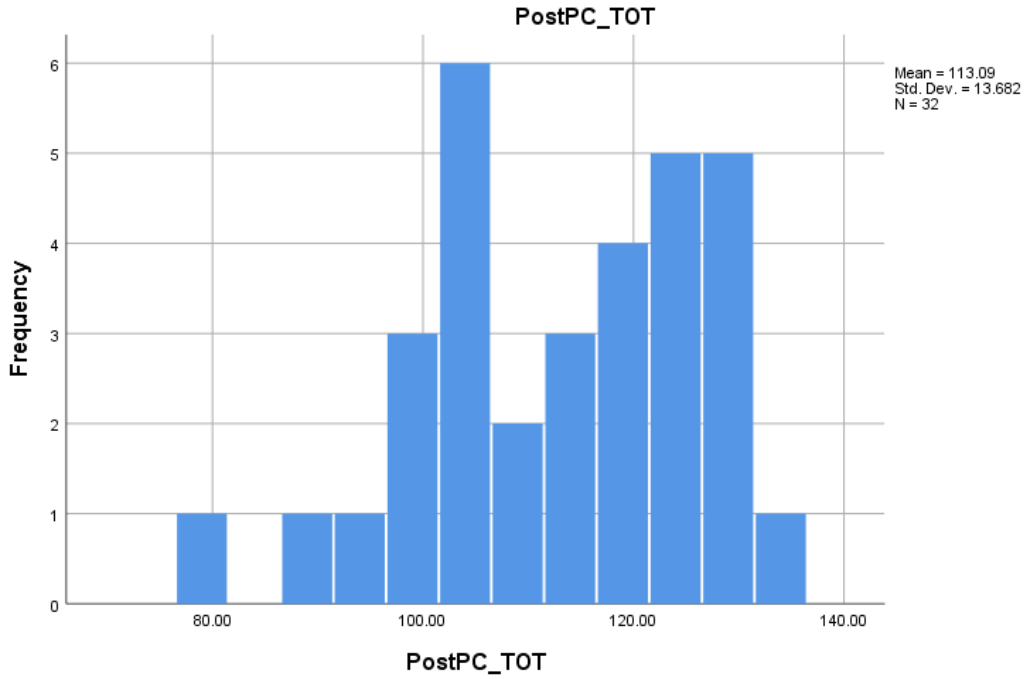


Figure C: A histogram showing the normality of the pre burnout score

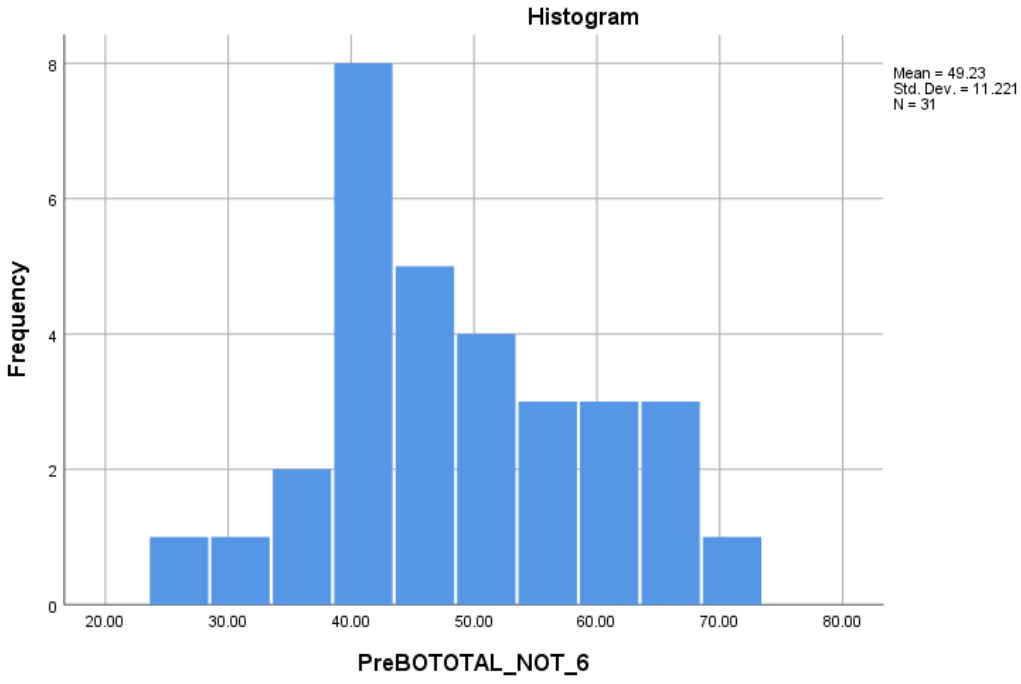


