



Research Report

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Hope and Optimism: An Application of the Best Possible Self Intervention

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With God nothing is impossible.

Abstract

Psychological Capital (PsyCap) has emerged as a valuable resource for organisational and academic performance. Based on both positive psychology and Positive Organisational Behaviour (POB), PsyCap consists of efficacy, resilience, hope, and optimism. Hope and optimism are acknowledged in the literature as beneficial for student performance and university adjustment, respectively. Hence the study examines PsyCap with a focus on developing hope and optimism in university students for academic and professional advancement, using a tailored Best Possible Self (BPS) intervention that incorporates smart goal setting. The effect of the intervention on levels of hope, optimism and overall PsyCap, and perceptions of its contribution and delivery is assessed. The mixed methods research approach employed entails a quasi-experiment and follow-up semi-structured interviews. The experimental condition comprises the BPS intervention and the control condition involves the Daily Activities (DA) task. A sample of 30 students was randomly assigned to the experimental (N=14) and control group (N=16) and measures of PsyCap were taken before and after the intervention or task. A sample of 6 students who completed the BPS intervention took part in the interviews. The mixed model ANOVA results show that the effect of the current BPS on hope, optimism, and PsyCap is not statistically significant. The outcomes from the semi-structured interviews offer a positive perspective of an intervention with the potential to impact valuable psychological constructs which can be explored in future research. The qualitative findings and design considerations provide possible explanations for the main findings. The research has practical implications and recommendations are presented for future research and to enhance the BPS intervention.

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1. Introduction

The aim of positive psychology is to begin to catalyze a change in the focus of psychology from preoccupation only with repairing the worst things in life to also building positive qualities. (Seligman & Csikszentmihalyi, 2000, p. 5)

The underlying philosophy of positive psychology accentuates positivity and success by exhorting the strengthening of capacities of individuals for optimal functioning (Seligman, 2002). Similarly, Positive Organisational Behaviour (POB) is “the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement...” (Luthans, 2002a, p.59). This definition characterises POB as an approach that focuses on positive resources that can be studied quantitatively and enhanced for positive outcomes such as performance (Avey, Luthans, Smith & Palmer, 2010).

Furthermore, POB extends beyond the exclusive examination of strengths and capacities. It also heeds the call of positive psychology through the application of positive constructs to the workplace (Luthans & Avolio, 2009). Both the fields of positive psychology and POB are dedicated to development. Consequently, Psychological Capital (PsyCap) is a concept formed as a manifestation of the two areas (Luthans & Youssef-Morgan, 2017). PsyCap emerged as a framework relevant to organisations and employees for improving performance (Luthans & Youssef, 2007; Luthans, Youssef, & Avolio, 2007). The applicability of this concept and the development of the resource has expanded to settings such as educational, due to its contribution to academic performance (Luthans, Luthans & Jensen, 2012; Luthans, Luthans, & Palmer, 2016).

Broadly, PsyCap is concerned with “‘who you are’ and more importantly ‘who you are becoming’ (i.e., developing one’s actual self to become the possible self)” (Luthans, Avey, Avolio, Norman, & Combs, 2006, p. 388). Specifically, who you can become if your positive psychological resources are enhanced (Youssef & Luthans, 2011). This perspective underscores the developmental aspect of PsyCap (Luthans, Youssef, & Avolio,). Correspondingly, PsyCap involves four dimensions namely, self-efficacy, resilience, hope, and optimism, that are malleable (Luthans, 2002b). The last two dimensions of hope and optimism are considered significant capacities in the classroom (Bressler et al., 2010; Snyder, Shorey et al., 2002).

Hope and optimism entail an expectation of positive outcomes in the future (Feldman & Kubota, 2015). Except for the similarity, hope takes a step further to involve a plan to achieve the outcomes (Snyder, Rand & Sigmon, 2002). Students with higher levels of hope perform better and may be able to conceptualize their goals (Snyder, 1994). On the other hand, optimism in students promotes adjustment to university life (Perera & McIlveen, 2014; Morton et al., 2014). Thus, both capacities contribute positively to the challenging journey of a student (see Seabi, Seedat, Khoza-Shangase & Sullivan, 2014) who should ultimately graduate from university and secure employment.

The Best Possible Self (BPS) is a method with the potential to cultivate hope and optimism (King, 2001). The BPS is a positive psychology intervention that presents the opportunity to envision the potential self, encompassing the fulfilment of one's aspirations (King, 2001). One imagines a positive future (Heckerens & Eid, 2020) hence, the intervention is primarily used to express and increase optimism (Shapira & Mongrain, 2010; Loveday et al., 2018). Beyond its utility in influencing optimism, Heckerens, Eid and Heinitz (2019) propose developing the BPS intervention further, in ways that increase its effect. One way to enhance the BPS is to consider its impact on hope, through an explicit focus on the goal setting element, as hope is considered an outcome variable of the BPS (Loveday et al., 2018; Heckerens et al., 2019).

Against this backdrop, the study will examine PsyCap with attention to fostering hope and optimism in university students for academic and professional advancement, using the BPS intervention. The present manuscript is organised into four chapters, namely, literature review, method, results, and discussion chapters.

The literature review provides an overview of PsyCap, by expounding its origins in POB, and the four capacities of self-efficacy, resilience, hope, and optimism. Special emphasis is given to hope and optimism in academia. Subsequently, the potential and limitations of PsyCap are presented, leading to a discussion of the BPS intervention. In addition, the rationale, research aims, and research questions conclude the review. The method chapter describes the study in terms of design and implementation. Therefore, the sample, procedure, measures, research design, data analysis, and ethical considerations are characterised in detail in the method. The results chapter presents the findings from the quantitative and qualitative data. Finally, the discussion chapter considers the results relating to the research questions; compares

the results to those of previous studies; and concludes with recommendations for future research.

2. Literature Review

2.1. Positive Organisational Behaviour

Positive Organisational Behaviour (POB) is inspired by the philosophy of positive psychology and is presented as a perspective that implements positive psychology in the workplace (Luthans, Youssef & Avolio, 2007). POB was originally developed to address the need for a positive approach in the work environment (Luthans, Youssef & Avolio, 2007; Luthans & Avolio, 2009). However, it is not the only approach that meets this need. Comparable to POB, Positive Organisational Scholarship (POS) is concerned with positive aspects of the organisation. Hence POS is defined as “the study of that which is positive, flourishing, and life giving in organizations” (Cameron & Caza, 2004, p. 731). This definition and that of POB, presented earlier in the introduction of this paper, reveal minor overlap and distinct differences between the approaches (Luthans, Youssef & Avolio, 2007). Both perspectives focus on studying the positive but the possibility of developing the constructs of each approach varies. POB offers an opportunity to develop its studied positive psychological constructs (i.e., self-efficacy, hope, optimism, and resilience) through interventions. On the contrary, POS constructs (i.e., compassion and virtuousness) may present issues of malleability (Luthans, Youssef & Avolio, 2007). The additional disparities between POB and POS are displayed in Table 1 below.

Table 1*Comparison of POB and POS*

Positive Organisational Behaviour (POB)	Positive Organisational Scholarship (POS)
Concerned with micro-level (employee or individual) development and performance (Luthans, Youssef & Avolio, 2007).	Focuses on macro-level (organisation) issues. (Luthans, Youssef & Avolio, 2007).
Criteria for inclusion of a construct: • Theory and research-based • Measurable • State-like and open to development • Impacts on performance (Luthans 2002b)	Criteria for inclusion of a phenomenon: • Organisational (occurring in the organisational context) • Positive to the organisation in terms of the positive impact on processes and outcomes • Scholarship in the form of scientific investigation of the positive in the work environment (Cameron & Caza, 2004)
A state-trait continuum is used and recognizes that the POB constructs exist between states and traits along the continuum (Luthans & Avolio, 2009).	A deviance continuum of normal to positive deviance is employed. POS encourages a move from normal helpfulness and support to an approach of flourishing, which includes positive deviance, such as empathy and honouring relationships (Luthans & Avolio, 2009).
Focuses on psychological resources that impact positive outcomes (Youssef & Luthans, 2011). POB constructs provide a competitive advantage (Luthans, Youssef & Avolio, 2007; Cameron & Spreitzer, 2011).	Concerned about life-giving human conditions irrespective of their benefits (Cameron & Spreitzer, 2011).

Despite the differences, both POB and POS studies overlooked positive constructs and phenomena, respectively (Luthans, 2002a; Luthans, 2002b; Cameron & Spreitzer, 2011). Until the introduction of POS, discussing a POS phenomenon such as virtues was not considered in scientific circles (Cameron & Spreitzer, 2011). Furthermore, pertinent to this study, POB constructs such as hope, optimism and resiliency are underrepresented in the field of Organisational Behaviour (OB) (Luthans & Avolio, 2009). Hence, POB is devised to challenge the emphasis on weaknesses and offers a positive approach to OB (Luthans, 2002b).

From its inception, the field of OB was based on positivity. However, over time it was threatened by negativity in the academic literature (Youssef & Luthans, 2011). There was a fixation with the negative. For example, from a focus on motivation and leadership theories, there was a shift in attention to topics such as stress, burnout, and unethical behaviour (Luthans, 2002b; Youssef & Luthans, 2011). Although the topics were valuable to organisations, an imbalance of the research agenda became apparent and a need to address the gap arose (Youssef & Luthans, 2011). Therefore, POB focuses on positive constructs (Luthans & Avolio, 2009) that allow individuals to be successful (Luthans, Youssef & Avolio, 2007; Culbertson, Fullagar, & Mills, 2010).

Fundamentally, positive organisational behaviour and positive psychology constitute the foundation of Psychological Capital (PsyCap) (Luthans, Avey, Avolio, Norman & Combs, 2006; Luthans, Youssef & Avolio, 2007; Luthans & Youssef-Morgan, 2017). The four positive psychological resources of self-efficacy, hope, optimism, and resilience are not unique to POB as they are recognized in positive psychology as well (Snyder & Lopez, 2002). However, POB's contribution is invaluable due to the way it utilizes the systematic criteria for inclusion to select and integrate the four positive constructs to form a higher-order construct (PsyCap) that impacts positive outcomes (i.e., performance and wellbeing) (Youssef & Luthans 2011).

According to the POB criteria for inclusion (Luthans 2002b), listed in Table 1, a POB construct is (1) supported by theory that provides a theoretical background for the construct, and by research conducted on the construct; (2) can be validly measured, using the Psychological Capital Questionnaire (PCQ) which is a measure of existing POB constructs; (3) is state-like and can be developed within the individual through an intervention such as the Psychological Capital Intervention (PCI); (4) can impact performance; (Luthans, 2002b;

Luthans, Youssef & Avolio, 2007). The constructs of self-efficacy, hope, optimism, and resilience, collectively referred to as Psychological Capital (PsyCap), meet the criteria as they are based on theory and research, measurable, state-like, and can be managed for performance (Luthans, Youssef & Avolio, 2007).

2.2. Psychological Capital (PsyCap)

Psychological capital is formally defined as

an individual's positive psychological state of development and is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success. (Luthans, Youssef & Avolio, 2007, p. 3)

Common across the four capacities is the evaluation of circumstances positively and the prospect to succeed (Luthans, Avolio et al., 2007; Luthans, Avey, Avolio, & Peterson, 2010; Luthans, Avey, Smith, Palmer, 2010). The concept can be applied at the individual level as PsyCap or at the group level as team or collective PsyCap (Luthans, Avolio, Avey & Norman, 2007; Luthans & Youssef-Morgan, 2017). However, PsyCap was initially conceptualized at the individual level (Luthans, Youssef and Avolio, 2007). Individuals with higher PsyCap anticipate good outcomes (optimism), believe that they create their success (efficacy and hope), and overcome setbacks (resilience) (Avey, Reichard, Luthans & Mhatre, 2011).

While PsyCap proposes a positive perspective concerned with human potential (Luthans, Youssef & Avolio, 2007), a critical view is that positivity is an illusion and potentially harmful (Avey, Reichard, Luthans & Mhatre, 2011). Despite this negative observation, as mentioned previously, the PsyCap capacities are theory and research-based and this criterion sets apart PsyCap from self-help books or short-lived management trends (Luthans, Youssef & Avolio, 2007).

2.2.1. Self-Efficacy

PsyCap efficacy is “one’s conviction (or confidence) about his or her abilities to mobilize the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context” (Stajkovic & Luthans, 1998, p.66). The terms *efficacy* and *confidence* are used interchangeably in the context of PsyCap. However, the definition of the PsyCap efficacy dimension consistently encompasses the central aspect, that is one's belief, irrespective of the use of either term. (Luthans, Youssef & Avolio, 2007).

The efficacy definition is drawn from Bandura’s social cognitive theory (Avey, Reichard, Luthans & Mhatre, 2011). Bandura (1997) describes self-efficacy as the estimate established based on the probability that individuals gauge that they can achieve a particular task. In this process, they are estimating their self-efficacy. For example, if one believes that they have a 70% chance of influencing others, then their level of self-efficacy is at 70% in terms of that task. Although originally applied to a particular task, there is increasing acknowledgement that a level of self-efficacy may exist across tasks such as various workplace activities (Luthans, Youssef & Avolio, 2007).

Self-efficacious people display five key characteristics, namely, they set ambitious goals and choose difficult tasks for themselves, accept and flourish on challenges, are self-motivated, invest the required effort to achieve goals, and persevere when they encounter obstacles (Luthans, Youssef & Avolio, 2007). These characteristics depict what it entails to possess self-efficacy.

2.2.2. Resilience

PsyCap resilience is defined as “the positive psychological capacity to rebound, to ‘bounce back’ from adversity, uncertainty, conflict, failure or even positive change, progress, and increased responsibility” (Luthans, 2002b, p. 702). Resilience entails evaluating risks that may lead to negative outcomes and assets that may result in positive outcomes (Luthans, Vogelgesang & Lester, 2006).

Factors that contribute to or hinder the development of resilience are categorised into assets, risk factors, and values (Luthans, Youssef & Avolio, 2007). Assets refer to factors, such as education, that increase resilience (Luthans, Avey, Avolio, Norman & Combs, 2006). Risk factors decrease levels of resilience. Abuse or the lack of a mentor may result in lower levels of resilience (Luthans, Avey, Avolio, Norman & Combs, 2006). Values shape the

individual's cognitions, emotions, and actions. Based on values, the individual may rise above present obstacles by linking them to a pleasant future which they look forward to (Luthans, Youssef & Avolio, 2007).

2.2.3. Hope

PsyCap hope is not understood in the same way as the concept is used in everyday language (Luthans, Avolio, Avey & Norman, 2007). Work on the hope theory (Snyder, Irving, & Anderson, 1991), in which Snyder is the leading author, provides a framework for understanding hope beyond the misconceptions (i.e., hope as wishful thinking) associated with the construct (Luthans, Youssef & Avolio, 2007).

According to Snyder, Irving, and Anderson (1991) "hope is a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals)" (p. 287). This definition specifies the components of hope which are agency, pathways, and goals (Luthans, Avolio, Avey & Norman, 2007) and helps distinguish PsyCap hope. The main difference between PsyCap hope and lay hope is that the latter is a passive state that involves waiting for a positive outcome and the former entails an active state in the achievement of a certain goal including a plan of how to achieve the goal. In this manner, the way power aspect allows PsyCap hope to stand out from the typical application of the term hope (Luthans, Youssef & Avolio, 2007).

High hope is characterised by clear goals and willpower which is the determination to attain one's goals, and the way power to implement or use alternative pathways to continue in goal pursuit despite possible obstacles (Luthans, Youssef & Avolio, 2007). In cooperation, will and way power contribute to an elevated level of hope for successful goal attainment (Luthans, Youssef & Avolio, 2007).

Snyder, Lopez, Shorey, Rand, and Feldman (2003) provide a practical example of hope in the educational context. The authors highlight the importance of assisting students in setting goals as this lays the foundation for fostering hope. Smart goal setting refers to specific, measurable, attainable, realistic, and timely goals, which can be one way of guiding students to identifying realistic goals and can contribute to student learning outcomes (Lawlor, 2012). Further, to improve pathway thinking, which is an aspect of hope, students need to be supported to create sub-goals to achieve the main goal (Snyder et al., 2003). Lastly, students need to have agency by owning their goals. Ensuring that the goals are significant to them is an essential element of goal setting (Snyder, et al., 2003). Hence, developing hope may be valuable as it is

related to positive outcomes in areas such as academics, psychological adjustment, and physical health (Snyder, 2002).

Regardless of its value, hope may be inadequate. Individuals can score high in terms of their level of hope and low on achieving desired outcomes when their goals are not clearly defined (Luthans, Youssef & Avolio, 2007). This finding reiterates the importance of setting clear objectives and an enabling environment that facilitates agency and pathway thinking (Luthans, Youssef & Avolio, 2007). Also, unrealistic hope can be a threat to success. Therefore, setting realistic and achievable goals is crucial for hope to influence performance positively (Luthans, Youssef & Avolio, 2007).

2.2.4. Optimism

PsyCap optimism is comparable to PsyCap hope as it is not defined according to its use in ordinary language (Luthans, Avolio, Avey & Norman, 2007). Two positive views of optimism are integrated into PsyCap optimism, referring to a general positive expectation and an explanatory style (Youssef & Luthans, 2011). Explanatory style entails the reasons and attributions used by an individual to explain why events take place, it can be optimistic or pessimistic (Luthans, Avey, Avolio, & Peterson, 2010; Avey, Reichard, Luthans & Mhatre, 2011). The explanatory style perspective is reactive. Accordingly, the current study adopts the proactive positive expectancies view of optimism, defined as “a positive expectation about outcomes” (Luthans, Avey, Avolio & Peterson, 2010, p.8).

Scheier and Carver (1985) conceptualize optimism as a goal-based mental process that operates when an outcome is seen as important. The authors suggest that people’s actions are influenced by the results they expect from taking those actions. For example, an individual may continue to attempt to achieve a goal if they expect that the outcome is achievable even with the presence of challenges to attaining the desired outcome. Alternatively, if one perceives that the desired outcome will not be attained, they may refrain from striving to achieve the goal irrespective of the reasons for the difficulty. In this case, the individual may disengage even when the consequences of disengagement are severe. From these two situations, the authors allude to the emergence of a disconnect of two behaviours namely “continued striving vs. giving up and turning away” (Scheier & Carver, 1992, p.202) based on people’s expectations.

In a theoretical overview and empirical update using a longitudinal design, Scheier and Carver (1992) examined research on the effects of optimism on psychological and physical health. The authors found that optimism can be used as a resource to cope adaptively with stress and influences psychological and physical wellbeing. Consistently and complementing hope, optimism is related to wellbeing and less stress among undergraduate students (Rand et al., 2011). Optimism also predicts better academic adjustment to university (Perera & McIlveen, 2014; Morton et al., 2014).

2.3. Hope and optimism in Academia

Hope and optimism involve an expectation of achievement (Luthans, Avey, Avolio & Peterson, 2010). Both positive outcome expectancy constructs allude to aspects of expectancy (Feldman & Kubota, 2015) in their different definitions. Despite being related constructs, hope and optimism differ (Carver & Scheier, 2014). Central to optimism is the agency (will power) in thought-related goals, based on general expectancies. Hope emphasizes both agency (will power) thoughts and pathways (way power) to achieve goals (Snyder, Rand, Sigmon, 2002). Essentially, hope entails pursuing goals with a strategy of how to achieve them.

As mentioned earlier, hope is associated with wishful thinking (Luthans, Youssef & Avolio, 2007) and optimism is linked to folk psychology (Carver & Scheier, 2014). Efforts to eliminate the misconstructions are important and the research carried out in support of hope and optimism as valuable constructs should be foregrounded. Empirical work such as the development of PsyCap or PsyCap dimensions of hope and optimism may possess the potential to foster a genuine appreciation for and attention to the concepts. These psychological resources are worth developing as there is an association between thinking about the future and academic achievement (Gallagher et al., 2017). Research on hope and optimism among students considers outcomes such as academic performance, retention, and adjustment (Snyder, Shorey et al., 2002; Morton et al., 2014; Gallagher et al., 2017).

The role of PsyCap in the relationship between positive emotions and academic performance was investigated in a sample of high school students in Chile between the ages of 14 and 17 years. Students completed questionnaires with measures of positive emotions from the Job-Related Affective Well-Being Scale, PsyCap was measured using the PCQ-12. These measures were adapted to the academic context. Lastly, academic performance was measured using the grade point average (GPA). A subscale analysis conducted in the study

indicated that the PsyCap component of hope had the greatest effect on academic performance (Carmona-Halty et al, 2019).

Hope is a factor that keeps students focused on achieving their academic goals (Snyder, Shorey et al., 2002). The findings of the contribution of hope reiterate the need to assist students in developing their capacity to initiate goals and reach them for academic achievement, as hope is a predictor of academic achievement (Gallagher et al., 2017). In another study on levels of hope and Grade Point Average (GPA) across the academic careers of students, the results supported the hypotheses that higher hope is related to higher GPA, higher likelihood of graduating, and lower attrition rates (Snyder, Shorey et al., 2002). It is established that hope predicts GPA and academic performance which are not predicted by optimism (Rand et al., 2011).