Figure D: A histogram showing the normality of the post burnout score

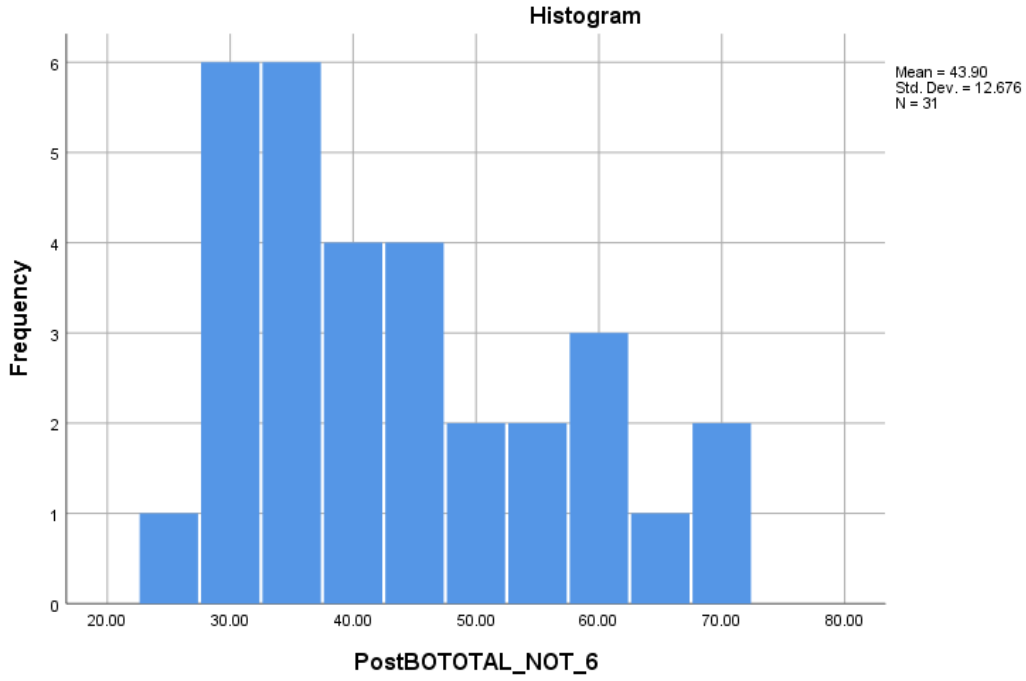


Figure E: Normality and outliers for pre PsyCap

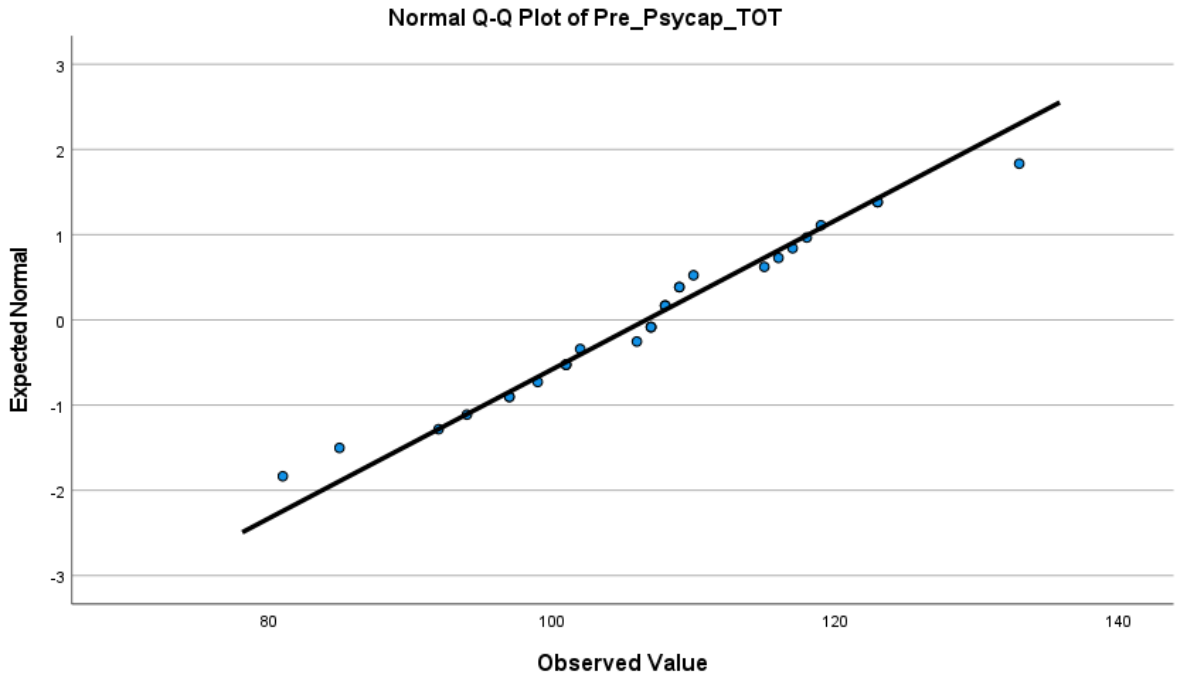


Figure F: Normality and outliers for post PsyCap

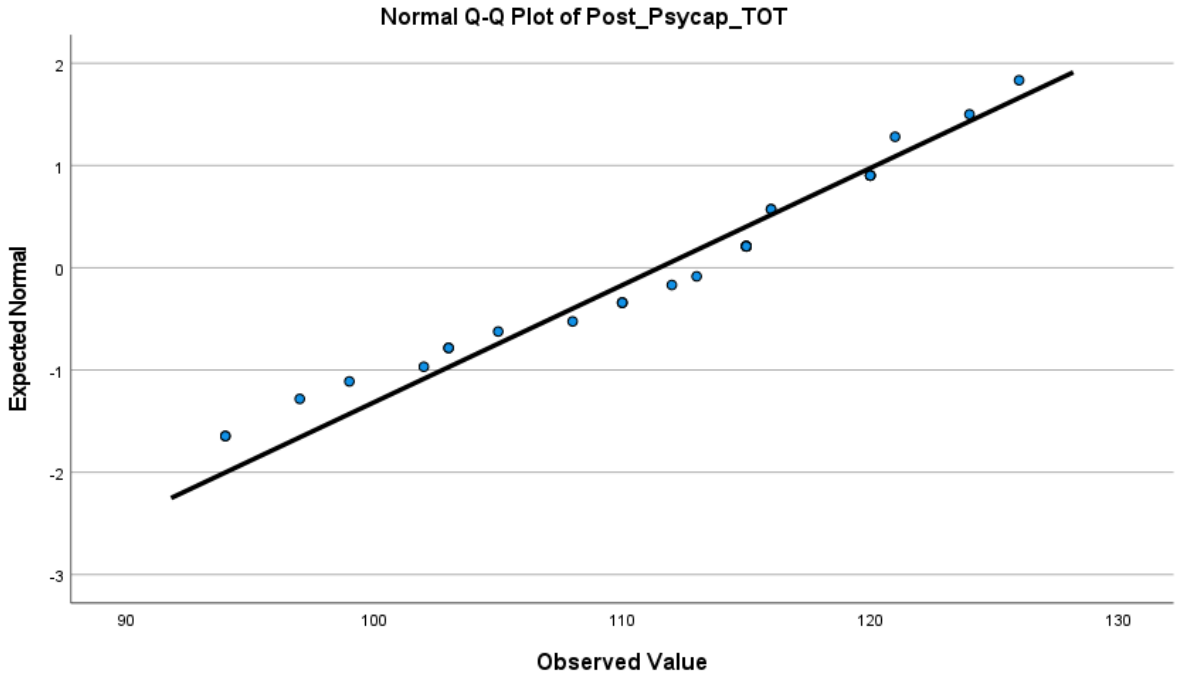


Figure G: Normality and