Kotzé and Niemann (2013) examined the impact of the psychological resources of hope, optimism, and resilience on academic performance. Employing a sample of students enrolled in industrial psychology, four questionnaires were completed. The measures included a biographical questionnaire, the Adult Resilience Indicator (ARI), State Hope Scale (SHS), and Life Orientation Test-Revised (LOT-R). Hope (pathways) was a predictor of academic performance. Optimism was not a predictor of academic performance. In another study with students, the variables hope, self-efficacy, and optimism were investigated, and hope was a better predictor of GPA (Feldman & Kubota, 2015). Optimism did not predict GPA (Feldman & Kubota, 2015). These results are consistent in terms of the direct contribution of hope to academic performance. While optimism does not produce the same outcomes as hope, its impact in the student domain has been explored.

In a study of first-year students from Queensland University of Technology in Australia, optimism was useful for adapting to the transition from high school to university and a positive relationship was evident between optimism and adaptation to university (Morton et al., 2014). Perera and McIlveen (2014) examined the role of optimism in adaptation to university in a sample of freshmen attending a metropolitan university also in Australia. Participants were enrolled in various degrees in fields such as mathematics, business, arts, communication, nursing, and engineering (Perera & McIlveen, 2014). The academic adjustment construct was measured using the Organisation and Attention to Study (OAS) scale. Psychological adjustment was measured using the Warwick Edinburgh Mental Well-Being Scale (WEMWBS). Optimism was measured using three items of the revised Life Orientation

Test (LOT-R) (Perera & McIlveen, 2014). Perera and McIlveen (2014) concluded that both academic and psychological adjustment are associated with optimism.

Optimism can also buffer against academic burnout and indirectly impact academic performance (Vizoso et al., 2019). Although hope and optimism are similar in the aspect of expectations, the research results presented suggest that they have different contributions. Hope and optimism are beneficial to academic outcomes and success in distinct ways (Vizoso et al., 2019). Therefore, both resources are worth studying and developing simultaneously (Kotzé & Niemann, 2013).

Noteworthy, both hope and optimism stood the test of time as two of the five constructs that initially represented the POB approach (i.e., confidence, hope, optimism, subjective wellbeing, and emotional intelligence with the acronym CHOSE) (Luthans, 2002a). In the subsequent reconceptualization, hope and optimism remain as two of the four constructs of POB which is known as psychological capital (i.e., hope, efficacy, resilience, and optimism with the acronym HERO) (Luthans & Youssef, 2004).

2.4. Psychological Capital Potential and Limitations

Reiterated in this manuscript is the scepticism encountered by positive approaches. The approaches are considered soft and less practical in the face of challenges (Luthans, Youssef & Avolio, 2007). Initiatives that focus on problems are at times practical. In spite of this, consideration for personal strengths is necessary (Seligman, 1998). As an example, in universities, the traditional institutional support focused on meeting the specific needs (i.e., funding, accommodation, counselling) of students is essential. However, these initiatives may be supplemented by positive psychological interventions that are beneficial for all students, regardless of their lack of need or need for the traditional resources, in the same way that PsyCap offers a different resource from traditional human resources and social capital (Luthans, Youssef & Avolio, 2007) irrespective of poor or good performance.

The following section will echo the sentiment above by highlighting the potential of PsyCap and later acknowledging the limitations of PsyCap which shape the present inquiry. PsyCap is described in various ways as a core, and malleable (Youssef & Luthans, 2011) construct. It is also regarded as a construct that resembles Hobfoll's (2002) resource caravans identified within the Conversation of Resources (COR) theory (Youssef & Luthans, 2011).

2.4.1. Conservation of Resources (COR) Theory and PsyCap

The COR theory can be used to gain more insight into PsyCap and the way it works (Avey, Reichard, Luthans & Mhatre, 2011). The COR theory provides a model to conceptualize stress. It explains human behaviour during stressful situations and provides an understanding of stress resistance (Hobfoll, 1989). Stress is considered to affect how people function. It is linked to mental and physical health issues (Hobfoll, 1989). Hence there is a need to build resources for individuals to be able to cope with stress.

The potential assets that can be developed to tackle stress are presented in Hobfoll's (1989) definition of resources as "objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for achievement of these objects, personal characteristics, conditions, or energies" (p.516). Therefore, a resource can be an end valued on its own, its attainment being sufficient (i.e., confidence or self-efficacy). Alternatively, it can be a means to an end, attained to attain another resource (i.e., build confidence or self-efficacy to be able to attain social capital) (Hobfoll, 2002).

The main assumptions of COR theory are (1) that people try to keep, protect, and accumulate resources; (2) the threat they face is the possible or actual loss of the valued resources (Hobfoll, 1989). To counteract the loss or to attain the valued supplies, individuals use the reserves they have or call on what is available to them in their environment (Hobfoll, 1989). The individual's environment is important as it is a source of resources.

The Conservation of Resources theory has been studied extensively in the organisational literature (Hobfoll, 2011). In this manuscript, as with PsyCap, COR theory is applied to the academic domain. As an example, students may need resources to navigate university. Students are likely to experience resource loss during their studies (i.e., loss of time due to workload or loss of support if they are away from family) (Hobfoll, 1989). Therefore, resource gain is important in their environment to mitigate the experience of stress caused by resource loss. The development of PsyCap may be one way of ensuring that psychological resources are available to students. Loss may also occur when time and energy are invested to attain highly valued resources (Hobfoll, 1989). A concrete example is the investment of time and energy in a training intervention offered to develop positive psychological capacities (PsyCap). Time may be lost while enhancing PsyCap or its capacities through an intervention. However, in the development of PsyCap and its dimensions, there is potential for greater returns (Luthans, Youssef and Avolio, 2007).

The COR theory adopts the integrated resource model perspective in which resources are considered as a set or reservoir (Hobfoll, 2002). Key resources can be integrated (Hobfoll, 2002). A relevant example is PsyCap which is an integration of four key capacities supported by research to be beneficial and yield positive outcomes (Youssef & Luthans, 2011). Resources exist in a caravan rather than in isolation (Hobfoll, 2002). This is demonstrated by the intersection of PsyCap dimensions in developing PsyCap (Luthans, Youssef & Avolio, 2007). Consequently, the possession of one resource may lead to gaining another (Hobfoll, 2002).

The COR theory as a resource theory takes a proactive approach to resource creation (Hobfoll, 2002), compared to the reactive approaches adopted in stress theories such as Lazarus and Folkman's (1984) transactional model of stress and coping. This is in congruence with the proactive nature of PsyCap development. When there is less encounter of stressful situations, resources can be used for growth and not defensively to cope with stress (Hobfoll, 2002). Individuals can then solve problems in stressful situations as the situation is seen as a challenge that must be resolved (Hobfoll, 2002). It is therefore important to be proactive in resource development as those with resources are affected less by the loss. They can compensate or take the loss and call on other reserves (Hobfoll, 2002).

In accordance with the abovementioned imperative, the development of PsyCap is an opportunity to enhance positive psychological resources and to contribute to optimal functioning. In their book titled "Psychological Capital: Developing the Human Competitive Edge", Luthans, Youssef, and Avolio (2007), position PsyCap as a factor that provides an advantage to people and organisations. PsyCap produces a calculable return on investment (ROI) in the form of increased performance. It is a low-risk, low-cost, and very high return factor (Luthans, Youssef & Avolio, 2007). In addition to performance, PsyCap impacts wellbeing (Youssef-Morgan & Luthans, 2015) and serves as a buffer against the effect of stress. When one experiences stress, the stress will be less associated with negative outcomes given the presence of PsyCap (Riolfi et al., 2012).

The current research acknowledges this benefit, although the primary focus extends beyond PsyCap's potential to impact stress and wellbeing. This study considers PsyCap, hope, and optimism for personal development, enabling the individual to reach their full potential and succeed. However, significant lessons are acquired from the COR theory in terms of developing PsyCap capacities that may serve as reserves during resource loss.

Psychological Capital is a non-tangible factor that is beneficial to individuals that possess this kind of capital (Caza, Bagozzi, Woolley, & Caza, 2010). The prized higher-order construct is worth developing based on the positive outcomes associated with it (Luthans, Avey, Avolio, Norman & Combs, 2006). Siu, Bakker, and Jiang (2014) argue that PsyCap is an essential personal resource, which aids in the achievement of goals. Finally, it is important to bear in mind that the impact of resources is long-term (Hobfoll, 2002). While PsyCap interventions are short, they may foster psychological resources with a long-term influence (Luthans, Youssef & Avolio, 2007).

2.4.2. *PsyCap Measure*

The positive psychological resources of self-efficacy, resilience, hope, optimism, and the main construct, Psychological Capital, can be measured using the Psychological Capital Questionnaire (PCQ) (Luthans, Avolio, Avey & Norman, 2007). The questionnaire can be useful in quantifying PsyCap and its dimensions, and in establishing the efficacy of PsyCap development interventions in studies using the PCQ to measure levels of PsyCap (Luthans, Avey, Avolio, Norman & Combs, 2006; Luthans, Avey, & Patera, 2008; Luthans, Avey, Avolio & Peterson, 2010).

Two versions of the questionnaire are accessible from www.mindgarden.com. The PCQ-24 is a comprehensive questionnaire that consists of 24 items. The PCQ-12 is the shorter version that includes 12 items. The Implicit Psychological Capital Questionnaire (I-PCQ) is another measure of PsyCap (Harms & Luthans, 2012) that is beyond the focus of the current research. The PCQ-24 and PCQ-12 comprise self-efficacy, hope, resilience, and optimism subscales (Luthans, Avolio, Avey & Norman, 2007). However, the number of items for each subscale varies between the two questionnaires. The PCQ-24 is made up of 4 hope, 4 self-efficacy, 4 resilience, 4 optimism items, and reverse-scored items (Luthans, Avolio, Avey & Norman, 2007). The PCQ-12 comprises 4 hope, 3 self-efficacy, 3 resilience, and 2 optimism items (Luthans & Youssef-Morgan, 2017). The reverse-scored items are excluded from the PCQ-12 (Luthans & Youssef-Morgan, 2017).

The items of the four subscales originate from well-established and tested instruments (Luthans, Youssef & Avolio, 2007; Avey, Luthans, Smith, Palmer, 2010). The PCQ is derived from Parker's (1998) measure of efficacy; the Snyder et al. (1996) state hope scale; Wagnild and Young's (1993) resiliency scale; and the optimism questionnaire by Scheier and Carver (1985) (Luthans, Youssef & Avolio, 2007).

Luthans, Avolio, Avey, and Norman (2007) evaluated the reliability of the PCQ-24 in four samples which yielded the Cronbach's alphas that follow: hope (.72, .75, .80, .76); resilience (.71, .71, .66, .72); self-efficacy (.75, .84, .85, .75); optimism (.74, .69, .76, .79); and overall PsyCap (.88, .89, .89, .89). The optimism subscale in the second sample (.69) and the resilience subscale in the third sample (.66) did not yield acceptable internal consistency; in all four samples the overall PsyCap measure produced acceptable levels of reliability (Luthans, Avolio, Avey & Norman, 2007).

Furthermore, in another study on management students and managers from different organisations, all subscales had an acceptable Cronbach's alpha greater than .70, except for resilience, in the student sample, the alpha was 0.69 and above .70 in the sample of managers (Luthans, Avey, Avolio & Peterson, 2010). The overall 24-item PCQ yielded high Cronbach's alpha of more than .90 in the two samples (Luthans, Avey, Avolio, & Peterson, 2010). Lastly, in a study by Avey, Luthans, Smith, and Palmer (2010), on the impact of PsyCap on wellbeing with a sample of working adults, the PCQ-24 proved to be reliable with a Cronbach's alpha of .93. Acceptable levels of internal consistency were clear from the subscales (hope = .87, efficacy = .87, resilience = .72, optimism = .78). Consistent with previous results (Luthans, Avolio, Avey & Norman, 2007; Luthans, Avey, Avolio & Peterson, 2010), hope, efficacy, and overall PsyCap yielded higher reliability while the reliability of resilience and optimism was lower.

In a study involving a nationally representative random sample of employed adults in New Zealand, Caza, Bagozzi, Woolley, & Caza (2010) examined the psychometric properties of the PCQ-12. The PCQ was confirmed as a sound measure and the results of the PCQ-12 are comparable to those of the PCQ-24 (Caza, Bagozzi, Woolley, & Caza, 2010). The psychometric properties of the PCQ confirm the reliability of the measure and support the suitability of PsyCap for research and development (Luthans, Youssef & Avolio, 2007). Despite this, there are discrepancies in the reliability levels of the resilience and optimism subscales in some samples (see Luthans, Avolio, Avey & Norman, 2007; Luthans, Avey, Avolio & Peterson, 2010; Avey, Luthans, Smith & Palmer, 2010) which may be investigated further through research across different samples.

In South Africa, Görgens-Ekermans and Herbert (2013) attempted to establish the reliability, internal (construct and discriminant validity), and external validity of the PCQ-24. The sample in their study included managerial and non-managerial employees from a medium-sized organisation in South Africa (Görgens-Ekermans & Herbert, 2013). However, it is important to note that the results serve as preliminary support as the sample was not representative of the South African population. Participants spoke Afrikaans, English, and isiXhosa. Consistent with earlier research (Luthans, Avolio, Avey & Norman, 2007; Luthans, Avey, Avolio, & Peterson, 2010), the subscales of resilience and optimism had low reliability. Self-efficacy, hope, and PsyCap (total score) displayed acceptable internal consistency. The following Cronbach's alpha coefficients were obtained: hope = .81, efficacy = .83, resilience = .69, optimism = .67 and overall PsyCap = .85 (Görgens-Ekermans & Herbert, 2013). These results offer insight into the suitability of the PCQ-24 based on data from a sample in South Africa. The use of the PCQ-24 in the present study, conducted in South Africa, will also contribute additional insight on the reliability of the instrument based on the current sample of students.

A consistent aspect of PsyCap is its structure. In the study by Luthans, Avey, Avolio and Peterson (2010), investigating PsyCap development and the impact of PsyCap on performance, a comparison of five models consisting of different combinations of the constructs of PsyCap was conducted. One of the models which combined all the four constructs (all 24 items) supported a higher-order construct of overall PsyCap, across samples and the higher-model fit the data better than the other models (Luthans, Avey, Avolio, & Peterson, 2010). The research confirmed that PsyCap is multidimensional (see Luthans, Avolio, Avey, & Norman, 2007). However, in the study, it was not clear whether one or more of the PsyCap dimensions differentially created the observed effects on performance (Luthans, Avey, Avolio, & Peterson, 2010). This point of ambiguity was put forward by Luthans, Avey, Avolio, & Peterson (2010) as a recommendation for further research.

2.4.3. *PsyCap Development*

PsyCap capacities are state-like constructs that can be influenced through intervention (Luthans & Avolio, 2009). PsyCap dimensions are more stable than states such as emotions and mood. They are also not fixed like traits such as conscientiousness and core-self evaluations (Luthans, Avey, Avolio, & Peterson, 2010). According to Lyubomirsky (2008), 50% of positivity is inherited or trait-like, 10% is determined by circumstances such as

income or location, and 40% can be developed through focused intervention. PsyCap development aims to enhance the 40% that remains malleable (Youssef & Luthans, 2011). It can be developed through mastery of tasks (efficacy), goal setting (hope), future-oriented thinking (optimism), and pathway planning for possible challenges (resilience) (Youssef & Luthans, 2011).

Psychological Capital promotes positive thinking, and the positive change induced through developing PsyCap can spill over to other areas of life at the individual, team, group, organisational, family and community level (Luthans & Youssef-Morgan, 2017). The enhancement of PsyCap through short and focused interventions impacts positively on performance (Luthans, Youssef & Avolio, 2007). In particular, the development of PsyCap in students has the potential to contribute to improved academic performance (Siu, Bakker & Jiang, 2014).

Positive psychological capacities can be used or fostered to motivate university students to strive for success in their studies (Siu, Bakker & Jiang, 2014). PsyCap can guide the way individuals frame their life experiences (Culbertson, Fullagar, & Mills, 2010). Siu, Bakker, and Jiang (2014) maintain that to be able to cope with the challenges of daily and academic life, students, who are also prospective employees, need to develop psychological capital.

The Psychological Capital Intervention (PCI), a micro-intervention, was introduced to develop PsyCap (Luthans, Avey, Avolio, Norman & Combs, 2006). The short training is called a micro-intervention due to its duration of fewer than 3 hours (Luthans & Avolio, 2009). The PCI incorporates exercises or video clips to enhance the PsyCap capacities in sessions that last between 1 to 3 hours (Luthans, Avey, Avolio, Norman & Combs, 2006).

The micro-intervention entails the development of hope through goal setting; generation of pathways; mental rehearsals of goal pursuit using the generated pathways; and planning to overcome obstacles (Luthans, Avey, Avolio, Norman & Combs, 2006). In developing self-efficacy, the PCI integrates the hope goal exercise with the four sources of efficacy namely, task mastery; modelling, social persuasion, and positive feedback (Luthans, Avey, Avolio, Norman & Combs, 2006). Self-talk, hope, and self-efficacy development activities can be used to foster optimism (Luthans, Avey, Avolio, Norman & Combs, 2006). The PCI targets asset factors (e.g. education) and risk factors (e.g. abuse or lack of mentors), and the influence process to develop resiliency by framing setbacks (Luthans, Avey, Avolio,

Norman & Combs, 2006). The broader aim of the intervention is to influence performance through the development of the four PsyCap capacities (Luthans, Avey, Avolio, Norman & Combs, 2006). Those with higher PsyCap may be energized and invest effort evident in higher performance (Avey, Reichard, Luthans & Mhatre, 2011).

To capitalize on the state-like, developmental nature of PsyCap, the PCI has been tested to improve PsyCap (Luthans, Youssef & Avolio, 2007). Table 2 presents six studies, reported during the period 2006 to 2010, that demonstrate the impact of the PCI on PsyCap. Most of the PsyCap interventions were delivered in person and one study involved a web-based administration of the intervention.

Table 2

PCI Studies

Source/Article	Study Sample	PCI Mode of Delivery
Psychological capital development: toward a micro-intervention by Luthans, Avey, Avolio, Norman and Combs (2006)	(1) Management students; (2) Practicing managers (follow-up study); (3) Engineering managers	In-person
Experimental analysis of a web-based training intervention to develop positive psychological capital by Luthans, Avey and Patera (2008)	(4) Working adults	Online
The development and resulting performance impact of positive psychological capital by Luthans, Avey, Avolio and Peterson (2010)	(5) Advanced management students (pilot test); (6) Practicing managers (follow-up study)	In-person

The PCI was first tested in a study by Luthans, Avey, Avolio, Norman and Combs (2006), in which they investigated the efficacy of the face-to-face PCI, aimed at developing PsyCap through increasing PsyCap levels. The sample consisted of students enrolled for a management qualification. The students were randomly assigned to the experimental and control groups. The PsyCap of the students was measured before and after interventions. Participants in the experimental groups received the 1-hour micro-intervention, administered according to the guidelines of the PCI intervention (see Luthans, Avey, Avolio, Norman & Combs, 2006). The control groups received the 'Desert Survival' exercise, unrelated to the PCI. The PCQ-24 was used to measure PsyCap. The PCI increased levels of PsyCap in the experimental group and the Desert Survival exercise did not produce an increase in levels of PsyCap for the control group (Luthans, Avey, Avolio, Norman & Combs, 2006). Hence, the results of the study supplied preliminary support that the PCI increases PsyCap and impacts performance and return on investment.

After the initial results of the PCI, Luthans, Avey, Avolio, Norman and Combs (2006) conducted the first follow-up study with a sample of practicing managers. Managers from various types of organisations took part in a 2-hour PCI intervention. Pre-test and post-test measures indicated an increase in PsyCap after the intervention. Specifically, an increase of about 3%, in PsyCap levels, was evident in both the management students and practicing managers samples, following the administration of the PCI. In another study consisting of a sample of engineering managers, participants experienced a 2.5-hour session of the PCI (Luthans, Avey, Avolio, Norman & Combs, 2006). Levels of PsyCap were marginally lower but significant. Therefore, the PCI had an impact on the levels of PsyCap (Luthans, Avey, Avolio, Norman & Combs, 2006).

Although the PCI was first administered in person (see Luthans, Avey, Avolio, Norman & Combs, 2006), it has also been administered online as web-based training. The purpose of the study by Luthans, Avey and Patera (2008) was to examine whether a 2-hour web-based intervention, administered using the internet, can increase PsyCap. In the online session, the sample consisted of employees who were working adults from various industries namely, manufacturing, services, sales, and government (Luthans, Avey & Patera, 2008). Participants were randomly assigned to the experimental or control group (Luthans, Avey & Patera, 2008). For the treatment group, the first session developed resiliency and efficacy, and the second session focused on enhancing hope and optimism (Luthans, Avey & Patera, 2008). A narrated video presentation and short video clips were used. The control group took

part in a decision-making exercise. Pre-test and post-test measures of PsyCap were taken. All the PsyCap components and overall PsyCap were reliable with the following Cronbach's alpha: .92 (efficacy), .87 (hope), .83 (resilience), .77 (optimism), .93 (overall PsyCap) (Luthans, Avey & Patera, 2008). The statistical techniques used to determine the effect of the web-based PCI on PsyCap and to control for other variables included Analysis of Variance (ANOVA) and Analysis of Covariance (ANCOVA), respectively. The treatment group showed a significant increase in levels of PsyCap and the control group showed no significant increase in PsyCap. PsyCap was predicted by the group variable at Time 2 while controlling for the pre-test scores, demographics, and job level. Therefore, the online training intervention was effective in developing PsyCap (Luthans, Avey & Patera, 2008). This study provides relevant support for a beneficial PsyCap intervention that is administered online.

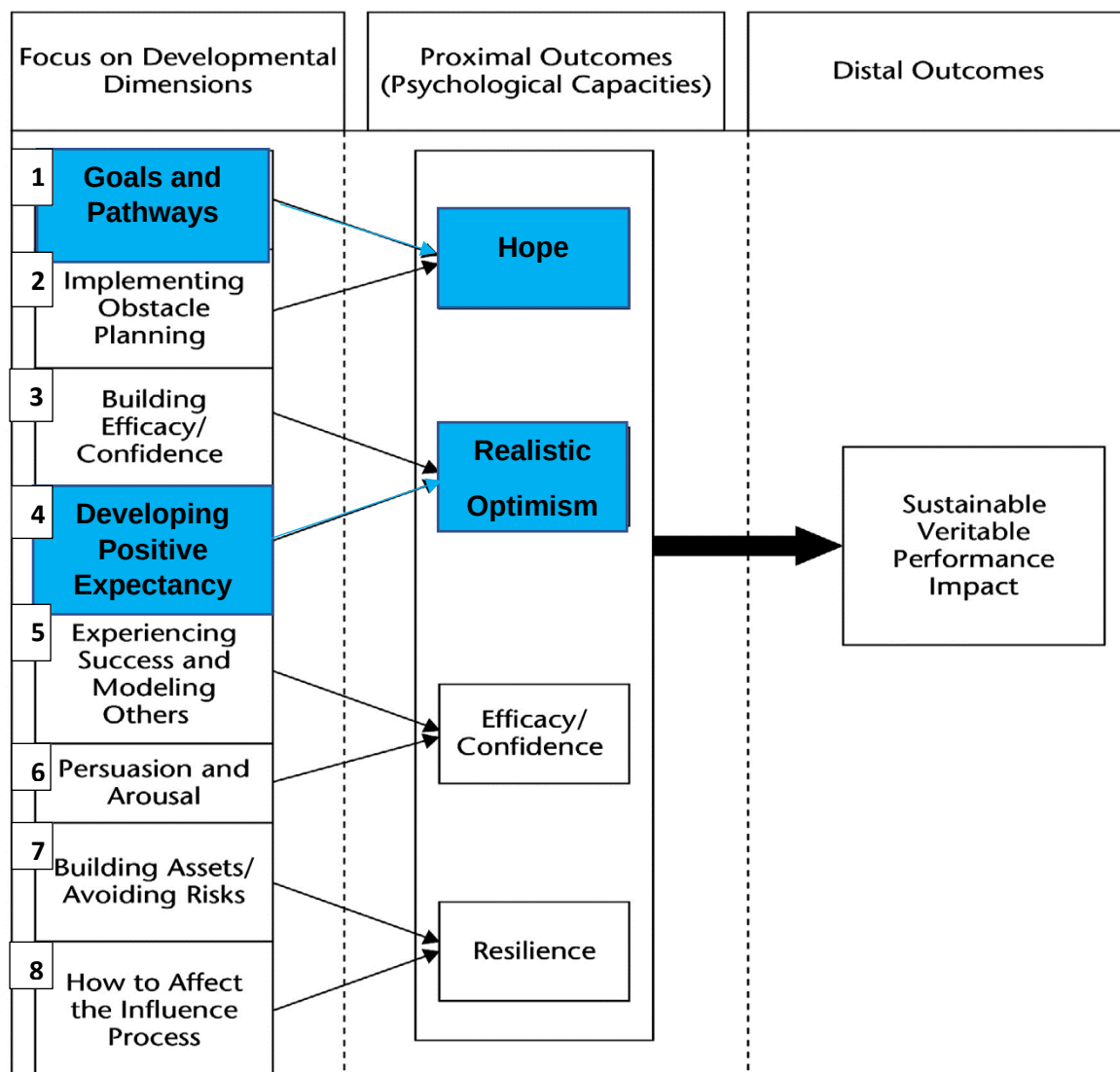
Furthermore, Luthans, Avey, Avolio and Peterson (2010) investigated the development of PsyCap, using the PCI, and its impact on performance. First, a pilot test was conducted to examine the impact of the PCI. A randomized control group design was used. Pre and post-test measures were collected from the experimental and control group. The pilot study sample consisted of advanced management students, randomly assigned to the experimental or control group. The experimental group participated in the PCI with a duration of two hours. The control group received a decision-making intervention. Participants who took part in the PCI reported increased PsyCap and those who underwent the decision-making intervention displayed no substantial increase in PsyCap.

After the pilot test, a follow-up study assessed the influence of the PCI on PsyCap and the performance of practicing managers (Luthans, Avey, Avolio & Peterson, 2010). This was the main study and comprised of managers from various organisations. The participants took part in a two-hour intervention with one group and no control group (Luthans, Avey, Avolio & Peterson (2010). The research provided support for the use of short interventions such as the PCI to enhance PsyCap and improve performance (Luthans, Avey, Avolio & Peterson, 2010). The study was a further test of the PCI, following the preliminary results from the study by Luthans, Avey, and Patera (2008).

Based on the outcomes of the presented PCI studies, the intervention consistently produced significant results in terms of its impact on PsyCap. Despite the different samples of students and managers, the mode of delivery, and the varying levels of PsyCap, the PCI was effective.

2.4.4. Interaction between PsyCap Capacities

Adapted from the PCI (Luthans, Avey, Avolio, Norman & Combs, 2006), Figure 1 illustrates the eight developmental dimensions used to develop the four psychological capacities of PsyCap. The developmental dimensions contribute to the capacities as follows: Hope is developed through (1) goals and pathways and (2) implementing obstacle planning; optimism through (3) building efficacy or confidence and (4) developing positive expectancy. Efficacy is established by (5) experiencing success and modelling others and (6) persuasion and arousal; resilience by (7) building assets or avoiding risks and (8) how to affect the influence process.

Figure 1*Psychological Capital Intervention: Developmental Dimensions and Outcomes*

Source: Adapted from Luthans, Avey, Avolio, Norman, and Combs (2006)

Firstly, the developmental dimensions (1 and 4) and psychological capacities (hope and optimism) central to the present study are highlighted in blue in Figure 1. Secondly, despite the contribution of (2) obstacle planning and (3) building efficacy to hope and optimism, respectively, these developmental dimensions are not considered in the current study. The relevant dimensions (1 and 4) are selected to distinguish the variables of hope and optimism from efficacy and resilience, limit potential overlap and avoid a possible dual impact on the central and non-central capacities. Applying (2) obstacle planning, as with the dimension of (7) avoiding risks, may trigger resilience. Furthermore, although (3) building efficacy or confidence is a developmental dimension for optimism, it may impact efficacy as an outcome.

Lastly, the direct developmental dimensions for developing efficacy (dimensions 5 and 6) and resilience (dimensions 7 and 8) are also not central.

The PsyCap capacities (hope, efficacy, resilience, optimism) are abbreviated to form the word HERO (Luthans & Youssef-Morgan, 2017), combining the first letter of each of the constructs. In this manuscript, an additional acronym, HO, is included to represent hope and optimism. Using a deductive argument, the position of the current research on PsyCap is presented as follows:

Premise 1: HERO is PsyCap

Premise 2: HO is not HERO

Conclusion: HO is not PsyCap

Based on the reasoning, developing the capacities of hope and optimism is not the same as developing hope, efficacy, resilience, and optimism, which jointly are, overall PsyCap. It is of theoretical interest to establish whether overall PsyCap (HERO) is influenced in targeting hope and optimism (HO).

It is noteworthy that the PsyCap components create synergy and so when one capacity is affected, the others may also be affected (Peterson, Luthans, Walumbwa, & Zhang, 2011). The convergence of the PsyCap factors may result in the factors acting as pathways to resilience. Individuals who are hopeful, optimistic, and confident are likely to recover from difficulties (be resilient) (Luthans, Vogelgesang, Lester, 2006). The interactions between the PsyCap variables presuppose blurred boundaries between them. According to Luthans, Youssef, and Avolio (2007), the capacities of PsyCap can interact in this manner:

hopeful persons who possess the agency and pathways to achieve their goals will be more motivated to and capable of overcoming adversities and, thus, be more resilient. Confident persons will be able to transfer and apply their hope, optimism, and resiliency to the specific tasks within specific domains of their lives. A resilient person will be adept at utilising the adaptational mechanisms necessary for realistic and flexible optimism. PsyCap self-efficacy, hope, and resiliency can in turn contribute to an optimistic explanatory style through internalized perceptions of being in control. These are just representative of the many positive outcomes that may result from the interaction among the PsyCap factors. (p.19)

A focus on developing one or two capacities may produce the same effects observed with overall PsyCap (Luthans, Avey, Avolio, & Peterson, 2010), bearing in mind that the PsyCap constructs display synergy (Luthans, Vogelgesang, Lester, 2006; Luthans, Youssef & Avolio, 2007; Peterson, Luthans, Walumbwa, & Zhang, 2011). Based on the possible interactions, the present study considers overall PsyCap and focuses primarily on developing hope and optimism using the Best Possible Self (BPS) intervention as an alternative to the Psychological Capital Intervention.

2.5. Best Possible Self

The Best Possible Self, first used by King (2001), intends to promote positive emotions (Loveday et al, 2018). Over 30 studies used the BPS to promote various outcomes such as optimism, positive affect, and wellbeing (Loveday et al, 2018; Peters et al, 2010). Additionally, BPS studies have focused on optimism using the Life Orientation Test (original and revised) as a measure and students as a sample (Boselie et al., 2014; Boselie et al., 2016; Boselie et al., 2017; Hanssen et al., 2013; Meevissen et al., 2011; Peters et al., 2010; Peters et al., 2013; Peters et al., 2015). The intervention entails writing about the future self. As much as writing is important, speaking about the future self is more beneficial for participants and the use of mental imagery is also encouraged (Loveday et al, 2018). The process of creating the possible selves allows individuals to actively shape their development (Markus & Nurius, 1986).

The idea of the possible self motivates behaviour directed to future outcomes (Round & Burke, 2018). Round and Burke (2018) later applied a similar but tailored BPS intervention for a sample of retirees. Their adapted intervention was referred to as the Best Possible Self Goals (BPSG) (Round, 2016) and merged the Best Possible Self (BPS) by King (2001) with goal setting (Round & Burke, 2018). The study by Round and Burke (2018) aimed to examine experiences of the positive psychology intervention and to look at the contribution of the intervention to retirement wellbeing. The qualitative study used phenomenological analysis and participatory action research. Three retired women participated in the research. Participants were given journals to engage in expressive writing regarding their best possible selves for four days (20 minutes each day). They used smart goal setting sheets to independently complete a maximum of 5 goals. Each participant took part in two separate interviews and a final group discussion (Round & Burke, 2018). The BPSG intervention had a positive contribution to perceived retirement wellbeing and enhanced the hedonic-eudaimonic balance (Round and

Burke, 2018). This study is applicable as the present inquiry also incorporates a modified version of the BPS which involves goal setting.

The current Best Possible Self (BPS) intervention, adapted from King (2001), includes aspects of smart goal setting and envisioning one's best possible self, targeted at hope and optimism, respectively. The tailored BPS intervention encompasses two motivation theories, namely, goal setting theory and possible selves theory (Lazowski & Hulleman, 2016). Consequently, the BPS is not aimed at imparting academic content but at the psychology of individuals, in this case, students (Yeager & Walton, 2011). Small interventions aimed at influencing students' beliefs such as their mindsets can impact academic improvement (Wilson & Buttrick, 2016). Furthermore, in the university setting, students should see the connection between training content and their campus life (Burke & Hutchins, 2007). Therefore, goal setting theory based interventions encourage students to set specific and realistic goals related to their studies (Lazowski & Hulleman, 2016).

In developing hope, aspects such as designing goals and pathway generation are considered (Luthans, Avey et al., 2006). The goal setting dimension included in the present study enables the formation of clear goals using smart goal setting. For example, a student may set a goal to achieve an average of 75% in the second semester of their studies. Action steps (generating pathways) to achieve the main goal are also set. An action step may entail allocating an additional 3 hours a day to specific modules. This process of establishing anticipated accomplishments is used to contribute to a realistic BPS. In terms of the BPS, the possible selves is a conceptual representation of the person that an individual wants to be (Markus & Nurius, 1986). Possible selves theory inspired interventions allow students to link their future selves to their current academic involvement (Lazowski & Hulleman, 2016).

Tinto (2017) provides different factors to enhance motivation to persist, he acknowledges that institutions need to assist students in clarifying their goals to foster motivation and persistence. In line with this responsibility placed on institutions, the current intervention is positioned within the curriculum as a tutorial activity for personal development in areas such as goal setting and problem-solving which are beneficial to academic and professional life. Both tasks (experimental and control group) are helpful but develop different capacities. The Best Possible Self (BPS) intervention, which is the main experimental group intervention, fosters hope and optimism through goal setting and the BPS personal story. The Daily Activity (DA) exercise for the control group may contribute to problem-solving capacity.

Academic demands are managed through goal setting and interpersonal relationships through problem-solving (Riolfi et al., 2012).

The method chapter presents details of the intervention, including the exercises completed by participants, the intervention materials (videos and worksheets) given to participants, the step-by-step process of the intervention. The BPS Intervention Programme (Appendix A) provides more information on the activities of the intervention. For each activity, the objective, duration, and constructs developed are stated accordingly.

2.6. Rationale, Research Aim, and Research Questions

2.6.1. Rationale

PsyCap is rooted in the positivity movement and is based on the premise that if people positively view situations, they are likely to thrive (Harms & Luthans, 2012). Hope and optimism are two capacities presented as part of PsyCap (Luthans, Youssef & Avolio, 2007). Feldman and Kubota (2015) recommend exploring interventions that may enhance hope in the academic domain, given the impetus of a strong relationship between hope and GPA. Snyder, Shorey et al., (2002) suggest that "...hope may be a lesson worth learning" (p.824) in universities. As with hope, there is value in promoting optimism, a concept supported for adjustment in the learning environment (Morton et al., 2014). Further, research attention is needed in examining hope and optimism to improve academic success (Bressler et al, 2010).

A widely applied positive psychology intervention is the Best Possible Self (BPS) (King, 2001). Recommendations have been made to explore the effect of the optimism promoting BPS on hope (Loveday et al, 2018; Heckerens et al, 2019) on a practical level. The receptiveness to additional insight on whether influencing one or two PsyCap constructs may have the same impact as with PsyCap (HERO) (Luthans, Avey, Avolio & Peterson, 2010), is also relevant. Therefore, it is of theoretical interest to understand whether a BPS intervention effect or no effect on hope and optimism can yield the same result on overall PsyCap. Cognizant that the PCI is an established intervention for enhancing PsyCap (HERO) (Luthans, Avey, Avolio, Norman & Combs, 2006), the present study explores an alternative and enhanced intervention.

The current research contributes to addressing the dearth of studies on the BPS, incorporating goal setting, aimed at developing both hope and optimism and its impact on overall PsyCap. The study is an opportunity to simultaneously examine the impact, if any, of

the BPS intervention and test the PsyCap theory. Intervention studies are worthwhile as recommendations can be made for educational practice (Lazowski & Hulleman, 2016).

2.6.2 Research Aims

The current study aims to investigate the effect of the BPS intervention on hope and optimism, which are two of the four constructs of PsyCap. Based on the possibility of interaction between PsyCap constructs, the effect of the BPS on overall PsyCap will also be explored. An evaluation of the process of the intervention will be carried out to investigate the factors responsible for the observed results.

2.6.3. Research Questions

Effect (Quantitative)

1. Is there an effect of the BPS intervention on levels of hope?
2. Is there an effect of the BPS intervention on levels of optimism?
3. Is there an effect of the BPS intervention on levels of overall PsyCap (hope, self-efficacy, resilience, and optimism)?

Process (Qualitative)

The following research question is posed for participants to provide their detailed insight on the process of the intervention. The feedback will be used to understand the results on the effectiveness of the intervention.

1. What are the perceptions of students in terms of the manner in which the intervention was delivered and its contribution?

3. Method

3.1. Sample

The sample consisted of first-year students registered for a 4-year degree in the Faculty of Health Sciences (Therapeutics) at the University of the Witwatersrand and taking a course in Psychology for the Health Sciences. The course comprised tutorials with activities aimed at fostering academic and professional development. Therefore, the BPS and DA intervention tasks were conducted as part of a tutorial class activity for all the students on the course.

A non-probability and convenience sampling (Etikan et al, 2016) was employed. In non-probability samples, the probability that each member of the population is selected is unknown (Acharya, Prakash, Saxena & Nigam, 2013). Random sampling was not possible in tutorial class settings with predefined groups. Convenience sampling entails selecting individuals that are available and willing to take part in the study (Onwuegbuzie & Collins, 2007). Students who volunteered to participate formed the samples in the quantitative and qualitative phases of the mixed methods research.

A total of 47 students participated in the quantitative phase of the study. Seventeen participants were removed from the study as they completed the pre-test questionnaire only. Both the pre-test and post-test scores were required to determine whether there were differences in hope, optimism, and PsyCap levels following the BPS or DA intervention.

In the initial quantitative data collection process, the response rate was poor (approximately 12.31%). Out of 130 students, 16 completed the pre-test and post-test with 8 in the experimental group (BPS intervention) and 8 in the control group (Daily Activities task). The data was insufficient for data analysis. Additional data was collected from a different group of 167 first-year students who were also from the Faculty of Health Sciences (Therapeutics). Of the 167 students, 14 completed the pre-test and post-test with 6 in the experimental group and 8 in the control group. All the quantitative data collected were combined. A final total of 14 participants were in the experimental group and 16 in the control group.

Participation was voluntary and students were allowed to decide not to complete the post-test even if they took the pre-test. Hence, there were two more participants in the control condition that responded to both the pre-test and post-test. Therefore, the researcher was

unable to determine or control the number of participants in the BPS or DA group who would complete the post-test. The intervention was completed before the post-test.

Attrition is one of the challenges of multiple waves of data collection and its accumulation across the data collection points reduces the number of participants (Lavrakas, 2008). Hence, 30 participants constituted the final sample. Qualitative data was collected through semi-structured interviews with six of the 30 students who participated in the quantitative stage of data collection and were in the BPS group. The interviews were audio-recorded.

3.2. Procedure

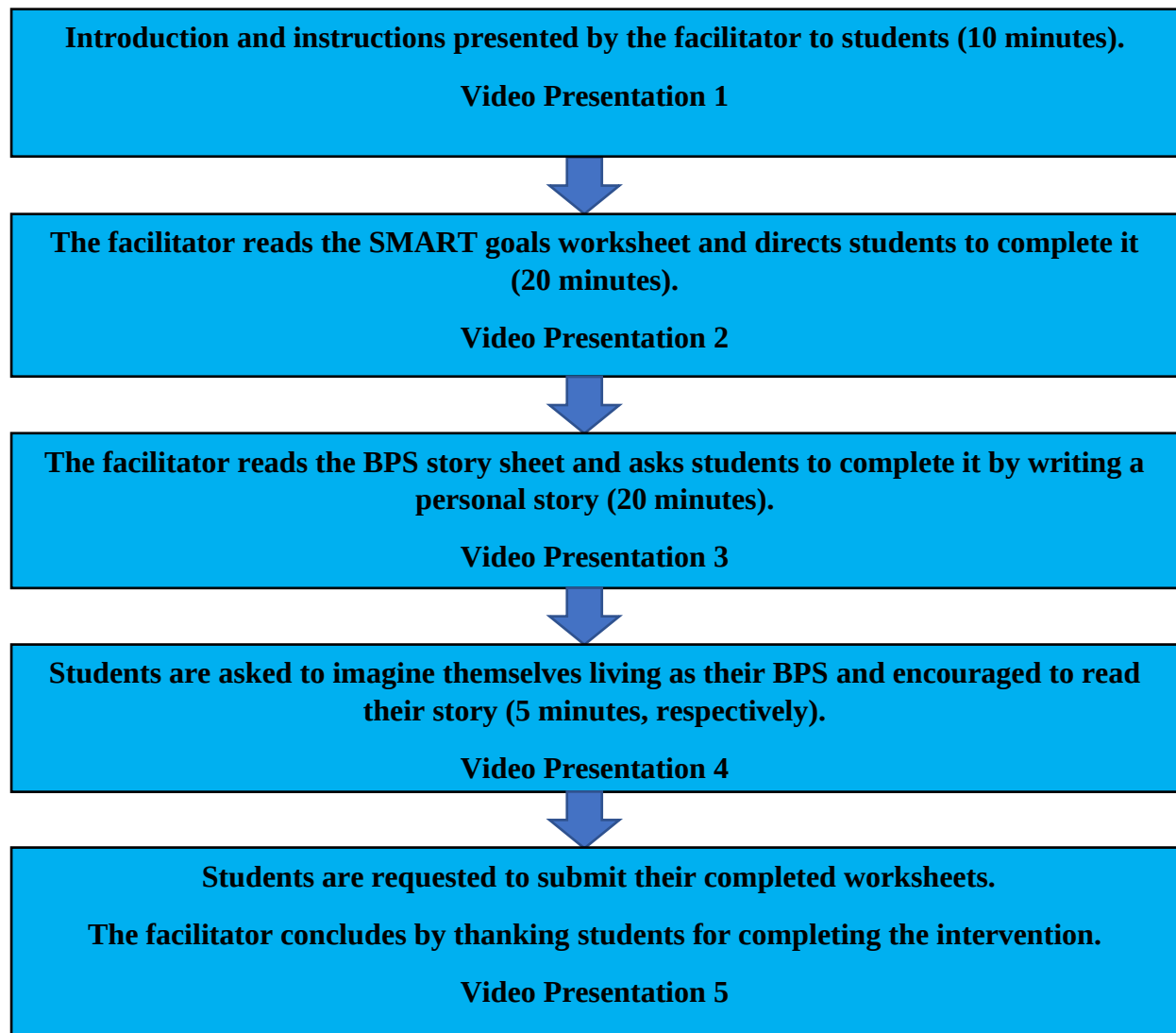
A pilot study was conducted to establish whether the materials (worksheets and videos) for the intervention, adapted instruments and the qualitative interview questions were usable as they were or if modifications were required. The pilot was conducted with five Master's students from Wits University. Based on the feedback from the pilot, the table for sub-goals in the BPS intervention worksheet was reformatted for ease of completion in the actual study. The DA exercise worksheet was clear for all participants. No changes were made to the videos, questionnaire, and interview questions as they were understood by all.