outliers for pre burnout

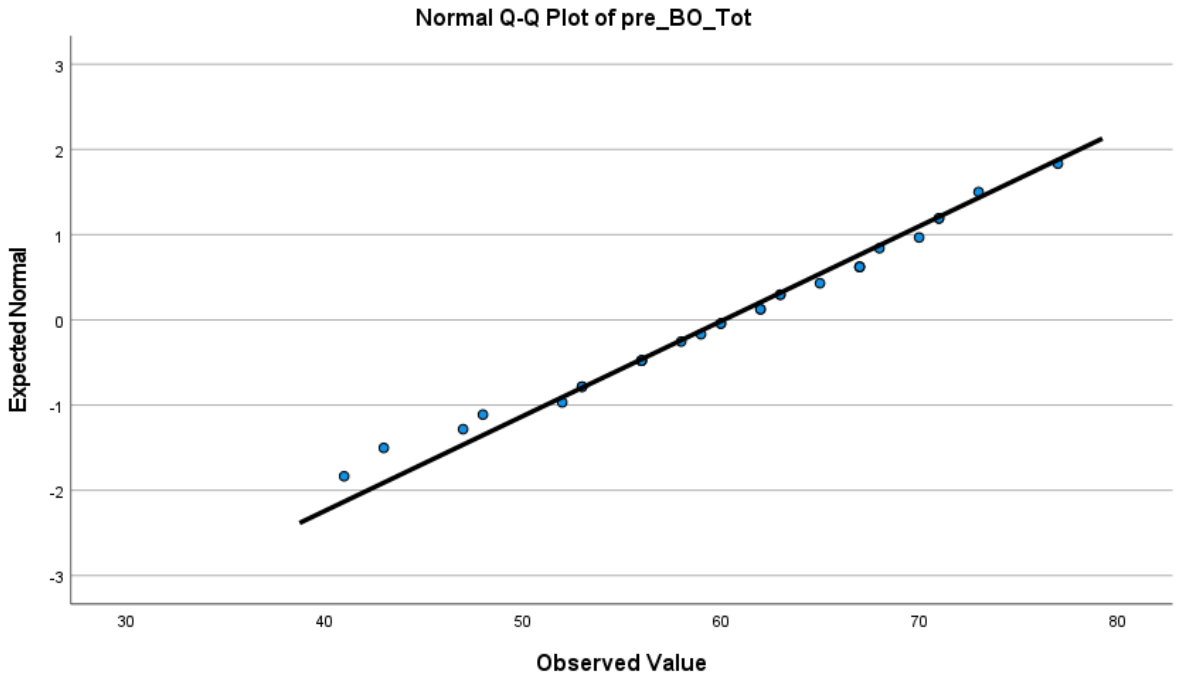


Figure H: Normality and outliers for post burnout

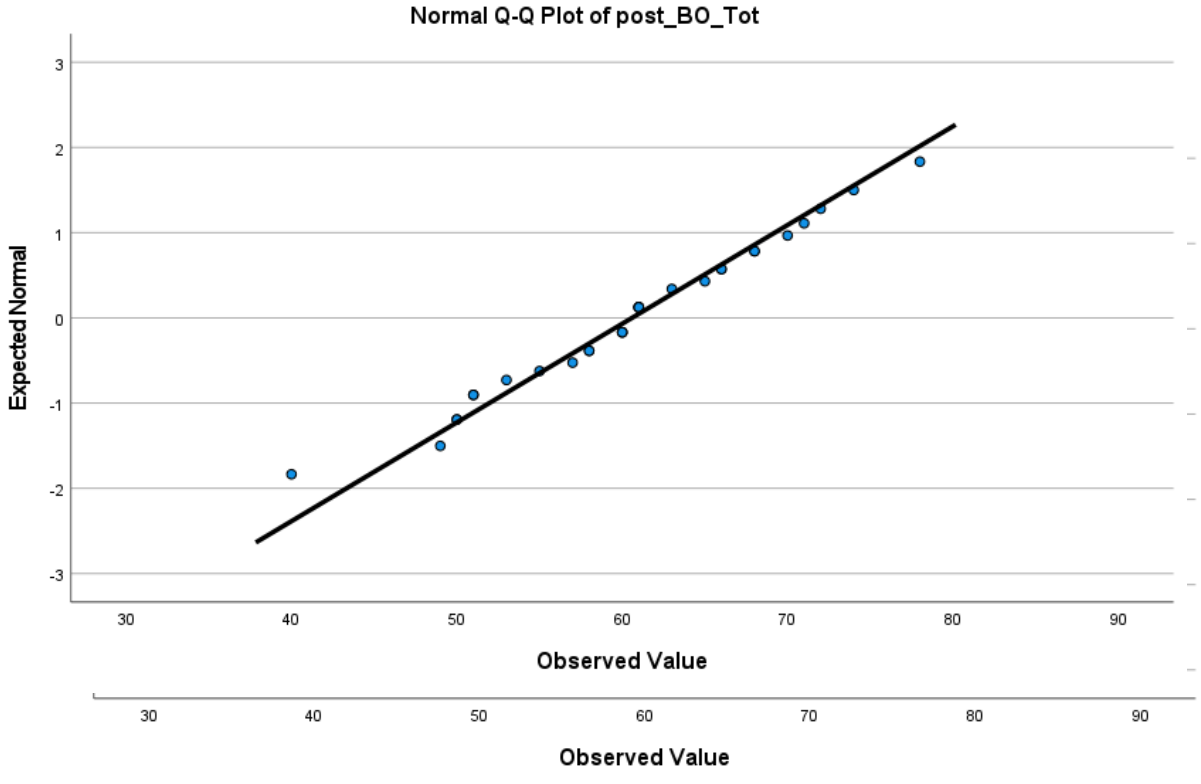