The data collection was completed with first-year students from the Faculty of Health Sciences (Therapeutics). Data collection took place over approximately four weeks. This included completion of the following aspects: pre-test in week one, intervention in week two, post-test in week three, and the interviews in week four. Students were invited to participate in online assessments (before and after the intervention). An email containing the participant information sheet (Appendix B) and a link to the online questionnaire set up on Google Forms, were sent to students. Consent to participate (Appendix C) in the study was requested online before proceeding with the questionnaire. Participants were also sent email reminders to complete the questionnaire.

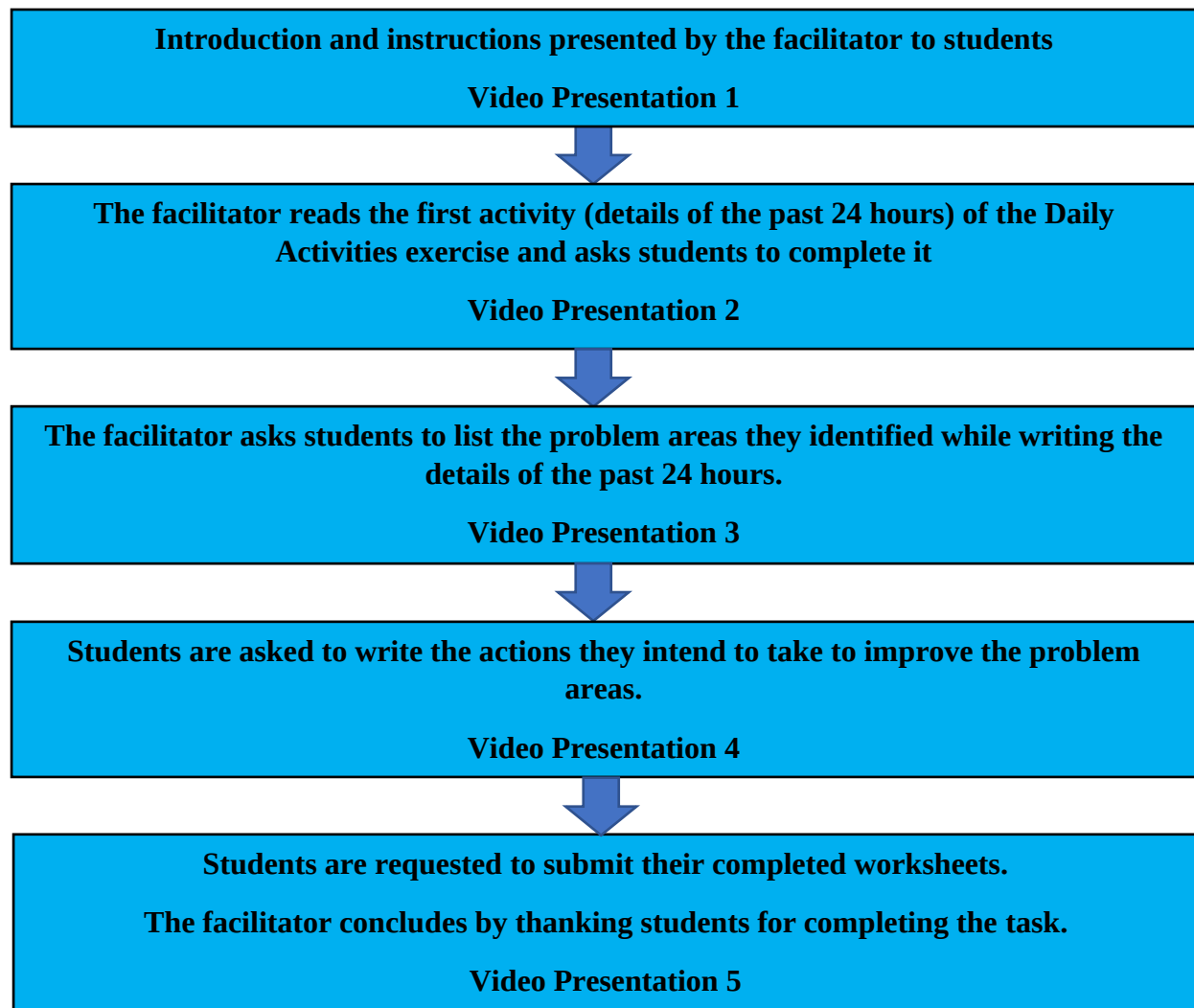
Based on the consent to participate in the study and completion of the pre-test, the students opting to take part in the study were allocated to the experimental or control condition. Participants were randomly assigned to the BPS or DA intervention after the pre-test. On the list of participants, the first participant was assigned to the BPS group, the second to the DA group, the third to BPS, and the fourth to DA. Therefore, between two participants, every first participant was assigned to the BPS and every second to the DA, until everyone was allocated. Students who opted out completed the DA task.

The BPS and DA interventions were administered online using recorded Microsoft PowerPoint video presentations (Appendix D) that were accessible by students from Sakai and Ulwazi (Canvas) course sites. The Best Possible Self (BPS) intervention required participants to complete a smart goal-setting task for clear and realistic academic goals, they also recorded their skills and desires (Meevissen et al, 2011). Participants then used the information to think, write, imagine and speak about their Best Possible Self in terms of their professional (career) life. Participants were strongly encouraged to read their BPS to themselves or an individual with whom they were comfortable. They were not required to submit evidence of reading the story. Literature suggests the benefits are greater when reading or speaking of one's BPS (Loveday et al, 2018) however, there are also benefits in writing which is the initial conceptualisation of the BPS exercise.

Participants in the experimental group had access to the narrated video presentations to guide them through the BPS worksheets (Appendix E) completed and submitted as a word document, to the researcher. Figure 2 presents a step-by-step breakdown of the process for the online BPS intervention.

Figure 2*Process for BPS Intervention*

Participants in the control group were asked to write about their activities in the past 24 hours. Guidelines on how to write about the DA were provided using narrated video presentations. The completed DA worksheet (Appendix F) was also submitted as a word document. Figure 3 presents a breakdown of the online control condition exercise.

Figure 3*Process for DA Intervention*

An attempt was made to standardise the formats of the BPS and DA interventions but also include different content as the BPS is the main intervention that is under investigation. This strategy is comparable to that used by Luthans, Luthans, & Avey (2014). In their study on developing academic PsyCap, the scholars used the PsyCap intervention for the experimental group and a different, next best intervention for the control group. The control group intervention targeted team building and leadership which are not the four constructs of PsyCap. Most important, the two interventions comprised similar duration and exercise formats to maintain as much equivalence, as possible, in the two conditions (Luthans, Luthans, & Avey, 2014).

The post-test was administered a week after the BPS and DA interventions. The post-test questionnaire was the same measure as the pre-test questionnaire and both were distributed in the same way, explained earlier in the online assessments (before and after the intervention) procedure. BPS participants who showed interest in being interviewed by providing their contact details in the questionnaire were invited for semi-structured interviews (Appendix G). Each participant completed and submitted a consent form (Appendix H) before the interview took place on Microsoft Teams.

3.3. Measures

3.3.1. Demographic Information

The demographic section elicited data such as student number, year of study, length of the degree, gender, race, age, home language. The information was collected to represent the diversity of the sample (see Table 3 for sample demographic characteristics).

3.3.2. PCQ-24

The researcher requested individual permission from www.mindgarden.com to use the Psychological Capital Questionnaire. Permission to use the PCQ-24 was granted on 31 May 2020 (Appendix I). The PCQ-24 (Luthans, Avolio & Avey, 2007) (Appendix J) items were adapted to reflect the academic, student environment as the original questionnaire contains items phrased for the work and employee context. For example, one of the 24 items states “I’m optimistic about what will happen to me in the future as it pertains to work”. This item was revised to “I’m optimistic about what will happen to me in the future as it pertains to my studies” (Appendix K). The PCQ-24 measures overall PsyCap including its four dimensions of hope, self-efficacy, resilience, and optimism. The efficacy subscale is adapted from Parker (1998); hope subscale is adapted from Snyder, Sympton, Ybasco, Borders, Babyak, Higgins (1996); resiliency subscale is adapted from Wagnild and Young (1993); and optimism subscale is adapted from Scheier and Carver (1985) (Luthans et al., 2007). The PCQ-24 self-report measure consists of a Likert-type scale with anchors 1= strongly disagree to 6=strongly agree.

3.3.3. Interviews

Semi-structured interviews were conducted to explain the quantitative results in terms of the process used in the implementation of the intervention. The interview questions considered the usefulness of the intervention and suggestions from participants were invited. Participants were asked questions set out in the interview schedule (Appendix L). In instances where it was

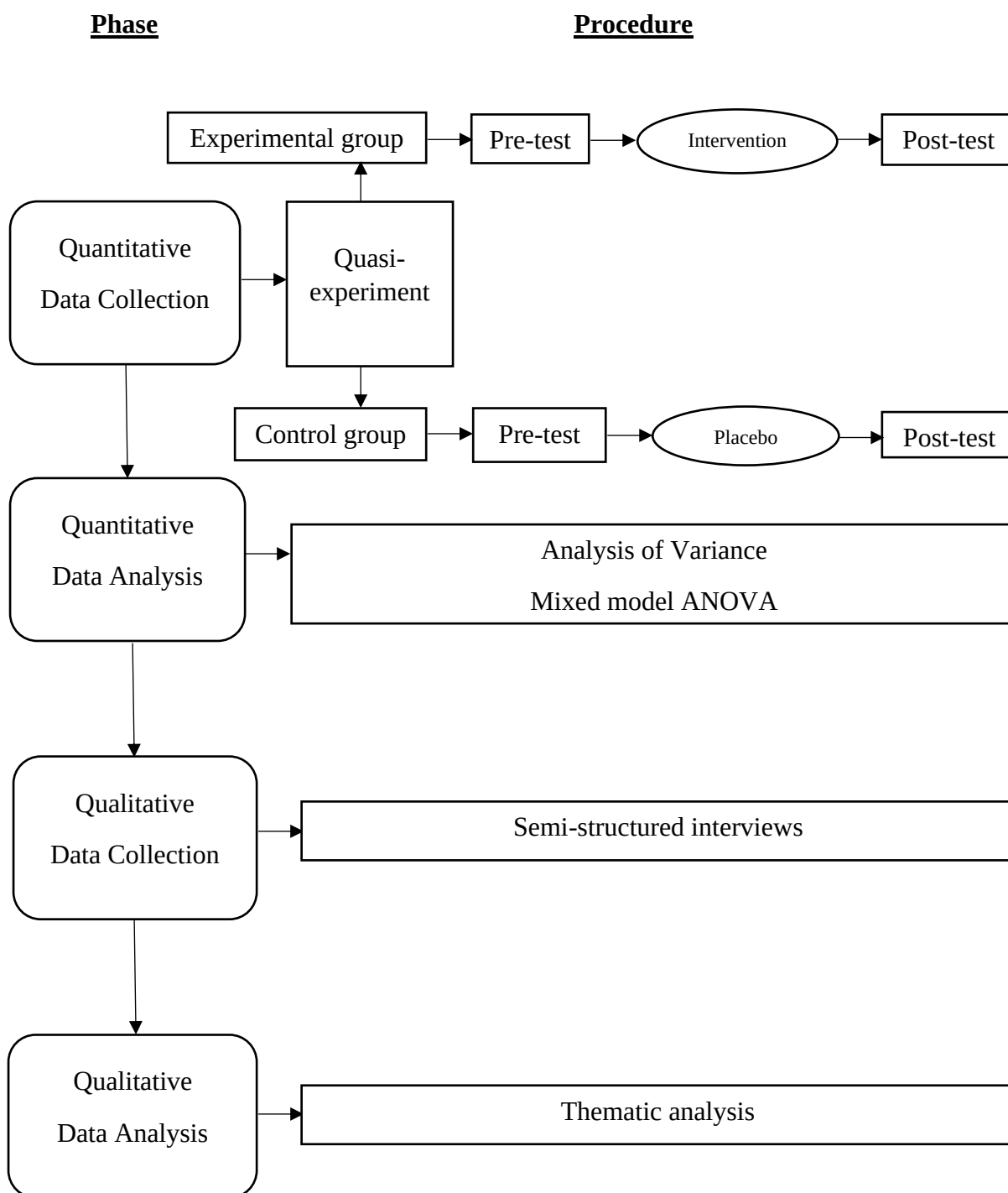
necessary, the researcher asked follow-up questions to clarify the answers provided by participants.

3.4. Research Design

The current study used a mixed methods (Creswell & Creswell, 2017) explanatory sequential design (Ivankova et al., 2006). Due to the limitations of quantitative data in providing possible explanations for the results, the quantitatively driven design incorporated the core quantitative component followed by the supplemental qualitative component to explain the quantitative results (Creswell & Creswell, 2017; Schoonenboom & Johnson, 2017). The quantitative component involved a quasi-experimental design (Gribbons & Herman, 1997). The research was carried out in a field setting (Reichardt, 2019) consisting of participants randomly assigned to the experimental or control group. However, the sample of students was in predetermined tutorial groups with no random selection from the population (Osborn, 2019).

A quasi-experiment was executed, as basic and applied research (Reichardt, 2009). At the basic research level, the quasi-experimental design was used to examine the effect of the BPS intervention to test the theory of PsyCap. On the other hand, at the level of applied research, the quasi-experiment was implemented to establish if a contribution to the development of hope and optimism is feasible using the BPS intervention.

The quantitative method was a quasi-experimental pre-test post-test non-equivalent group design (Gribbons & Herman, 1997; Reichardt, 2019). The qualitative aspect of the design entailed semi-structured interviews to evaluate the BPS intervention. The integration of the results of the two components aimed to establish whether there was an effect of the intervention and to describe the underlying process (Schoonenboom & Johnson, 2017). Figure 4 presents a model of the mixed methods explanatory sequential design encompassing a quasi-experiment pre-test post-test non-equivalent group design and semi-structured interviews.

Figure 4*Model of Mixed Methods Design and its Components*

Adapted from Ivankova, Creswell & Stick (2006)

3.5. Data Analysis

Data preparation of the quantitative data took place on Microsoft Excel before data analysis. The data was downloaded from Google Forms to an Excel document. It was cleaned, checked for missing data and out of range scores for each subscale and the overall PsyCap scale. The relevant items (13, 20, and 23) were reverse scored and totals for efficacy, hope, resilience, optimism, and overall PsyCap were computed. Statistical Package for the Social Sciences (SPSS) version 27 was used for the preliminary and main analyses. The qualitative data were recorded during interviews and later transcribed (Appendix M). Thematic analysis (Braun & Clarke, 2006) was used.

3.5.1. The Effect of the BPS Intervention on Hope, Optimism and Overall PsyCap

The assumptions of the mixed model ANOVA were tested before using the technique. The Shapiro-Wilk test of normality was conducted to test whether the data were normally distributed. To test for equal variances, Levene's test for homogeneity of variances was performed. Box plots were used to determine significant outliers. Mauchly's Test of Sphericity was considered. A mixed model ANOVA was used to establish the difference within groups (pre-test and post-test) and between groups (treatment and control condition).

3.5.2. An Evaluation of the Process of the Intervention

Thematic analysis was conducted using the data from the semi-structured interviews. Themes were identified to report on the patterns that emerged to form the experience of the participants, the intervention-related aspects which were successful, and areas for improvement.

3.6. Ethical Considerations

Ethics clearance for the study was granted by the School of Human and Community Development Ethics Committee (Protocol Number: MASPR/20/04) (see Appendix N). Permission to conduct research with the student sample was requested (see Appendix O) and granted by the Wits University Deputy Registrar's office. In addition, the Deputy Registrar's office approved the researcher's request to communicate with participants through an established tutorial site with the assistance of the tutorial (course) coordinator. The participant information sheets (Appendix B and G) and consent forms (Appendix C and H) were sent to students for informed consent.

Confidentiality was guaranteed and maintained as the data collected was accessible to the researcher and researcher's supervisor only. The data collection point was protected with a password. The data was also stored on a password protected computer. Anonymity could not be guaranteed as all participants provided their student numbers and some participated in interviews. However, confidentiality measures were in place to protect the identities of participants. Research IDs were allocated to participants and pseudonyms were used in reporting the qualitative data.

Participation in the study was voluntary and participants could withdraw from the study. Students who did not opt to participate received the control group exercise material. They did not complete questionnaires or engage in the interviews. To manage the ethical conflict of offering the BPS intervention to one group and a placebo to another group, it was intended that the BPS intervention would be offered to the placebo group if it were effective.

Some participants may have experienced slight uneasiness during the BPS intervention while setting academic goals and thinking of their future as professionals. For first-year students, some students may have enrolled for a degree that was not their first choice. There may have been students who were underperforming in their studies. Therefore, students might have had different experiences of the BPS intervention. Participants in the Daily Activities control group may have felt discomfort if the activities they had experienced in the past 24 hours were unpleasant. Hence, participants were referred to Wits University's Careers and Counselling Development Unit (CCDU) and the Wits Student Crisis Line, if they experienced any discomfort while completing the exercises. The referral was provided to ensure the wellbeing of all the students. There were no participants who indicated, to the researcher, discomfort during their participation in the study.

4. Results

The results of the preliminary and main statistical analyses performed for the research are presented in this section. Firstly, the summary of the sample gender, race, age, home language is presented. Secondly, psychometric statistics and descriptive statistics providing results for the scales used to collect quantitative data are presented. Thirdly, the results of the main analyses are provided. The main analyses consisted of mixed model ANOVA examining the effect of the BPS intervention on hope, optimism, and overall PsyCap. Lastly, the findings of the thematic analysis of the qualitative data are reported to provide an evaluation of the intervention.

4.1. Demographic Characteristics of the Sample Gender, Race, Age, Home Language

The sample of 30 students consisted mainly of female (90%), black (70%) participants (see Table 3). The age category 18 – 23 was selected by all participants. Therefore, participants were between the ages of 18 to 23 years. The distribution of home languages was varied as follows: English (26.7%), isiZulu (16.7%), Setswana (10%), Tshivenda (10%), Xitsonga (10%), Afrikaans (6.7%), Sesotho (6.7%), siSwati (6.7%), isiXhosa (3.3%), Sepedi (3.3%) (see Table 3).

Table 3*Sample Demographic Characteristics: Gender, Race and Home Language (N=30)*

Characteristics	Frequency	Percentage (%)
Gender		
Female	27	90.0
Male	3	10.0
Total	30	100
Race		
Black	21	70.0
Indian	2	6.7
White	7	23.3
Total	30	100
Home Language		
Afrikaans	2	6.7
IsiXhosa	1	3.3
English	8	26.7
IsiZulu	5	16.7
Sepedi	1	3.3
Sesotho	2	6.7
Setswana	3	10.0
SiSwati	2	6.7
Tshivenda	3	10.0
Xitsonga	3	10.0
Total	30	100.1

4.2. Psychometric Statistics

The internal consistency of the PCQ-24 was assessed using Cronbach's alpha. For research purposes coefficient alpha above .7 is acceptable (Bennett & Allen, 2012). Internal consistency reliability is the extent to which there is homogeneity in the components of an instrument in that they measure the same aspect (Huck, 2012).