Figure I: Box and whisker chart for pre PsyCap

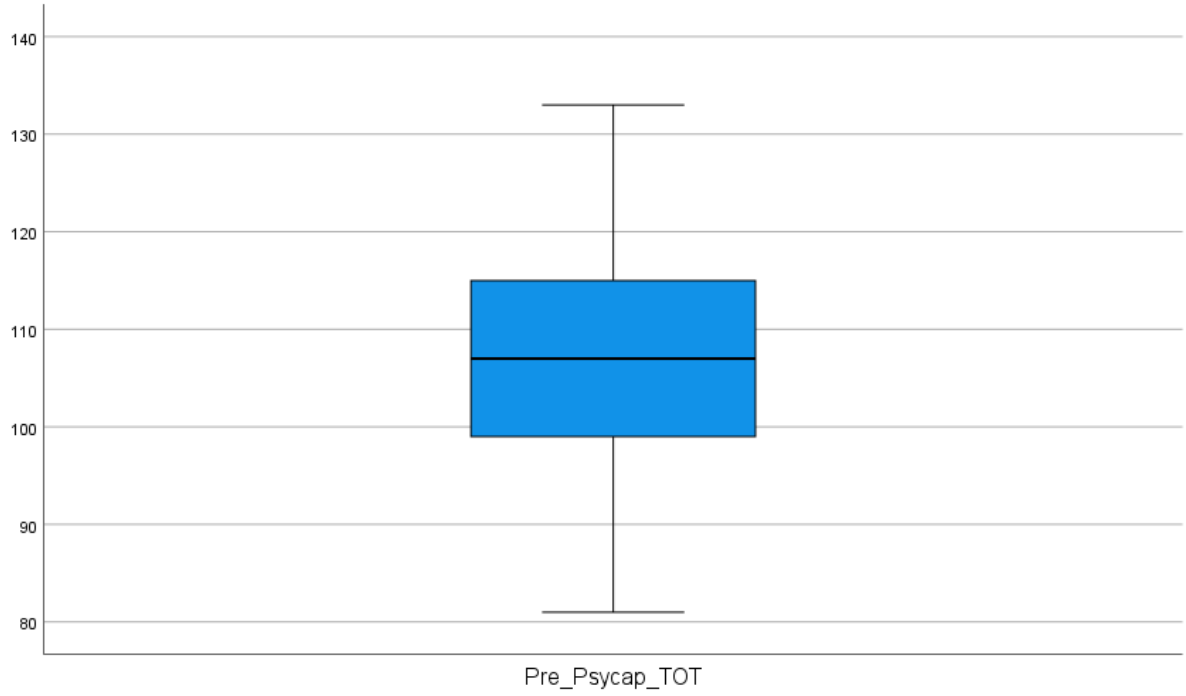


Figure J: Box and whisker chart for post PsyCap