Table 4 shows the internal consistency coefficient alpha (Cronbach's alpha) of the PsyCap subscales and overall PsyCap (PCQ-24) scale. Measures were taken at two different times. All subscales, pre-test and post-test, had 6 items and the overall PsyCap scale, pre-test and post-test, consisted of 24 items in total. Hope (.756 and .760), efficacy (.805 and .814) and overall PsyCap (.828 and .856) yielded acceptable Cronbach's alpha above .7 at both time points. The resilience pre-test (.629) coefficient alpha was below .7 and the resilience post-test produced the lowest coefficient alpha of .452. Optimism pre-test (.522) and post-test (.635) also showed low reliability.

Table 4

Reliability of Scales (N= 30)

Scale	Number of items	Cronbach's alpha
Hope pre-test	6	.756
Efficacy pre-test	6	.805
Resilience pre-test	6	.629
Optimism pre-test	6	.522
Overall PsyCap pre-test	24	.828
Hope post-test	6	.760
Efficacy post-test	6	.814
Resilience post-test	6	.452
Optimism post-test	6	.635
Overall PsyCap post-test	24	.856

Note. pre-test = time 1; post-test = time 2.

Scales with less than 10 items may produce low coefficient alpha values such as .5 and, in that case, the mean inter-item correlation can be reported (Pallant, 2016). The ideal consistency is reached when the values for mean inter-item correlations range from .2 to .4 (Briggs & Cheek, 1986). Table 5 displays the mean inter-item correlations for the items. All the mean inter-item correlations are between the ideal range of .2 and .4, rounded off to 1 decimal place. However, the optimism pre-test and resilience post-test are still problematic as they are below the .2 cut-off. All scales were optimal except for the optimism pre-test and resilience post-test that were suboptimal, suggesting low consistency in the items of the two scales.

Table 5*Mean Inter-Item Correlations*

Scale	Mean inter-item correlations
Hope pre-test	.354
Efficacy pre-test	.422
Resilience pre-test	.234
Optimism pre-test	.140
Overall PsyCap pre-test	.179
Hope post-test	.321
Efficacy post-test	.430
Resilience post-test	.136
Optimism post-test	.256
Overall PsyCap post-test	.209

Furthermore, reverse-scored items are also known to reduce scale reliability (Schmitt & Stults, 1985). Items 13 (resilience), 20 (optimism), 23 (optimism) were reverse scored. Hence, the resilience and optimism subscales presented issues of lower reliability. As mentioned earlier, under the discussion on PsyCap measure, in previous studies optimism (see Luthans, Avolio, Avey & Norman, 2007; Görgens-Ekermans & Herbert, 2013) and resilience (see Luthans, Avolio, Avey & Norman, 2007; Luthans, Avey, Avolio & Peterson, 2010; Görgens-Ekermans & Herbert, 2013) had low internal consistency reliability. The problematic PsyCap items in the present study were not removed as the weightings for each construct that contributes to the overall PsyCap score would be impacted. Subscales with more items would be weighted more in the overall PsyCap score (Görgens-Ekermans & Herbert, 2013). Consequently, all items of the PCQ-24 were retained. However, it is important to note that the findings drawn concerning the problematic scales must be interpreted with caution.

4.3. Description of the Pre-test and Post-test PsyCap Variables

The descriptive statistics for the hope, efficacy, resilience, optimism, and overall PsyCap pre-test and post-test variables were performed to provide the minimum, maximum scores, mean scores, standard deviations, skewness values, and coefficient of kurtosis (Table 6).

Table 6*Descriptive Statistics (N=30)*

Scale	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis
Hope pre-test	13	34	27.33	4.51	-1.046	1.858
Efficacy pre-test	10	35	23.33	5.74	-.234	.377
Resilience pre-test	15	33	24.77	4.73	-.279	-.067
Optimism pre-test	16	33	25.53	4.22	-.635	.101
Overall PsyCap pre-test	78	130	100.97	13.75	.109	-.705
Hope post-test	19	35	27.20	4.24	-.169	-.920
Efficacy post-test	11	35	23.63	5.89	-.283	-.232
Resilience post-test	19	33	25.90	3.77	-.099	-.755
Optimism post-test	14	35	25.10	4.60	.031	.410
Overall PsyCap Post-test	79	133	101.83	14.29	.210	-.555

4.4. Assumptions of Main Analyses

Mixed model ANOVA was used to address the three quantitative research questions: (1) Is there an effect of the BPS intervention on levels of hope? (2) Is there an effect of the BPS intervention on levels of optimism? (3) Is there an effect of the BPS intervention on levels of overall PsyCap (hope, self-efficacy, resilience, and optimism)? The mixed model ANOVA assumptions that follow were assessed.

The parametric approaches assume that the dependent variable is measured at the interval or ratio level (Pallant, 2016). As a result, to conduct a mixed model ANOVA the dependent variable should be measured as interval or ratio data (Bennett & Allen, 2012). The assumption was met as the dependent variable, PsyCap, and its dimensions (hope, efficacy, resilience, and optimism), are considered as interval data measured on a Likert-type scale of 1 to 6.

The within-subjects factor of time comprised two categorical related pairs. The PsyCap scores for each participant were taken at two different times, that is (1) before (pre-test) and (2) after (post-test) the intervention. The between-subjects factor of conditions was

made up of two categorical independent groups, the BPS and DA intervention groups. Each participant was in only one of the two groups and no participant experienced both interventions during the study.

Box plots (Appendix P) were examined for all scales across the two times, pre-test and post-test, and conditions, BPS and DA. The following outliers were identified: case number 4 in the BPS group scored 13 out of a possible total of 36 on the hope subscale in the pre-test; case number 7 in the BPS group scored 10 out of a possible total of 36 on the efficacy subscale in the pre-test; case number 11 in the BPS group scored 130 out of a possible total of 144 on the PsyCap scale in the pre-test. Outliers were not detected on the hope post-test, efficacy post-test, resilience pre and post-test, optimism pre and post-test, and PsyCap post-test. No outliers were identified on the DA intervention pre-test and post-test across all scales. In terms of the three outliers observed, the data was checked for errors in data capturing. The outliers were not errors but the actual scores of participants. Hence, the outliers were included in the analyses.

The Shapiro-Wilk test which is usually utilised for small samples (Bennett & Allen, 2012) was used to establish normality of the data. If the Shapiro-Wilk statistic (W) is non-significant ($p > .05$) the data is normally distributed (Bennett & Allen, 2012). Table 7 shows that the data were approximately normally distributed for all dependent variables, except for the hope pre-test ($p = .012$). Skewness and kurtosis (Table 6) were also assessed to confirm normality. Values that fall between -1 and +1 indicate that variables are approximately normally distributed (Huck, 2012). Consistent with the Shapiro-Wilk test results, all skewness and kurtosis values except for hope pre-test ($S = -1.046$, $K = 1.858$) were within the cut-off. The slight violation of the assumption is not an issue (Bennett & Allen, 2012) as the mixed model ANOVA is a robust technique that is tolerant to the violation (Pallant, 2016).

Table 7*Shapiro-Wilk Test of Normality*

Dependent Variable	Statistic (W)	Df	Sig.
Hope Pre-test	.906	30	.012
Efficacy Pre-test	.964	30	.380
Resilience Pre-test	.951	30	.185
Optimism Pre-test	.950	30	.169
PsyCap Pre-test	.970	30	.537
Hope Post-test	.965	30	.417
Efficacy Post-test	.982	30	.870
Resilience Post-test	.966	30	.426
Optimism Post-test	.983	30	.892
PsyCap Post-test	.955	30	.233

Homogeneity of variances is also an assumption of the mixed ANOVA (Allen & Bennett, 2012). To meet the assumption of equal variances for the groups, the test should not be significant ($p > .05$) (Allen & Bennett, 2012; Pallant, 2016). The assumption of homogeneity of variance was established using Levene's Test for Equality of Variances. Homogeneity of variances was assumed for the within-subjects and between-subjects factors as all Levene's Test were non-significant (Table 8).

Table 8*Test of Homogeneity of Variances*

	Levene Statistic	df1	df2	Sig.
Hope Pre-test	.05	1	28	.830
Efficacy Pre- test	2.03	1	28	.165
Resilience Pre- test	2.65	1	28	.115
Optimism Pre- test	4.05	1	28	.054
PsyCap Pre-test	.70	1	28	.410
Hope Post-test	.12	1	28	.736
Efficacy Post- test	3.13	1	28	.088
Resilience Post- test	.10	1	28	.756
Optimism Post- test	1.29	1	28	.267
PsyCap Post- test	.61	1	28	.442

Mauchly's Test of Sphericity can be used to test the assumption of sphericity. However, it is immaterial when the repeated measures factor has two levels (Bennett & Allen, 2012) as is the case in this study.

Box's *M* statistic in Box's Test of Equality of Covariance Matrices which is part of the mixed model ANOVA analysis can be used (Pallant, 2016) to establish homogeneity of covariance matrices. The statistic should not be significant ($p > .001$) for the assumption to be satisfied (Pallant, 2016). Box's *M* was not significant for hope ($p = .585$), optimism ($p = .027$), overall PsyCap ($p = .962$), efficacy ($p = .266$) and resilience ($p = .271$). Homogeneity of covariance matrices was met.

4.5. Main Analyses

Assumptions of the mixed model ANOVA were addressed and satisfied. The inclusion of outliers was justified. Therefore, mixed model ANOVA was used to examine the impact of the BPS intervention in comparison to the DA intervention on levels of hope, optimism, and PsyCap in students. Thirty participants were asked to complete the PCQ-24. The hope and optimism subscales of the questionnaire were used to assess the levels of hope and optimism before and after the BPS and DA intervention. The entire questionnaire was used to measure levels of PsyCap, also before and after an intervention. Results of the mixed model ANOVAs for each of the three quantitative research questions are presented below.

4.5.1. Effect of the BPS Intervention on Levels of Hope

A mixed model ANOVA was used to investigate the effect of the BPS intervention on hope (see Table 9) based on hope scores before and after the BPS or DA intervention. A non-significant main effect for time was obtained $F(1, 28) = .013, p = .912$, partial $\eta^2 = .000$ with hope levels after the intervention at time 2 ($M = 27.20, SD = 4.24$) being approximately the same as before the intervention at time 1 ($M = 27.33, SD = 4.51$). A significant main effect for intervention was not found $F(1, 28) = .000, p = .983$, partial $\eta^2 = .000$. A non-significant interaction between time and intervention was reported, $F(1, 28) = .923, p = .345$, partial $\eta^2 = .032$. The means indicated that there was a slight increase but no significant change in hope scores of participants in the BPS group, before ($M = 26.93, SD = 5.03$) and after ($M = 27.57, SD = 4.07$) the intervention. The DA intervention did not produce a major change (slight decrease) in hope levels of participants in the DA group, from before the intervention ($M = 27.69, SD = 4.13$) to after the intervention ($M = 26.88, SD = 4.49$).

Table 9

Mixed Model ANOVA (Hope)

Source	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P</i>	Effect Size
Time	1	.107	.013	.912	.000
Intervention	1	.015	.000	.983	.000
Time x Intervention	1	7.907	.923	.345	.032

Note. MS = Mean Square, Effect Size = partial η^2

4.5.2. Effect of the BPS Intervention on Levels of Optimism

The effect of the BPS intervention on optimism based on optimism (see Table 10) scores before and after the BPS or DA intervention, was examined using a mixed model ANOVA. A non-significant main effect for time was obtained $F(1, 28) = .325, p = .573$, partial $\eta^2 = .011$ with optimism levels after the intervention at time 2 ($M = 25.10, SD = 4.60$) being approximately the same as before the intervention at time 1 ($M = 25.53, SD = 4.22$). A significant main effect for intervention was not found $F(1, 28) = .707, p = .407$, partial $\eta^2 = .025$. A non-significant interaction between time and intervention was reported, $F(1, 28) = .009, p = .925$, partial $\eta^2 = .000$. The means indicated that there was no major change (slight decrease) in optimism scores of participants in the BPS group, from before ($M = 26.14, SD = 2.85$) to after ($M = 25.79, SD = 3.58$) the intervention. The DA intervention did not produce a major change (slight decrease) in optimism levels of participants in the DA group, from before the intervention ($M = 25.00, SD = 5.16$) to after the intervention ($M = 24.50, SD = 5.39$).

Table 10

Mixed Model ANOVA (Optimism)

Source	df	MS	F	P	Effect Size
Time	1	2.743	.325	.573	.011
Intervention	1	22.019	.707	.407	.025
Time x Intervention	1	.076	.009	.925	.000

Note. MS = Mean Square, Effect Size = partial η^2

4.5.3. Effect of the BPS Intervention on Levels of Overall PsyCap (Hope, Self-Efficacy, Resilience, and Optimism)

A mixed model ANOVA was used to explore the effect of the BPS intervention on PsyCap (see Table 11) based on overall PsyCap scores before and after the BPS or DA intervention. A non-significant main effect for time was obtained $F(1, 28) = .202, p = .656$, partial $\eta^2 = .007$ with PsyCap levels after the intervention ($M = 101.83, SD = 14.29$) at time 2, being approximately the same (marginal increase) as before the intervention ($M = 100.97, SD = 13.75$) at time 1. A significant main effect for intervention was not found $F(1, 28) = 1.069, p = .310$, partial $\eta^2 = .037$. A non-significant interaction between time and intervention was reported, $F(1, 28) = .151, p = .700$, partial $\eta^2 = .005$. The means indicated that there was no major change in PsyCap scores of participants in the BPS group, from before ($M = 103.14,$

$SD = 13.21$) to after ($M = 104.86$, $SD = 13.33$) the intervention. The DA intervention did not produce a change in PsyCap levels of participants in the DA group from before the intervention ($M = 99.06$, $SD = 14.35$) to after the intervention ($M = 99.19$, $SD = 14.99$).

Table 11

Mixed Model ANOVA (PsyCap)

Source	Df	MS	F	P	Effect Size
Time	1	12.630	.202	.656	.007
Intervention	1	354.900	1.069	.310	.037
Time x Intervention	1	9.430	.151	.700	.005

Note. MS = Mean Square, Effect Size = partial η^2

4.6. Summary of Quantitative Results

In summary, the sample ($n = 30$) was predominantly females, and all participants were between the ages of 18 to 23. The pre-test and post-test means for hope, optimism and overall PsyCap, respectively, showed minimal differences between the two time points and the mixed model ANOVA results indicated that the BPS intervention had no statistically significant effect on levels of hope, optimism, and overall PsyCap. All the main effects and interactions were not significant.

4.7. Qualitative Analysis

Six semi-structured interviews were conducted to assess perceptions of a sub-sample of the participants concerning the process and contribution of the BPS intervention. Five themes were identified. These include participants' understanding of the intervention, its utility, key points for each participant, recommended aspects, and areas of improvement. Participants are identified using the letter P and a number (e.g. P1). The letter 'P' stands for participant and the number is the identification number assigned to the participant throughout the study. The themes from the thematic analysis are presented below to answer the research question: What are the perceptions of students in terms of the manner in which the intervention was delivered and its contribution? The feedback will be used to acquire insight into the non-significant quantitative results.

4.7.1. Theme 1: Understanding of BPS intervention

According to the researcher, the current BPS intervention is a set of related activities consisting of an exercise on smart goal setting and a BPS personal story exercise. These

activities integrate the attainment of academic goals and professional career aspirations, that is the imagined future self. The intervention presents the opportunity to link short-term smart goals with long-term goals in the BPS story. The entire intervention is goal-oriented. On the level of psychological influence, the BPS intervention intended to foster hope and optimism. Specifically, the smart goal setting component was used to improve hope and the BPS story to impact optimism. The excerpts included below provide the responses of participants when asked what they thought the intervention was about.

The participants understood the intervention as a goal setting activity. It did not go beyond this for most participants, and they engaged in concrete thinking in terms of their perception of the intervention as a goal identification task:

"identify your goals and like set...standards for yourself for your future" (P1)

"especially the worksheet, I was like oh this is about goals and this is how I can motivate myself to be able to reach these goals" (P2)

"even the personal story it's kind of goals in there 'cause I wrote down things I want to achieve in the future. " (P4)

"it was about basically um okay, besides learning like how to like set goals like in a really good way and all that stuff it's also about achieving them and knowing um like your capabilities " (P5)

"it was about just our personal selves and looking at ourselves and our goals." (P6)

These responses highlight the various ways participants were empowered, through the intervention, to set their goals and to accomplish them. The BPS story seemed to be regarded as a secondary activity. This may have been due to the order in which the activities were presented. The smart goal setting came first, followed by the BPS personal story. On the other hand, there may have been a genuine challenge that participants faced in connecting the two activities to create their best possible selves.

The link between the smart goal setting component and the BPS story appeared to be salient for only one participant. The individual perceived that goal setting aids in the pursuit of the best possible self:

"I think the whole intervention was about like identifying the best possible person that you can be by like identifying your goals and what you want to achieve in your future, so like by setting those goals you almost like aim to be the best possible person that you can be." (P1)

Despite this awareness, the participant and other participants did not give definite responses in their individual explanations of what the intervention was about as they used the words "I think":

"So, I think the goals were the most important and then the story you kind of just like, yeah I think you just kind of link, I, well that's what I did, I'd link my goals with the story and like put them in the story" (P1)

"I think it was about getting me to think what I would want to do with my life and how I'm going to achieve it, so inspiring me and helping me to be determined in how to reach my goals and what my goals for the long-term and short-term future are." (P2)

"For us to clarify our goals, so when you set a goal and see it, it helps you to achieve it, so I think it was to help us know our goals and, and find a way to achieve them 'cause when you write it down, you remember it more" (P4)

"the whole thing it was about your dreams your goals and that so I got yeah, I think the best possible self." (P5)

This may indicate uncertainty or metacognition in the sense that they were aware of their limited knowledge in terms of what the intervention was about and provided their opinion with caution in case the response was incorrect. The wording of the question which requested their thoughts on what the intervention entailed may have also influenced the common word choice when expressing their view.

Participants also stated their perceived outcomes of the intervention which provided further information on their understanding of the BPS intervention. Some students alluded to

the intervention as inspiring the achievement of goals. One of them distinctly considered the goal setting worksheet as a tool for self-motivation. Establishing goals was perceived as a source of direction and inspiration. Hence, the intervention may have stimulated motivation.

"by identifying your goals and identifying the best possible self that you could be I think you kind of like aim and strive to be that person instead of getting distracted along the way and like not achieving your goals " (P1)

"...this is how I can motivate myself to be able to reach these goals" (P2)

"it contributes to getting it as you said smart goals so having me know exactly what my goal is and how I'm going to achieve it whereas not having just like a random thing oh I just want to pass or just want to be able to know how to specifically get to your goals and what you need to do." (P2)

"so setting, writing your goals down and I think it helps you remember why you want to do specific things and it helps you if you're falling back into the wrong path you can fall back into the right one by writing your goals down and seeing them so that you remember them and why you want to pursue them." (P4)

"it's insightful...we have been slacking off with this COVID-19, people just do things 'cause they need to be done but we forget to keep our goals in mind so it was good having a reminder of some of the goals I have for myself and hoping to complete them in some in the, in the timeframe I specified in there..." (P4)

"if we don't have our goals and stuff then we never gonna achieve what we really want to and work for what we want to do in the end." (P6)

For some the intervention was about thinking differently about one's life and future and learning about the self:

"it was trying to be like look at yourself and your life in a positive perspective than just being pessimistic about life, just thinking about if I can actually think this way will I be able to achieve the things that I really wanted to achieve, the positive achievements." (P3)

"you are able to learn like about yourself a lot more" (P5)

These perceived outcomes also contribute to insight on the value of the intervention which is presented as a separate theme to establish the strengths of the intervention and its benefit for

participants. Participants were asked about useful aspects of the intervention which are reported in the excerpts below.

4.7.2. Theme 2: Utility of BPS intervention

"I think the most useful part was being able to like identify your goals and your future like academic and career path..." (P1)

"I really enjoyed doing the smart goals worksheet because I didn't really have goals so doing it helped me actually realize what I still needed to do for the year and what I wanted my goals to be." (P2)

"I think it was the smart goals because sometimes you don't necessarily put your goals into perspective like you get short-term goals and then long-term goals, I think mainly goal setting, like imagining yourself achieving these goals I think is like the best possible option that you can do for yourself." (P3)

"the part that was most helpful or enjoyable was the part where I write down my plans for the future in hopes of accomplishing them in time in the timeframe that I put down there. " (P4)

"the most useful part for me uhm was the presentation 'cause I got a lot of information from there with like, with regards to my dreams " (P5)

"It actually helped me like actually put my my dreams and my goals into, into it words" (P5)

"it was really nice for me to like re-analyse my goals especially after this like COVID thing and see what I actually like want achieve again and be like realistic like with what's happened and everything." (P6)

When asked about whether the intervention met its aim and made a positive contribution based on the subjective understanding of what the intervention was about, participants agreed and gave the following responses:

"Yes, I think it did meet its like aim and goal because like by identifying my goals I can always like, I've seen now like now okay this is really what I want, this is maybe not as much as what I want compared to other goals and everything like that." (P1)

"if the aims were to get me to think about goals then yes absolutely as I said I didn't really have goals so this helped me like be like okay what do I want to do." (P2)

Two participants acknowledged that the intervention contributed positively and met its aim but did not elaborate:

" yes certainly, certainly. " (P5)

"Ja I think it did." (P6)

The lack of explanation may be caused by uncertainty in terms of the purpose of the intervention or a lack of interest in the intervention. However, most participants showed interest in the activity as they used positive words to describe their experience (e.g. “really enjoyed”, “really nice” and “it actually helped me”).