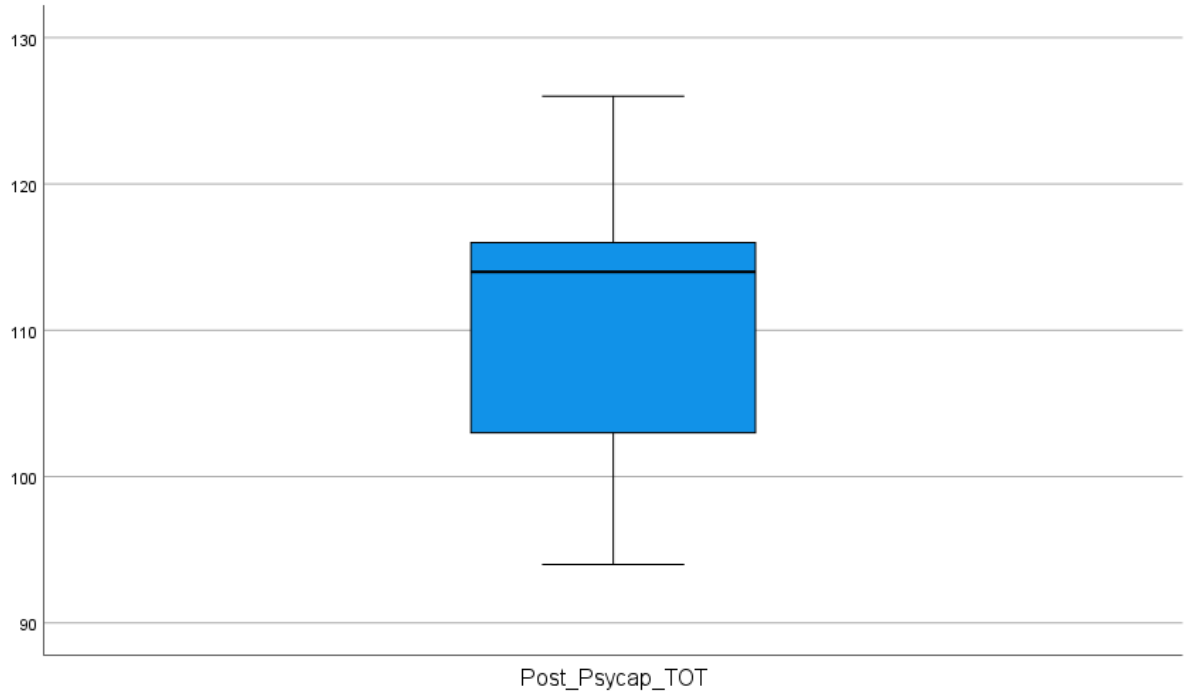


Figure K: Box and whisker chart for pre burnout

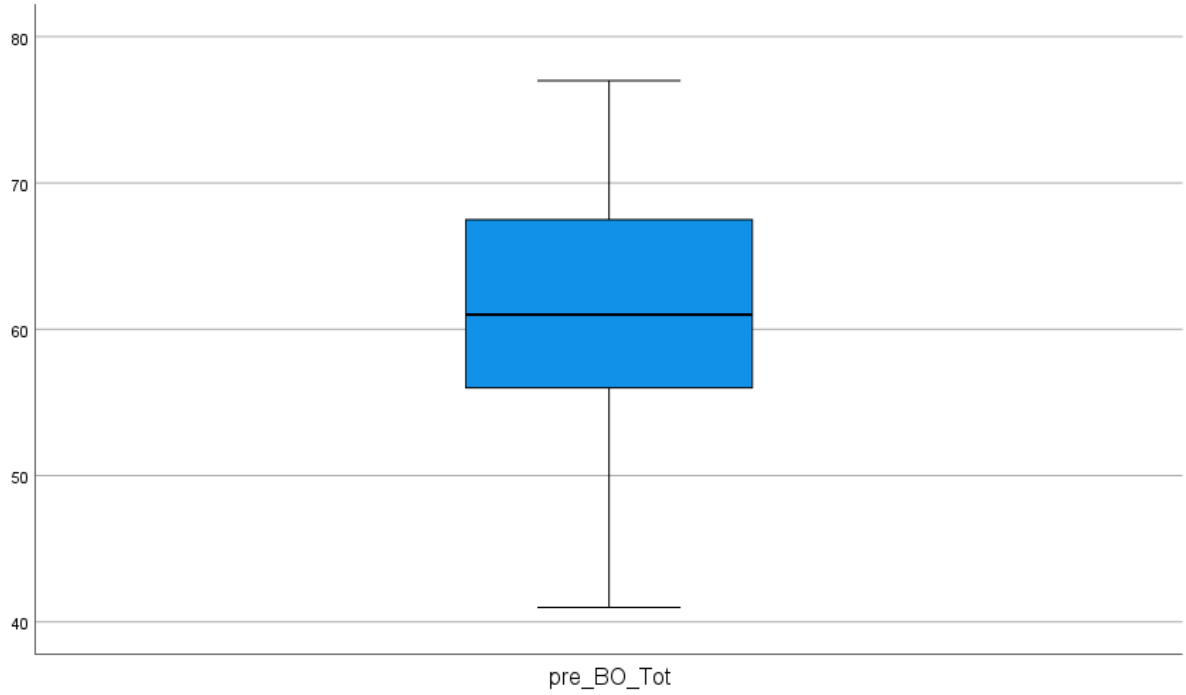


Figure L: Box and whisker chart for post burnout