Interestingly, there was a participant who experienced the intervention beyond the activities that were completed and mentioned the psychological influence of the intervention in stimulating a shift in mindset and adopting a positive approach to life:

"... ‘cause usually we never really, well I never really thought about if my life was positive, like if I could think of positive things, like things that I really need to achieve, would I be able to think about, to write that down put it into perspective and it actually opened my eyes I didn't know that I could actually think in this manner. " (P3)

This extract offers an example of the positive impact of the intervention. Furthermore, it reveals the role of the intervention on cognitive reframing and personal development. The development aspect was confirmed by another student (P1):

"... being able to see your weaknesses as well and where you need to improve."

Consistently, positive thinking was stimulated through the intervention and the written goals were a source of motivation to pursue goals. The constructs of motivation and self-awareness were featured once more. In the extract below, one participant indicated how the task was useful as it provided a different approach in terms of managing goals. The participant's response demonstrates the motivation to persist as they are determined to “keep pushing” to attain their written goal:

"... 'cause it's been a while since I've set goals for myself, I... I just go with the flow of things and seeing them written down it motivates me to keep pushing towards a long-term goal. " (P4)

4.7.3. Theme 3: Key (Unique) Points

In the individual interviews, each participant had an issue or a point unique to them but related to the BPS intervention. One of the participants mentioned that the intervention aids in the identification of weaknesses. While this was not the direct intention of the intervention, the perception is reasonable as a goal may involve an aspect that needs to be improved. To illustrate this, the smart goal setting example in the presentation videos (Appendix D) is based on achieving a good average. One may set a goal to achieve a particular mark to improve unsatisfactory performance. In this case, the intervention is perceived as a personal development tool:

"see your weaknesses as well and where you need to improve." (P1)

Another participant perceived the BPS story as 'weird' and involving far future thinking. The story may have presented unfamiliar ways of thinking for the student who had merely entered university and was faced with the task of thinking about their professional career:

"the personal story for me was quite weird because I haven't really thought that far into my future or what I would like to do what I am going to do so it was just a bit like I think but maybe I don't really know, so it felt kind of weird to do that." (P2)

One participant indicated that they were interested in a similar intervention. The interest may indicate a need for continued support and not a once-off intervention:

"With the BPS, uhm will we get like another step, of... like another type of intervention strategy that's similar to this one? Is it possible to get something similar to this? I think once we've, okay when we have achieved our goals do we keep on doing it, the BPS constantly, is it just a one time thing?" (P3)

For one other participant, the intervention was like a Life Orientation activity:

"I remembered LO, this is kind of like an LO activity where you learn about life" (P4)

This may have prompted familiar ways of thinking and stimulated the interest exhibited by the participant throughout her responses to the interview questions. There was a participant who had completed the 'smart method' in high school:

"we've done it at school before as well, I think they call it the smart method" (P6)

This may have also impacted familiar ways of doing things, resulting in positive feedback from the participant regarding the intervention.

There were instances when P5 gave short and "yes" responses when asked questions related to the contribution of the intervention and recommended aspects. As stated previously, the participant may have been uninterested in the intervention or uncertain in their understanding of the intervention. Hence, the reluctance when responding to some questions.

On a different note, another participant saw the intervention as an opportunity to re-analyse and confirm goals in the context of the pandemic which comprised both challenges and possibilities for doing things in different ways than before:

" I think it was really nice for me to like re-analyse my goals especially after this like COVID thing and see what I actually like want achieve again and be like realistic like with what's happened and everything." (P6)

" I think a lot of people are just lost especially at this time with the COVID, everything...that they forget about their goals and how things have in the world changed now, so I think at this time they really need, everyone needs to like re-analyse their goals.... " (P6)

4.7.4. Theme 4: Recommended Aspects of BPS Intervention

The participants agreed that they would recommend the intervention to their friends. Participants also provided details of aspects they would recommend when asked why they recommended the intervention.

Only one participant expressed that they recommend both components to friends as both goal and BPS identification were explicitly mentioned:

"identifying your goals and identifying the best possible self that you could be " (P1)

However, one student endorsed the goal setting part of the intervention and not the BPS story.

"the smart worksheet I would definitely tell them about that and have them do that as well." (P2)

This was understandable given that the participant was unable to see the relevance of the BPS story and referred to it as "weird", earlier in the interview. Therefore, some would endorse goal identification or the smart goal worksheet only. While participants did not directly indicate their preference for one part of the intervention, they mentioned one aspect related to the goal setting or the story in their response:

"I think with most students, most of my friends are students, so we actually are a bit pessimistic on life. I don't know if that makes sense...we don't really think about what's gonna happen in the next 5 years, all we are worried about is chasing deadline and so if we actually imagined ourselves where would we be after we graduate, I think that would actually help, this helps with that. " (P3)

"when you write things down you remember them and, and when you remember them you work hard towards them and it will be good in the end to reflect back in, on your personal story and think wow I've done this and that and that, " (P4)

"knowing one's uhm goals and dreams, it's a really good thing and with the best possible self, uhm yeah with the whole thing... uhm you, you are able to learn like about yourself a lot more with that." (P5)

"I think a lot of people are just lost especially at this time with the COVID...everyone needs to like re-analyse their goals" (P6)

Consistent with the input from previous themes, goal setting (goal identification or the smart goals worksheet) stood out as a recommended aspect of the intervention. This was followed by the identification of the Best Possible Self. These were the two aspects that were noted and recommended by participants.

4.7.5. Theme 5: BPS Intervention Areas of Improvement

When participants were asked if there was anything that was not clear during the intervention, no issues of clarity were raised. Participants were asked for suggestions on improving the BPS intervention. Each participant gave feedback on areas of improvement as presented below.

The goal setting aspect was clear and resonated with participants. The BPS story was regarded as least useful:

"Well I think the story was like maybe linked to maybe the least useful part because I found the goals were very very useful but like the story I felt like the goals kind of linked to the story almost " (P1)

Further, a suggestion was made to include setting short-term and long-term goals. While the smart goal setting was for short-term academic goals and the BPS story for long-term career goals, some participants did not recognise this:

"set out goals that are maybe like short-term goals as well as long-term goals uhm and ja maybe have like a, like a goal that you want to achieve by the end of the year but also like a long-term goal like a five-year plan or something like that. " (P1)

Further, one participant recommended that the BPS story include overall life achievement and not only studies as the participant was unable to recognise the link between smart goal setting and the story:

"the BPS personal story was kind of weird for me uhm that could maybe be changed at bit to include not only the academic life but maybe an overall achievement of what you want to do with your life because I felt most of my academic uhm career achievements will depend on other aspects of my life as well so just trying to put it in terms of my academics it was quite hard." (P2)

Some were keen on a follow-up intervention and further guidance beyond the study. The request is considered an area for improvement as it was not within the scope of the study and was not feasible due to time constraints. However, it is acknowledged and may have been worthwhile for the students:

"I really feel as though uhm it would be better if someone can like help me try to make 'cause I might be reflecting in a wrong way, I don't know if wrong is a nice word to use but ja in the wrong way, maybe there is a better way of trying to reflect like how step, you see with the BPS, it was like step by step by step." (P3)

"checklist of, of some of the things that you would like to do. I don't know if you will follow 'cause if sometime you check up on me at the end of the year and see if I have done some of the things I said I would in that timeframe, so a checklist would be good

and checking up on the patients or clients [laughs], I don't know how to call them" (P4)

For some participants setting a timeframe to goals was a challenge and this was stated as a suggestion for improving the intervention. Students are usually given deadlines and may have found it difficult to set their own. This may also be attributed to the participants' perception of the feasibility to think ahead:

"...when you have to achieve that specific goal like when exactly you have to achieve 'cause sometimes they take longer than expected." (P3)

"I think for me it was probably with the whole when are you going to start, when is the dream or the goal going to be achieved it was really hard setting like a timeframe for that thing so I wasn't too sure how to go about that, I don't know." (P5)

Another suggestion put forward was a shorter activity as the task may have been perceived as lengthy. The participant further expressed that goal setting can also be a challenge when one does not know what exactly they want to achieve:

"maybe slightly shorter because I feel like some people looked at it and were like oh my gosh so much to do and like I don't know which goal I wanna do. " (P6)

Integrated with all the other themes, the areas of development are key in providing insight on factors that may explain the quantitative results, the weaknesses and strengths of the intervention, the personal and collective intervention-related experiences of the participants.

4.8. Summary of Qualitative Results

Overall, based on the responses of participants, the goal setting activity was the prominent component of the intervention. The link between the smart goal setting and the BPS story did not seem to be evident for most participants. The utility of the intervention emerged in terms of its positive contribution as participants desired to set goals and accomplish them. For respective individuals, it was a reminder of an activity that they would complete in Life Orientation, an opportunity to see their weaknesses, develop, and to reconsider one's goals in the context of the pandemic. There was a consensus regarding recommending the intervention to friends and the students offered practical feedback on areas of improvement for the intervention.

5. Discussion

The purpose of this study was to investigate the effect of the BPS intervention on hope and optimism, which are two of the four constructs of PsyCap. Based on the possibility of interaction between PsyCap constructs, the effect of the BPS on overall PsyCap was also explored. An evaluation of the process of the intervention was carried out to investigate the factors responsible for the observed quantitative results. This section of the manuscript discusses the findings of the present study in relation to the literature. The dearth of studies that apply the BPS incorporating smart goal setting to develop hope and optimism allows a narrow comparison between the results of the present study and the findings in the existing literature. Despite this, some of the research cited in the literature review will be discussed. The implications of the results, limitations of the study, and the recommendations for future research are addressed.

5.1. Effect of the BPS intervention on levels of hope, optimism, and overall PsyCap (hope, self-efficacy, resilience, and optimism)

The mixed model ANOVA results were insignificant. There was no statistically significant difference in the levels of hope, optimism, and PsyCap between the BPS and DA intervention groups. This indicates that the intervention was not effective. However, studies on the PCI (Luthans, Avey, Avolio, Norman & Combs, 2006; Luthans, Avey & Patera, 2008; Luthans, Avey, Avolio & Peterson, 2010), the initial intervention aimed at developing PsyCap produced significant results that showed an increase in PsyCap. The results of the studies cannot be applied as different interventions, BPS and DA were used in this study. Similarly, the BPS studies (Boselie et al., 2014; Boselie et al., 2016; Boselie et al., 2017; Hanssen et al., 2013; Meevissen et al., 2011; Peters et al., 2010; Peters et al., 2013; Peters et al., 2015) illustrating the impact of the BPS are not used directly as the current BPS was modified by integrating smart goal setting. Outcomes from a comparable intervention by Round and Burke (2018) will be addressed in the qualitative discussion.

In the present study, there were 30 participants in two unequal groups with fewer students in the BPS group (N =14) and more in the DA group (N=16). While the ANOVA is a robust test, various factors can affect its power (Pallant, 2016). Power is the probability of detecting a difference when there is a true difference (Columb & Atkinson, 2016). The factors that influence the power include the sample size and the effect size in terms of the

strength of the difference (Pallant, 2016). Hence, the insignificant results may be attributed to power (Pallant, 2016). Given the small sample size, the inference that there is no effect of the BPS intervention on levels of hope, optimism, and PsyCap may be a premature conclusion.

Furthermore, the risk of error should be considered. Type I error can occur when conducting multiple ANOVAs (Pallant, 2016). Type I error entails rejecting the null hypothesis when it is true (Columb & Atkinson, 2016). Three separate mixed ANOVAs were conducted in the current research. A mixed MANOVA would be an appropriate statistical technique (Pallant, 2016) as three dependent variables (hope, optimism, and PsyCap) were examined with two independent variables, that is the BPS and DA intervention groups.

Pallant (2016) recommends setting a strict alpha by dividing the normal alpha of .05 by the number of tests to avoid a Type I error. In this case, .05 divided by 3 is .017 (rounded off). Values less than the cut-off of 0.17 would be statistically significant (Pallant, 2016). The p values in all the tests were greater than .3 and failed to meet the .05 alpha. The stringent cut-off (.017) was also not met. All the mixed model ANOVA results suggest that the null should be accepted as it is true. The findings seem to rule out the possibility of a Type I error despite the use of more than one mixed ANOVA. Hence, a mixed MANOVA was not performed. However, there is a risk of type II error. Type II error of failing to reject the null hypothesis when it is false means missing the effect of a beneficial intervention (Columb & Atkinson, 2016).

Although the BPS intervention aimed at developing hope and optimism, exploring its effect on PsyCap was premised on the interaction and overlap between PsyCap dimensions (Luthans, Avey, Avolio, Norman & Combs, 2006; Luthans, Youssef & Avolio, 2007). It is not clear whether influencing only one or two of the four constructs can impact overall PsyCap (Luthans, Avey, Avolio & Peterson, 2010). The concern is valid given the possible interactions between the dimensions. However, the current examination cannot provide clarity on this point of discussion due to the insignificant results. It may be expected that the overall PsyCap result was also not significant, given that the PsyCap dimensions interact. On the other hand, that is contrary to the deductive argument (presented in the literature review section, below figure 1) that hope and optimism are not PsyCap. It is established that PsyCap consists of hope, efficacy, resilience, and optimism (Luthans, Youssef & Avolio, 2007). Furthermore, based on the issue of power, there is insufficient data to conclude whether PsyCap is influenced by an intervention aimed at developing hope and optimism.

5.2. Perceptions of students in terms of the manner in which the intervention was delivered and its contribution

The qualitative findings elaborate on the experiences of participants and offer potential explanations for the non-significant results. Furthermore, the data addresses the qualitative research question: What are the perceptions of students in terms of the manner in which the intervention was delivered and its contribution? The themes, understanding, utility of intervention, key points, recommended aspects, and areas of improvement, are discussed in comparison to the literature.

The BPS intervention was understood as a goal setting task and not as a BPS activity incorporating a smart goal setting. Although various interpretations of the intervention were provided, overall, the smart goal setting component was more comprehensible and stood out for most participants, compared to the BPS story. Participants were able to identify what they desired or wanted to achieve. This is consistent with the literature as setting specific goals clarifies what needs to be done or achieved and this is advantageous as a specific goal is linked to performance (Latham, 2004). The intervention was perceived as an opportunity to set goals through identifying and writing the goals.

Writing about one's goals provides the occasion to learn about oneself (King, 2001). Participants in the present study engaged in cognitive processes through the intervention. These included thinking, identifying information, learning about themselves, and goal setting. The feedback from some participants suggested that other psychological constructs such as self-awareness and motivation were activated through the intervention.

The study by Round and Burke (2018) did not investigate the impact of the BPS on hope, optimism, and PsyCap, however, it is relevant. The study examined the experiences of a positive psychology intervention on well-being and the intervention also incorporated smart goal setting. The intervention contributed to well-being through enhancing self-awareness and purpose in life (Round & Burke, 2018). The current qualitative data presents similar outcomes of self-awareness evident in participants' experiences of thinking, learning, and knowledge about themselves and their goals during the intervention. Goals and the way one thinks can influence the individual's motivation to learn (Hock, Deshler & Schumaker, 2006). Furthermore, by setting goals participants had a sense of direction in terms of what they needed to pursue and achieve, this relates to finding a purpose.

The possible selves theory demonstrates the role of reflecting on an expected self in relation to motivation. A student who wants to become an emergency medical technician is likely to be motivated to put in the effort to graduate, get the training, and pursue the career (Hock, Deshler & Schumaker, 2006). A student that has imagined the possible self they fear, that is depending on welfare and having no money may be motivated to work hard to avoid the negative outcome (Hock, Deshler & Schumaker, 2006). Possible selves, motivation, and commitment are related (Altintas, Karaca, Moustafa, & El Haj, 2020). Whether positive or negative possible selves have been considered, thinking about the possible self may influence approach or avoidance behaviour compared to individuals who have not thought or conceived of their possible selves. Conclusively, committing to a goal can divert one's attention to goal-related behaviour (Latham, 2004).

The articulation of goals offers the opportunity to take more control over the individual's life decisions instead of going 'with the flow of things'. Therefore, the task can potentially influence other variables such as locus of control and self-efficiency. Goal setting can foster self-management (Latham, 2004) for personal, academic development and possibly for professional development. Goal setting has benefits that are motivational and is a force that triggers behaviour (Latham, 2004). Goals impact positively on persistence (Latham, 2004). Hence, goals and aspirations are forms of motivation (Lazowski & Hulleman, 2016).

The BPS entails using positive thinking to conceive the future self (Altintas, Karaca, Moustafa, & El Haj, 2020). Findings of King's (2001) study indicated that the BPS increases positive emotion and subjective wellbeing. Therefore, it is reasonable that participants communicated positive thoughts following the BPS intervention. In addition, positive thinking about the future is also associated with an increase in motivation (Altintas, Karaca, Moustafa, & El Haj, 2020).

The perceived utility of an intervention is essential. Grossman and Salas (2011) argue that trainees who view training to be useful are more likely to apply learned skills or knowledge. Similarly, Roszkowski and Soven (2010) found a strong positive relationship between perceived utility and learning in an undergraduate orientation program. All the participants expressed that the most useful part of the intervention was identifying goals. In addition, the identification of an academic, career path, and the informative presentation were mentioned as other useful aspects. The narrated video presentations (see Appendix D) were part of the intervention as a resource to guide participants through the worksheets (see

Appendix E) that were completed and submitted. This format of online delivery of the intervention is similar to that used by Luthans, Avey and Patera (2008) in their web-based PCI which included narrated video presentations.

In the context of the COVID-19 pandemic, the importance of the person and environment interaction in the COR theory is evident. The online BPS intervention, which offered smart goal setting within the curriculum, served as a resource to deal with the transition brought about by the pandemic. The task aided in the reconsideration of goals and establishing where one should focus their attention and effort. The value of the intervention for participants was reflected in their enthusiasm to recommend components such as goal identification, smart goal worksheet, and identifying the best possible self. The activity was also perceived as a tool for motivation and personal development.

The feedback on areas of improvement can be beneficial for future applications of the intervention. Further, it offers some potential factors that may have been responsible for the quantitative results, bearing in mind the possibility that the intervention may have impacted other constructs that were not measured. Some of the factors that may have presented challenges in terms of the effectiveness of the intervention include the experience of an indistinct link between the smart goal setting and BPS writing exercises, the need for guidance and follow-up after the initial intervention, and potentially the expected completion dates for subgoals as this presented an obstacle in the completion of the section for some participants.

Despite these factors, the participants interviewed had positive views of the BPS intervention, especially the smart goal setting activity of the intervention. Based on the participants' feedback during the interviews, the intervention (videos and worksheets) was comprehensible. The participants expressed that the intervention made a positive contribution to their thinking, learning and it motivated them to reach their goals. Most participants reported having a good experience with the programme and would recommend it to their peers.

5.3. Quantitative and Qualitative Findings

Based on the qualitative data, the BPS had a positive impact on students. Despite the slight differences in the mean scores of the variables of interest, the main quantitative results showed that the effect of the BPS intervention on hope, optimism, and PsyCap was not statistically significant. This means that the difference between the BPS and DA from time 1

to time 2 in terms of levels of hope, optimism, and PsyCap was statistically insignificant. The qualitative findings suggest the intervention may have influenced other positive psychological constructs such as motivation, self-awareness, and positivity, that were not assessed in the quantitative phase of the study. Although the qualitative analysis provides a plausible explanation for the non-significant findings, the results of the study seem to highlight a slight contradiction. Aspects of the qualitative results signal ideas of positive psychological states. However, the quantitative results suggest no difference. Therefore, the results of the main analyses may be attributed to issues of power, constricted consideration of the possible outcome variables, synthesis, and continuity of the tailored BPS intervention. On the other hand, design considerations may partially explain the lack of differences between time 1 and time 2. These will be discussed in the limitations section.

5.4. Implications

The main outcome of enhancing PsyCap is put forward as performance however, PsyCap is also important for motivation, cognitive processing, and efforts aimed at attaining success (Peterson, Luthans, Avolio, Walumba & Zhang, 2011). In the BPS intervention aimed at improving PsyCap hope and optimism, participants alluded to the motivation stimulated by the goal setting component of the intervention, for some, thinking of the best possible self also inspired persistence, a desire to reach goals, and to think positively. The potential practical implications are that in the classroom setting the BPS improves positive affect, engagement, and motivation (Altintas, Karaca, Moustafa, & El Haj, 2020). This study offers preliminary insight into the current BPS intervention in a university context. It sets the potential trajectory for future research.