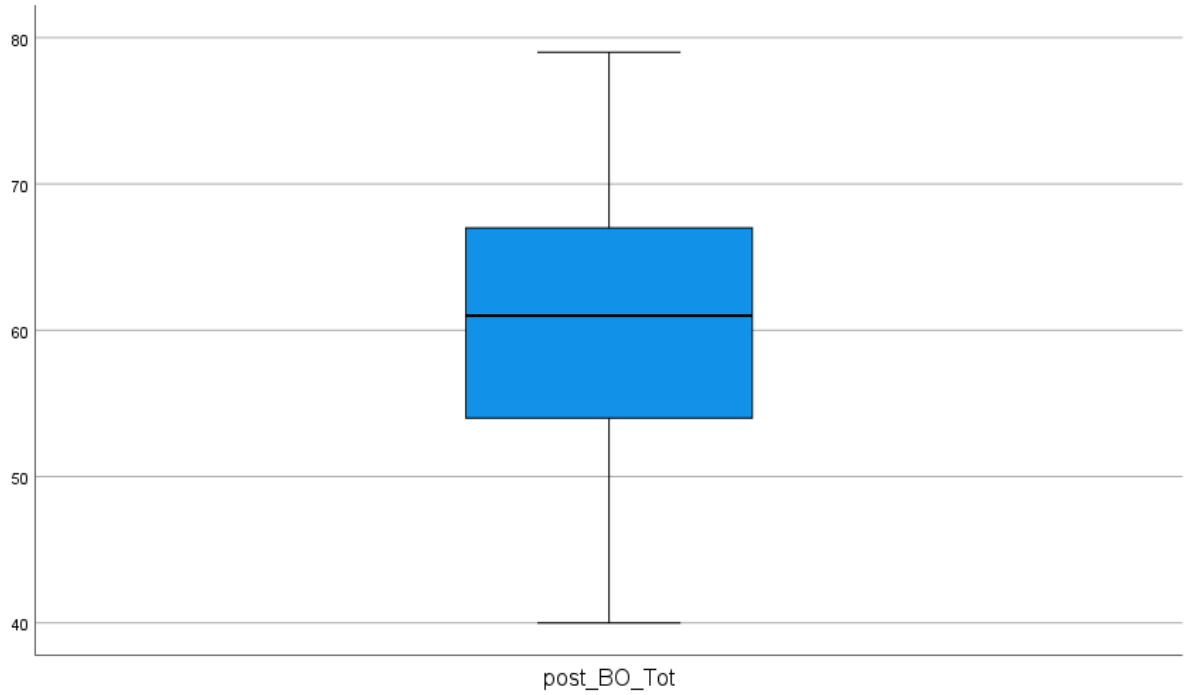
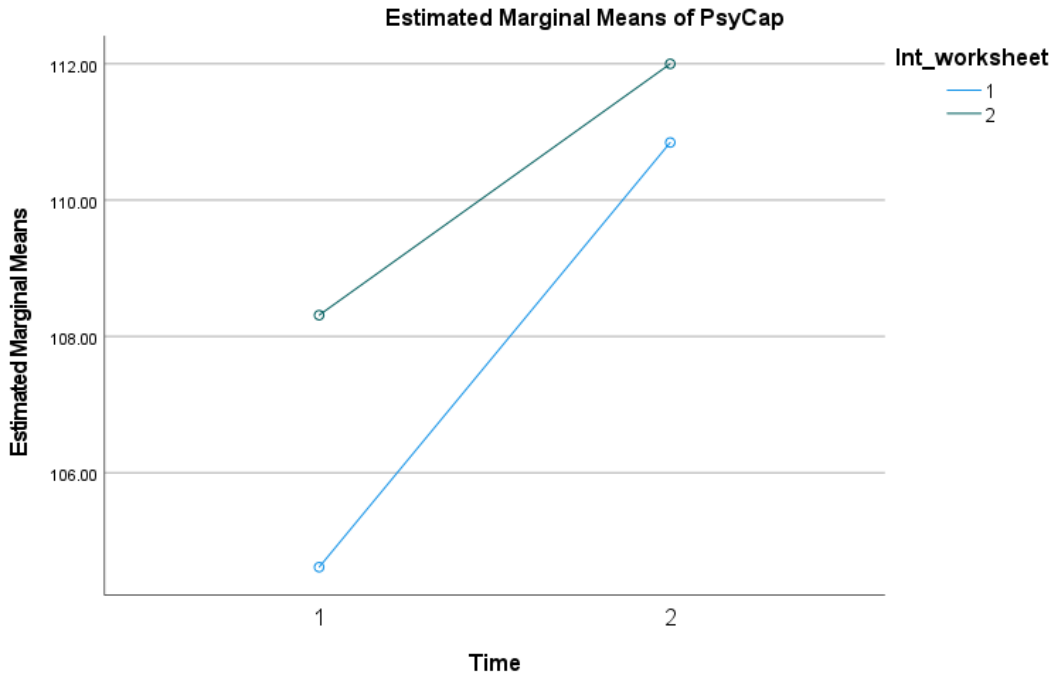


Figure M: Interaction graph for time and group on PsyCap



Key: 1= No did not participate in intervention worksheet

2= Yes did participate in intervention worksheet

Figure N: Interaction graph for time and group on burnout