5.5. Limitations and Recommendations for Future Research

Attrition was one of the issues during data collection. It is possible that due to the challenges caused by the adjustments to the COVID-19 pandemic and online learning, students were not motivated or available to participate. The isolation of students at home has a negative impact on their psychological well-being and a prolonged pandemic may result in physical or psychological fatigue, especially in students who might not be able to deal with the life stressor (Ye, Zhou, Im, Liu, Wang & Yang, 2020). A study on the mental health of university students, conducted during the pandemic, presented the following factors as barriers to online learning: internet connection, mental health, personal challenges, time management, being easily distracted, and family members contributing to an environment that is not conducive

for studying (Ojo, Burger, Onwuegbuzie, Bergsteedt, Adams & Crowley, 2021). The unforeseen global impediment illustrates the impact and importance of the context in which research is carried out.

The present study consisted of a small sample and unequal groups with undesirable consequences of statistical power (Lavrakas, 2008). However, the qualitative component provided valuable information on the contribution of the intervention. The absence of such data would have meant the value of the intervention remained unknown. Further research should implement other methodologies for sampling and group formation. Future research should also focus on replicating the current study using a larger and representative sample to confirm the statistical significance and theoretical contribution of the current BPS. Additional constructs such as motivation, self-awareness, and positivity can form part of the analysis. The BPS intervention may be contrasted with the PsyCap Intervention (PCI), using both interventions with appropriate sample size, to develop PsyCap.

The results of the study cannot be generalised and are preliminary. In addition, the race demographic breakdown (Black, White, Indian) is not representative of the Wits student population which in 2020 consisted of African, Chinese, Coloured, Indian, White, and international students (Wits University, n.d.). However, beyond demographic variables, more rich data can be collected by measuring variables that may be confounding (Evaluations, 2015).

It is recommended that forthcoming inquiries intervene at the design level to reduce the probability of alternative explanations for the observed results as confounding factors that were not examined in the study may have influenced the non-significant findings (Scher, Kisker & Dynarski, 2015). One of the parameters pertinent to the discussion is that students completed the tasks on their own using the video presentation and worksheet. Therefore, there was limited control over standardising the environment in terms of factors such as the time spent on the intervention, whether the intervention was completed in one sitting, opportunities for clarification, and other potential confounding variables.

Hence design considerations are also worth examining to improve the procedure and delivery method employed. In terms of the procedure, time should be allocated to focus solely on the intervention to enable participants to prioritise it. Facilitators should guide participants to adhere to the specified times set for the different sections of the programme (see Figure 2 and Appendix A) and ensure that participants complete the intervention in one

sitting, on the same day, and at the same time with other participants (Scher, Kisker & Dynarski, 2015). The questionnaires should also be taken at the same time by all participants.

A needs assessment can be carried out before the intervention to explore the resources available to participants. Information that can be requested may include the type of device they will use (i.e., a phone, tablet, laptop), whether they experience internet connection or data issues, and if they have a conducive environment in which they can work. For instance, using a phone may present challenges when watching the video presentation for the intervention and completing the worksheets, compared to working on a laptop. The data from the assessment will enable the researcher to provide the appropriate support for participants in terms of ensuring access to computers, reliable internet connection or data, and a quiet and comfortable space where required. It is also essential to establish that the effects of the intervention are not confounded with the effects of other initiatives (Scher, Kisker & Dynarski, 2015). Although there was no effect of the BPS in the current research, prior to the intervention participants can be asked about the programmes, societies, or clubs in which they participate.

Measures can be incorporated to maximize the response rate and reduce attrition (Scher, Kisker & Dynarski, 2015) issues raised earlier. Additional means of recruiting participants such as creating posters to provide information about the study and participation can be used. Gamification of the BPS intervention to include features that allow participants to score points for setting goals or accomplishing tasks can be implemented to encourage engagement and interest in the intervention. Interested participants can be invited to a presentation on what the intervention entails.

Further conclusions may be drawn with the proposed controls over the procedure. Furthermore, design parameters can be addressed by enhancing the online delivery of the intervention and exploring face-to-face delivery. The facilitator can present the intervention to participants as a synchronous session or trained instructors can simultaneously lead small face-to-face group sessions with more personal contact. In both delivery modes, the instructor will guide participants through the intervention to complete the worksheets and there is an opportunity for immediate interaction and clarification. The current intervention material (videos and worksheets) can be included as part of the training material for instructors to ensure that the presentation is delivered employing a consistent approach.

Lastly, follow-up activities can take place online or face-to-face. The motivational moment experienced by participants may have been restricted to the context of the intervention. Hence additional efforts should be invested in the intervention to encourage students to revisit their goals and assess their progress, to improve the impact. The intervention may be expanded to include interactive sessions to help students keep track of and achieve their goals. Goals made public and known by others can motivate goal attainment (Latham, 2004).

Flexible procedures are crucial for research and field settings may entail unexpected events which may impede the design of a study (Scher, Kisker & Dynarski, 2015). Further investigation needs to be cognizant of the qualitative data on improving the BPS intervention. The link between the smart goal setting and BPS personal story exercises should be reinforced.

The BPS intervention was a reasonable attempt to enhance positive psychological states. It is imperative to explore long-term sustainable interventions embedded in the curriculum and to monitor them over time. Despite some of the inconclusive results, the qualitative findings offer a favourable perspective of the BPS intervention and together with the discussed design considerations offer a practical way forward. Therefore, positive psychological constructs remain worth pursuing to fulfil the aim of positive psychology.

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Appendices

Appendix A
BPS Intervention Programme

Duration: 1 hour

Objective	Activity	Duration	Construct addressed/impacted
1. To provide information regarding the session to ensure that students understand what is expected of them.	Introduction (including instructions) to the intervention	10 minutes	N/A
2. To design academic goals and pathways for achieving the goals	SMART Goal setting including main goal and sub-goals. Listing skills and desires	20 minutes	Hope
3. To establish positive future expectancy regarding professional (career) life using realistic academic success goals.	Writing about the BPS as a personal story Imagining living as the BPS Reading the BPS	20 minutes 5 minutes 5 minutes	Optimism

Appendix B

Participant Information Sheet (Questionnaire)



Psychology
School of Human & Community Development

University of the Witwatersrand
Private Bag 3, WITS, 2050

Tel: (011) 717 4500 Fax: (011) 717 4559



Dear Participant,

My name is Kgomotso Ramanyatsa. I am a student (441826) at the University of the Witwatersrand completing a Master's in Social and Psychological Research. As part of my degree, I am required to conduct a research project. The title of the research is 'Hope and Optimism: An Application of the Best Possible Self Intervention'. The study aims to establish whether a positive psychology intervention can improve Hope, Optimism and Psychological Capital (PsyCap) in a group of first-year students taking a course in Psychology for Health Sciences.

I would like to invite you to participate in the study. Participation involves completing an online questionnaire that should take approximately 15 – 20 minutes. You will then take part in a workshop including short activities of goal setting/problem solving. After the intervention, you will complete another questionnaire for approximately 15 – 20 minutes. This means you will complete two questionnaires during the study and participate in the actual intervention. At a later stage, semi-structured interviews will be conducted.

I would be grateful if you would assist me by completing the survey which can be found at the following internet site: <https://forms.gle/GEG1rAfsBM8KGpRXA>

Confidentiality will be maintained. Given that you will be required to provide your student number to track your responses, full anonymity cannot be attained. However, the researchers will ensure that any information provided by you (including your student number) will be held confidential. Only the researcher and research supervisor will have access to the research data through a password protected data collection point and computer. In the report of the study, your responses will be combined with those of all other participants, so there is no way your contribution can be distinguished.

You are under no obligation to participate and you are free to withdraw from the study. A summary of the findings will be available at the end of the study upon request. Please feel free to contact me (441826@students.wits.ac.za) or my research supervisor, Dr Aline Ferreira-Correia (aline.ferreiracorreia@wits.ac.za) if you need more information about the study. If you have any concerns about the ethics of this study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za

If you feel you experienced discomfort at any point while participating in the study, please contact the Careers and Counselling Development Unit (CCDU) on info.ccd@wits.ac.za

Alternatively, please call the Wits Student Crisis Line (tollfree for Wits students): 0800 111 331

With Kind Regards

Kgomotso Ramanyatsa

Appendix C

Consent Form (Questionnaire)

Informed Consent

Title of project: Hope and Optimism: An application of the Best Possible Self Intervention

Name of researcher: Kgomotso Ramanyatsa

By providing consent, the participant agrees to the following:

I agree to participate in this research project. The research has been explained to me and I understand what my participation will involve. I also agree that the information I provide may be used anonymously for future research.

Please confirm your consent to participate in the research project by providing your student number and ticking the 'I consent' box.

Student number:

I consent

☐

As stated in the information sheet, interviews will be conducted at a later stage. If you would like to be contacted for further information regarding the interview, please provide your contact details

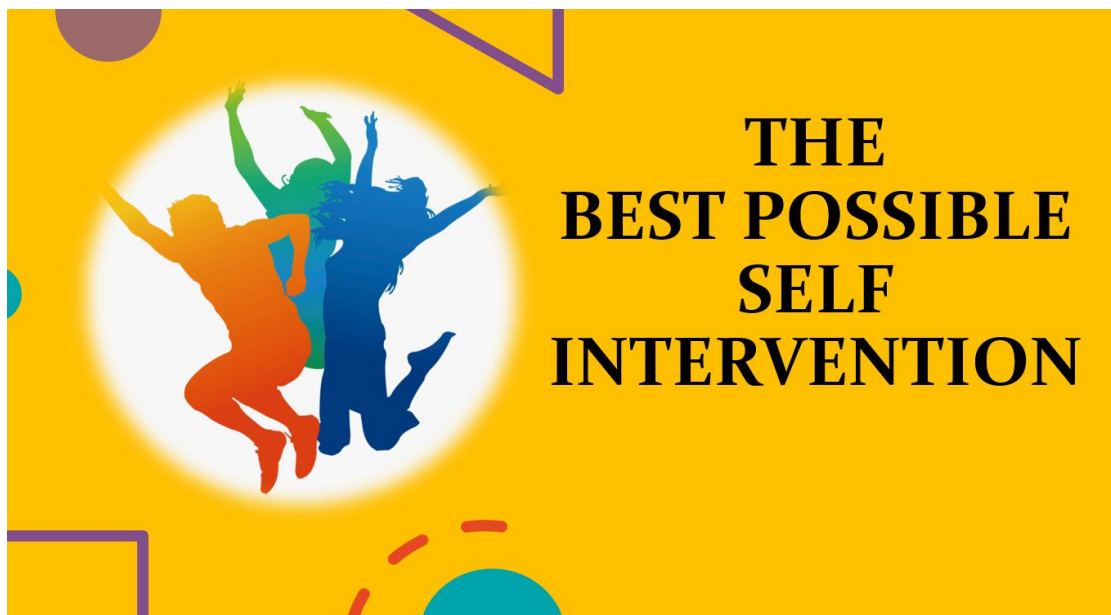
Email address:

Contact number:

Appendix D
BPS and DA Intervention Video Presentations

[https://www.dropbox.com/sh/dnyuzz7w45906cu/AAByIIyVpp_0N5xVtYTXCapMa?dl=](https://www.dropbox.com/sh/dnyuzz7w45906cu/AAByIIyVpp_0N5xVtYTXCapMa?dl=0)

[0](https://www.dropbox.com/sh/dnyuzz7w45906cu/AAByIIyVpp_0N5xVtYTXCapMa?dl=0)



<https://www.dropbox.com/sh/soge1mum5qrrsgt/AACGsR-iwJJFGiiC5pYLCsEJa?dl=0>



Appendix E

BPS Intervention Worksheets

Experimental Group

Introduction

You will be completing a task called the **Best Possible Self**. Your best possible self means imagining yourself in a future in which everything has turned out as good as possible. You have worked hard and you have managed to realize all your life goals. You can envision it as satisfying all your life dreams and development of all your best possible potentials. You are going to think of the best possible ways in which your life could develop on a professional (career) domain, with the goal to direct the decisions you make in the present.

Instructions

To help you construct your best possible self, you will complete a SMART goal setting exercise. This means you are going to think of and write down your academic goals. Furthermore, you will list the realistic skills and desires you would like to achieve in the future, for your career.

Using the information in the SMART goal setting exercise, you will write about your Best Possible Self in the form of a personal story. You will also imagine and verbalise your best possible self.

(Adapted from Meevissen, Peters and Alberts, 2011)

Below is a written example of the Best Possible Self.

Please note that your best possible self is unique to you and will not contain the same goals and expectations found in the example.

*In the future I will live a stable, middle-class life.
I would like to keep experiencing as much as I can.
I want a life that allows me to travel. I have this passion to
spend extended amounts of time in countries that are
drastically different from my own. I'd love to visit
India, China, Israel, Nepal. So, I want to travel.
Graduating with a drama degree.*

*I also envision being an Actor featured in local and international films.
I want to do medical missions in third world countries. I also would like to share my work experience to teach drama courses across universities.
Then I can travel and learn amazing things all at the same time!
Life is just full of possibilities.*

(Adapted from King, 2001)

The Best Possible Self Intervention Worksheets

Student number: _____

SMART Goals Worksheet

Today's Date: _____ Target Date: _____

Start Date: _____ Date Achieved: _____

Goal: (Select a goal related to your academic success)

In phrasing your goal below, avoid using negative words such as I will stop or do not. Rather start your sentence with words such as I will or I want to.

Verify that your goal is SMART:

Specific: What exactly will you accomplish?

Measurable: How will you know when you have reached this goal?

Achievable: Is achieving this goal realistic with effort and commitment? Do you have the resources to achieve this goal? If not, how will you get them?

Relevant: *Why is this goal significant to your life?*

Timely: *When will this goal be achieved?*

This goal is important because:

The benefit of achieving this goal will be:

Specific Action Steps: *What steps need to be taken to get you to your goal?*

What?	Expected Completion	Date Completed

(Adapted from www.officearrow.com)

List the skills you would like to have in the future.

Think about your life in the future. Imagine that everything has gone as well as it possibly could **in terms of your studies and career**. You have worked hard and succeeded at accomplishing all of your life goals. Think of this as the realization of all of your life dreams. Now, write about what you imagined.

Start your sentence with “In the future I will”.

[illegible]

The BPS Personal Story (Imagining)

Go through what you have written as your story. Imagine you are your best possible self, living the life you have just written about.

As much as writing is important, speaking about the future self is more beneficial.

You are strongly encouraged to read your story to yourself or an individual with whom you are comfortable.

Appendix F

DA Worksheet

Control Group

Daily Activities Exercise

You will be completing a task called Daily Activities. You are going to pay more attention to the daily activities of your life. This means you are going to give more thought to the ordinary daily activities of your life that normally would have gone unnoticed like for instance, specific meetings, lectures, conversations, typical thoughts you have during the day, etc. Use your day schedule of the past 24 hours as guidance. This exercise will help you to more easily identify difficult problem areas you may have in your life and take action in order to improve these areas.

(Adapted from Meevissen, Peters and Alberts, 2011)

Daily Activities Worksheet

Think of your past 24 hours in detail. Think of the activities, meetings, etc. and go more deeply into the conversations, discussions, thoughts, or mood you may have had. For the next 15 minutes, please write about the things that happened and your involvement in the activities and conversations.

(Adapted from Meevissen, Peters and Alberts, 2011)

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

List the problem areas you have identified

What action do you intend to take to improve these problem areas?

[illegible]

Appendix G

Participant Information Sheet (Interview)



Psychology
School of Human & Community Development

University of the Witwatersrand
Private Bag 3, WITS, 2050

Tel: (011) 717 4500 Fax: (011) 717 4559



Dear Participant,

My name is Kgomotso Ramanyatsa. I am a student (441826) at the University of the Witwatersrand completing a Master's in Social and Psychological Research. As part of my degree, I am required to conduct a research project. The title of the research is 'Hope and Optimism: An Application of the Best Possible Self Intervention'. The study aims to establish whether a positive psychology intervention can improve Hope, Optimism and Psychological Capital (PsyCap) in a group of first-year students taking a course in Psychology for Health Sciences.

I would like to invite you to take part in an interview. This activity will involve answering questions regarding your experience of the intervention and will take 20 minutes. With your permission, I would also like to record the interview.

You are under no obligation to participate and you are free to withdraw from the interview. The interview will be completely confidential and anonymous as I will not be asking for your name or any identifying information. I will be using a pseudonym (false name) to represent your participation in my final research report. Only the researcher and research supervisor will have access to the research data.

A summary of the findings will be available at the end of the study upon request. Please feel free to contact me (441826@students.wits.ac.za) or my research supervisor, Dr Aline Ferreira-Correia (aline.ferreiracorreia@wits.ac.za) if you need more information about the study.

If you feel you experienced discomfort at any point while participating in the study, please contact the Careers and Counselling Development Unit (CCDU) on info.ccd@wits.ac.za

Alternatively, please call the Wits Student Crisis Line (tollfree for Wits students): 0800 111 331

With Kind Regards

Kgomotso Ramanyatsa

Appendix H
Consent Form (Interview)

Informed Consent

Title of project: Hope and Optimism: An application of the Best Possible Self Intervention

Name of researcher: Kgomoitso Ramanyatsa

By providing consent, the participant agrees to the following:

I agree to participate in this research project. The research has been explained to me and I understand what my participation will involve. I agree for the interview to be recorded. I also agree that the information I provide may be used anonymously for future research.

Please confirm your consent to participate in the research project by providing your student number and ticking the 'I consent' box.

Student number:

I consent

☐

Appendix I

Permission to Use PCQ-24

Wilhemina Kgomotso Ramanyatsa

Abstract of Research Project

Permission to use the PCQ is for the following research project:

Project title:

Hope and Optimism: An Application of the Best Possible Self Intervention

Research focus:

The study aims to investigate the effect of the Best Possible Self (BPS) intervention on hope and optimism, which are two of the four constructs of Psychological Capital (PsyCap). Based on the possibility of interaction between PsyCap constructs, the effect of the BPS on overall PsyCap will also be explored. An evaluation of the process of the intervention will be carried out to investigate participants' experiences and constructions associated to the intervention.

Key hypotheses:

Key Research Questions 1. Is there an effect of the BPS intervention on levels of Hope? 2. Is there an effect of the BPS intervention on levels of Optimism? 3. Is there an effect of the BPS intervention on levels of overall PsyCap (Hope, Self-Efficacy, Resilience and Optimism)? 4. What are the perceptions of students in terms of the manner in which the intervention was delivered and its contribution?

Sample characteristics:

The sample consists of first-year students from the University of the Witwatersrand, South Africa, in Psychology and Health Science Faculty (Therapeutics).

Research method:

Mixed Methods Research

Organizational characteristics:

Not applicable. The sample is university students.

Organization domain:

Other (write below)

Other domain:

University students

Country/Countries:

South Africa

I will be conducting this study in English:

Yes

Language:

English

You requested permission to reproduce the number of copies of the PCQ stated below. The copyright holder has agreed to grant a license to reproduce this number of copies of the PCQ within one year of the date listed on the cover page of this document.

Exact number of reproductions being requested for this research project: 1

You agreed to all the conditions of use outlined in this document by electronically signing the Research Permission for the Psychological Capital Questionnaire form.

Electronic signature: Wilhemina Kgomotso Ramanyatsa

Date of signature: 31 May 2020

Appendix J

Demographic Questionnaire and Psychological Capital Questionnaire (PCQ-24)

Welcome

Thank you for agreeing to complete this survey.

The survey consists of a demographic information section and statements on psychological resources, which require your responses.

Should you have any questions, please contact me by email (441826@students.wits.ac.za).

Thank you again.

Kgomotso Ramanyatsa

Demographic Information

Gender:

Male ☐ Female ☐

Age:

18 – 23 ☐

24 – 29 ☐

30 – 35 ☐

36 – 41 ☐

42 – 47 ☐

48 – 53 ☐

54 – 59 ☐

60 and above ☐

Race:

Black ☐ Coloured ☐ Indian ☐ White ☐

Current year of study: _____

Length of degree (in years): _____

Home Language: _____

Psychological Capital (PsyCap) Questionnaire (PCQ-24)

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

	I feel confident to set targets/goals for my studies.	1	2	3	4	5	6
	Right now I see myself as being pretty successful in my studies.	1	2	3	4	5	6
	I usually manage difficulties one way or another in my studies.	1	2	3	4	5	6

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Appendix K
PCQ-24 Adaptation

	Original Item	Altered Item
	I am optimistic about what will happen to me in the future as it pertains to work.	I am optimistic about what will happen to me in the future as it pertains to my studies.

Adapted - Copyright 2007 Psychological Capital Questionnaire (PCQ) by Fred Luthans, Bruce J. Avolio, and James B. Avey. All rights reserved in all medium. Published by Mind Garden, Inc. www.mindgarden.com

Appendix L

Interview Schedule

Utility

1. What was the most useful part of the intervention?
2. What was the least useful part of the intervention?
3. Has your knowledge (soft skills such as goal setting, flexibility, storytelling, problem-solving, etc.,) improved in any way through the intervention? If so, please give an example from the intervention.

Recommendations / suggestions

4. Would you recommend the intervention to your friends? Why?
5. What do you suggest can be done to improve the intervention?
6. Is there anything else you would like to say or comment on?

Appendix M

Interview Transcripts

Participant 1

Interviewer: Okay so I've got my phone recording now and then I'm also gonna try uhm ...teams again. So I have pressed here start recording um so yeah you are recording so it is fine now ..okay

Participant 1: I see the notification now it says.

Interviewer: It is recording right?

Participant 1: Ja

Interviewer: Okay, I'm sorry to be a pain but can we [both participant and interviewer laugh] start over yeah... okay.

Interviewer: So what was, so you can just summarize briefly, what was the most useful part of the Best Possible Self intervention?

Participant 1: Um I think the most useful part was being able to like identify your goals and your future like academic and career path um and being able to see your weaknesses as well and where you need to improve.

Interviewer: Okay what was the least useful part of the intervention?

Participant 1: Umm I found most parts very useful, Um I wouldn't say that there was like a, a least useful part of intervention 'cause I found it quite useful to identify your goals and like set [word said not audible] standards for yourself for your future.

Interviewer: Okay, and what do you think the Best Possible Self intervention was about?

Participant 1: Um I think the whole intervention was about like identifying the best possible person that you can be by like identifying your goals and what you want to achieve in your future, so like by setting those goals you almost like aim to be the best possible person that you can be.

Interviewer: Okay and why, why do you give that answer, is, are there specific things that actually kind of you know led you to kind of perceive it as that kind of an intervention?

Participant 1: Um well I think like setting like the goals that you want to achieve and like in life and what you... dream of having and like your goals. I think if that's what your dream or like your goal set out then I think that's like linked to the best possible person that you think or like you perceive as being the best possible person that you can be.

Interviewer: Okay, and so do you think that the intervention made a difference in terms of those aspects, so in terms of your goal setting where you able to carry that out uhm so it kind of met its its its its uhm what it was about?

Participant 1: Yes, I think it did meet its like aim and goal because like by identifying my goals I can always like, I've seen now like now okay this is really what I want, this is maybe not as much as what I want compared to other goals and everything like that.

Interviewer: Ohkay, and then the part of the uhm the story right uhm the BPS story uhm [participant interjects but is inaudible] whats, what are your thoughts about that uhm, like I'm just trying to get your experience on that because I do hear from you the goal setting seems to be more a part that really helped you a lot [participant interjects "Ja"] and in terms of the story did it have any usefulness?

Participant 1: Well I think the story was like maybe linked to maybe the least useful part because I found the goals were very very useful but like the story I felt like the goals kind of linked to the story almost [interviewer interjects "mmh"]. So I think the goals were the most important and then the story you kind of just like, yeah I think you just kind of link, I, well that's what I did, I'd link my goals with the story and like put them in the story, [interviewer interjects "yes"] so ja.

Interviewer: Okay okay that's great and then uhm would you recommend uhm this BPS intervention to your friends?

Participant 1: ...[pause] Yes, uhm sorry can you repeat the question?

Interviewer: So, what I'm asking is would you recommend the BPS intervention to your friends?

Participant 1: Uh yes most definitely like I would really recommend like setting out goals and like looking at the best possible person that you could be and looking at your weaknesses as well as like where you could improve and everything like that.

Interviewer: Okay and I just wanna follow up on that so why would you recommend that what what uhm contribution would it make for...for them?

Participant 1: Uhm well I think like by identifying your goals and identifying the best possible self that you could be I think you kind of like aim and strive to be that person instead of getting distracted along the way and like not achieving your goals because you not like set out of them 'cause you haven't identified them.

Interviewer: Okay and what do you suggest can be done to improve the... the whole BPS intervention?

Participant 1: Uhmm I would say maybe like uhm set out goals that are maybe like short-term goals as well as long-term goals uhm and ja maybe have like a, like a goal that you want to achieve by the end of the year but also like a long-term goal like a five year plan or something like that.

Interviewer: Okay, thanks for that. Uhm so is there anything that wasn't clear while you are completing the BPS activity?

Participant 1: Uh no, everything was clear to me.

Interviewer: Okay, and now actually I'm going to the last question, is there anything else that you would like to say or comment on?

Participant 1: Uh nothing on this side, no.

Interviewer: Okay, okay so that is all uhm thank you so much uhm for taking the time to participate in this study by completing all the questionnaires [laughs] and actually joining this interview and you have certainly provided me valuable information uhm about your experience with the intervention, so it's really much appreciated and uh [participant interjects "I'm so glad"], yes, have a great week

Participant 1: thank you, you too.

Interviewer: Okay then, thanks bye.

Participant 1: Okay, bye.

Participant 2

Interviewer: OK my phone is recording but I think teams is a bit slow so I'm just gonna try make sure it's working... you, you're recording...okay great we're good to go.

Interviewer: Okay so uhm just to get right into it so during this interview session I will be asking you questions about your experience of the Best Possible Self intervention so that's the PSYC 1004 BPS tutorial activity that you completed in the second week of September...so [participant interjects "okay"] yeah so this will basically include, so you're speaking of your experience so in terms of the presentation videos and also the worksheet that you completed...[pause] okay... can you hear me I think I'm lagging or you lagging...

Participant 2: I'm sorry I lost you there for a second but it's back now.

Interviewer: Okay that's fine okay so the first question I have is what was the most useful part of the Best Possible Self intervention?

Participant 2: Uhm I really enjoyed doing the smart goals worksheet because I didn't really have goals so doing it helped me actually realize what I still needed to do for the year and what I wanted my goals to be.

Interviewer: Okay and what was the least useful part of the BPS intervention?

Participant 2: Uhm, I, the personal story for me was quite weird because I haven't really thought that far into my future or what I would like to do what I am going to do so it was just a bit like I think but maybe I don't really know, so it felt kind of weird to do that.

Interviewer: [laughs softly] Okay, okay thanks for that. Uhm what do you think the... the whole intervention was about?

Participant 2:Uhm I think it was about getting me to think what I would want to do with my life and how I'm going to achieve it, so inspiring me and helping me to be determined in how to reach my goals and what my goals for the long-term and short-term future are.

Interviewer: Okay and why, why do you say that is there anything specific that kind of you know led you to having that perception in terms of what it's about?

Participant 2: Uh especially the worksheet, I was like oh this is about goals and this is how I can motivate myself to be able to reach these goals.

Interviewer: Okay and so do you think then it did make a difference, so it met its aims that you noted?

Participant 2: Uhm I do think so, if the aims were to get me to think about goals then yes absolutely as I said I didn't really have goals so this helped me like be like okay what do I want to do.

Interviewer: Okay, so what do you, I mean would you recommend that BPS intervention to your friends?

Participant 2: Part of it yes and part of it no, I think some of my friends also haven't really thought that far into the future and there's the personal story part they also just gonna be like but I don't know yet but especially well, the smart worksheet I would definitely tell them about that and have them do that as well.

Interviewer: Okay so why would you recommend that the smart goal worksheet, is there anything that it contributes to?

Participant 2: I think it contributes to getting it as you said smart goals so having me know exactly what my goal is and how I'm going to achieve it whereas not having just like a random thing oh I just want to pass or just want to be able to know how to specifically get to your goals and what you need to do.

Interviewer: Okay great, and what do you suggest can be done to improve the BPS intervention?

Participant 2: Ehhm I think they, the, as I've said the BPS personal story was kind of weird for me uhm that could maybe be changed at bit to include not only the academic life but maybe an overall achievement of what you want to do with your life because I felt most of my academic uhm career achievements will depend on other aspects of my life as well so just trying to put it in terms of my academics it was quite hard.

Interviewer: Okay and then is there anything that was not clear while you were completing the BPS activity?

Participant 2: No everything was very clear.

Interviewer: Okay good, so I'm going for the last question now, is there anything else you would like to say or comment on?

Participant 2: Uh not really I enjoyed doing the BPS and I think it really helped me realize what my goals are.

Interviewer: Okay, thank you so much I thank you for taking the time to participate in the study and completing all the questionnaires and also joining this interview and the information you've provided is actually valuable uhm and so ja much appreciated.

Participant 2: It was a pleasure.

Interviewer: Okay have a great week hey.

Participant 2: You as well.

Interviewer: Thanks, bye.

Participant 2: Okay bye.

Participant 3

Interviewer: Indicate that it's recording...okay so it's recording now.

Interviewer: Okay so during this interview session I will be asking you questions about your experience of the Best Possible Self intervention so that's the PSYC 1004 BPS tutorial activity that you completed in the second week of September.

Participant 3: Okay should I have it open or... 'cause I think I might have forgotten some of the answers.

Interviewer: Well you don't have to have it open unless there are things that you want to specifically refer to but it's more about your experience rather than the answers that you provided, so it's really up to you but I can give you a moment if you want to have it open.

Participant 3: Okay let me just look for it.

Interviewer: Okay, no problem.

Participant 3: Eh I can't find it mm, I don't know where I put... but it's fine will just...

Interviewer: Okay but you remember the different section so the smart goals worksheet where uh you were setting your goals and the personal story uh where you are writing about your future, you do remember those uh parts right?

Participant 3: Some of them but not like in detail.

Interviewer: Not everything... okay but we won't really go into much detail so that should be fine and obviously um you um went through the video presentations right?

Participant 3: Yes [inaudible].

Interviewer: Okay that should be fine, and you should be okay, so the first question um I have is what was the most useful part of the Best Possible Self intervention?

Participant 3: I think it was the smart goals because sometimes you don't necessarily put your goals into perspective like you get short-term goals and then long-term goals, I think mainly goal setting, like imagining yourself achieving these goals I think is like the best possible option that you can do for yourself.

Interviewer: Okay...okay and then what was the least useful part of the BPS intervention?

Participant 3: I think um...uhh... when you have to achieve that specific goal like when exactly you have to achieve 'cause sometimes they take longer than expected.

Interviewer: Okay, so are you saying that something that was less useful for you, the expected completion date?

Participant 3: Mm.

Interviewer: Ohokay, Okay and uhm then what do you think the BPS intervention was about?

Participant 3: I think it was trying to be like look at yourself and your life in a positive perspective than just being pessimistic about life, just thinking about if I can actually think this way will I be able to achieve the things that I really wanted to achieve, the positive achievements.

Interviewer: Okay and then why do you think it was about that like what, what is actually uhm creating that perception, too, is it something specific in the tasks you had to do?

Participant 3: [pause] Well with me I know like when completing a task and everything I've always been pessimistic about it but like this intervention strategy it really helped see a different perspective that if I do these tasks then I am actually achieving my goal, though I might not see the difference now but in the future I will be able to see what I've done with my life and where I'm going.

Interviewer: Okay so are you referring to both, so goal setting and also writing about the story are you saying both of those uhm...

Participant 3: Yes.

Interviewer: Okay, okay and then uhm do you think uhm the Best Possible Self intervention made a difference to those aspects so did it make any contribution uh for you?

Participant 3: Yes, it did, it did, 'cause usually we never really, well I never really thought about if my life was positive, like if I could think of positive things, like things that I really need to achieve, would I be able to think about, to write that down put it into perspective and it actually opened my eyes I didn't know that I could actually think in this manner.

Interviewer: Okay nice, okay and then would you recommend the BPS intervention to your friends?

Participant 3: Definitely, definitely.

Interviewer: Okay, why is that?

Participant 3: I think with most students, most of my friends are students, so we actually are a bit pessimistic on life. I don't know if that makes sense...we don't really think about what's gonna happen in the next 5 years, all we are worried about is chasing deadline and so if we actually imagined ourselves where would we be after we graduate, I think that would actually help, this helps with that.

Interviewer: Okay, okay and then what do you suggest can be done to improve the intervention?

Participant 3: The intervention?

Interviewer: Ja the BPS intervention, so everything that worksheets the video presentations is there anything that can be done there to improve?

Participant 3: To be honest I really thought that everything was there, I wouldn't change anything, really.

Interviewer: Okay, okay and then is there anything that was not clear while you were completing the BPS activity?

Participant 3: Uhm... I'm trying to check for now...[interviewer interjects "ja take a moment"] no I don't think so, I don't think so

Interviewer: You don't think so?

Participant 3: I don't think so.

Interviewer: Okay so I've got the last question here uhm is there anything else you would like to say or comment on regarding the intervention?

Participant 3: I wanted to know, uhm actually I actually wanted to ask a question...

Interviewer: Okay, you can go ahead.

Participant 3: With the BPS, uhm will we get like another step, of...like another type of intervention strategy that's similar to this one? Is it possible to get something similar to this? I think once we've, okay when we have achieved our goals do we keep on doing it, the BPS constantly, is it just a one time thing?

Interviewer: Okay so when you say is there another intervention that you will help, I mean that you will have rather, do you mean uhm is there another step where you would actually uhm reflect on your goals and whether you've achieved them having a similar activity are asking that, within your course?

Participant 3: ye, yes.

Interviewer: Okay so at this stage uhm I'm not sure if that's that's been planned but the aim of this intervention was basically uhm an activity that you do during that specific week and then in terms of achieving the uhm goals or rather the goal and the steps of how you want to accomplish it uhm that was actually left to you to monitor yourself, uhm as you noted, there is a date of you know when, I mean an area where you can indicate when you completed the actual task so it was more of it's for the students now to monitor themselves.

Participant 3: Mh...Okay.

Interviewer: Okay but I think it's interesting that you are uhm actually interested in you know having another similar intervention so for you what kind of support do you think you need from the other one do you feel like doing it on your own and monitoring, monitoring yourself is uhm is a bit hard than when you have such, such a thing within the curriculum?

Participant 3: Yes honestly I really feel as though uhm it would be better if someone can like help me try to make 'cause I might be reflecting in a wrong way, I don't know if wrong is a nice word to use but ja in the wrong way, maybe there is a better way of trying to reflect like how step, you see with the BPS, it was like step by step by step.

Interviewer: Yes.

Participant 3: So with the reflection, where do we start?

Interviewer: Okay, okay I hear you, so anyway I'm gonna make a note of this plus the recording is here and uhm so in my report I mean these are some of the things that I can

actually consider the feedback from the participants and uhm will then have to see how things go uhm ja and I think if you you also at some point later on uhm you wanna write to your, the course coordinator uhm [course coordinator name] just to give her feedback on your experience in terms of you know, it would be nice to have another initiative like this I think that would also be good but I will I will note this too.

Participant 3: Okay, thank you.

Interviewer: Okay thank you so much hey uhm for taking the time to participate in the study completing all the questionnaires and joining this interview.

Participant 3: You're most welcome. I actually enjoyed it.

Interviewer: That's great I'm really glad to hear that at least it made a bit of an impact also for you and the information you provided now in the interview is very very valuable so thanks for that uh much appreciated and I wish you a great week.

Participant 3: Thank you.

Interviewer: Okay then bye.

Participant 3: Bye.

Participant 4

Interviewer: Okay, we can proceed, so what was the most useful part of the BPS intervention?

Participant 4: uhm eh the BPS interve yo, intervention sorry, the part where uhm is it find solutions or something, to live your best possible life, so that part where you try, I don't know how to put this [interviewer interjects "mhm"] but the part, there was a part where you, where you need to [inaudible] I don't know how to put this...

Interviewer: Remember, remember you, you said you competed the DA and the BPS

Participant 4: Mm

Interviewer: Yes, so now I'm hearing you speaking about solutions so uhm but you do remember the BPS right?

Participant 4: Let me check 'cause I have them, mixed up now 'cause I did both of them.

Interviewer: Okay, okay, check them I'll give you a moment the BPS was the one with the worksheet and the personal story.

Participant 4: Okay [inaudible]...oh BPS is the one where I write about my future hopes right?

Interviewer: Yes, that's the one, the goals.

Participant 4: I remember now, that one I enjoyed, the part that was most helpful or enjoyable was the part where I write down my plans for the future in hopes of accomplishing them in time in the timeframe that I put down there. That was... the best part of the BPS intervention.

Interviewer: So the specific action steps?

Participant 4: Yes, ja, ja, specific action steps that's what it's called...

Interviewer: Yes... okay and then what was the least useful part of the intervention for you?

Participant 4: hmm [laughs]

Interviewer: The BPS ja...

Participant 4: I think all was fine, it was all, overall it was all good. There was no part where I thought eh this is not helpful or this is not useful. It was all enlightening.

Interviewer: Okay, okay, okay... so what do you think the BPs intervention was about?

Participant 4: For us to clarify our goals, so when you set a goal and see it, it helps you to achieve it, so I think it was to help us know our goals and, and find a way to achieve them 'cause when you write it down, you remember it more, so I think it was yeah you know, something like that.

Interviewer: Okay...okay and why do you think it was about that, like about uhm your goals, writing them down, what specific thing uhm led you to think in that way?

Participant 4: Uhm I thought that way 'cause I remembered LO, this is kind of like an LO activity where you learn about life, so setting, writing your goals down and I think it helps you remember why you want to do specific things and it helps you if you're falling back into the wrong path you can fall back into the right one by writing your goals down and seeing them so that you remember them and why you want to pursue them.

Interviewer: Okay so you saying also that goals, is it correct to say the goal setting task, the smart goal setting also kind of led you to, to see it in that way uhm as that kind of an activity?

Participant 4: Yes, exactly, 'cause goals and the smart, the smart writing, I think they go together 'cause you need to be specific, measurable... Ja I think it did, it did if you think of it in that way.

Interviewer: Okay, uhm and then so do you think it made a difference, it made an impact uhm in, in those areas so you were able to put down your goals uhm did it make any contribution?

Participant 4: Yeah it did 'cause it's been a while since I've set goals for myself, I...I just go with the flow of things and seeing them written down it motivates me to keep pushing towards a long term goal and yeah.

Interviewer: Okay, okay so I just wanna ask about the personal story uhm what was your experience because I see your, your, as we speak uhm it seems like the goal setting part of it stood out for you, so what about that other part uhm?

Participant 4: It's all... even the personal story it's kind of goals in there 'cause I wrote down things I want to achieve in the future. It's...

Interviewer: Okay.

Participant 4: Yes.

Interviewer: Okay so would you recommend the BPS intervention to your friends?

Participant 4: Yeah definitely 'cause when you write things down you remember them and, and when you remember them you work hard towards them and it will be good in the end to reflect back in, on your personal story and think wow I've done this and that and that, so yeah I would, I definitely would.

Interviewer: Okay so you think it would help them?

Participant 4: Mm I think it would.

Interviewer: Okay, Okay what do you suggest can be done to improve the BPS intervention?

Participant 4: Um a checklist of, of some of the things that you would like to do. I don't know if you will follow 'cause if sometime you check up on me at the end of the year and see if I have done some of the things I said I would in that timeframe, so a checklist would be good and checking up on the patients or clients [laughs], I don't know how to call them, so yeah.

Interviewer: [laughs] Okay, so do you feel like on your own you can't really, it's difficult to monitor yourself because remember there's a section where uhm you've got your, your action steps right and the expected date of completion and the date completed and then right at the top there's the date achieved so that sort of gives you a way to monitor yourself so do you feel like as much as that's there it would be nice to have a follow up uhm where someone would actually you know help you and see, so that you can also see if you managed to achieve your goals?

Participant 4: Mm 'cause sometimes you do forget, you set goals and forget about them, so having a reminder would be nice to remind me of that goal that I forgot, it would.

Interviewer: Okay, okay so I on my side I, I, I do encourage that you try as much as it's hard I understand what your saying [laughs], try to monitor yourself and not uhm actually fall off the way or go off track and make sure you achieve the goals but I have noted actually noted what you've said. It's something that's actually important, yes, uhm, so ja but I think for now it's noted and then let's see how things go.

Participant 4: Yeah [laughs].

Interviewer: Okay, and then is there anything that was not clear while you were completing the BPS activity?

Participant 4: Eh not really, the videos were, were clear so there was nothing I didn't understand on the worksheet. It was all clear, it was simple to understand and easy to complete.

Interviewer: Okay, okay, so I've got the last question here, is there anything else you would like to say or comment on?

Participant 4: On the BPS?

Interviewer: Ja on the BPS intervention.

Participant 4: It was, it's insightful. It, yo we have been slacking off with this COVID-19, people just do things 'cause they need to be done but we forget to keep our goals in mind so it was good having a reminder of some of the goals I have for myself and hoping to complete

them in some in the, in the timeframe I specified in there, so it was a good intervention [laughs]

Interviewer: Okay [laughs], that's good, it's good hear. Okay so ja we've reached the end interview and I'd like to thank you for taking the time participate so in the whole study, completing the questionnaires and joining this interview so you have actually provided valuable information about your experience uhm I really appreciate you taking the time...okay.

Participant 4: It was a pleasure.

Interviewer: Okay, have a great week and all the best.

Participant 4: Thank you, you too.

Interviewer: Thanks, bye.

Participant 4: Bye.

Participant 5

Interviewer: Okay, uhm so during this interview session I will be asking you questions about your experience of the Best Possible Self intervention so that's the PSYC 1004 BPS tutorial activity that you completed in the second week of September which included a presentation, so it was presentation videos and a worksheet.

Participant 5: Okay.

Interviewer: Okay, so the first question uhm I have is what was the most useful part of the BPS intervention?

Participant 5: uh the most useful part for me uhm was the presentation 'cause I got a lot of information from there with like, with regards to my dreams and all that stuff

Interviewer: Okay.

Participant 5: ...and my goals.

Interviewer: Okay and then what was the least useful part of the BPS intervention?

Participant 5: Hmm [pause] I am not really sure, I don't know, let me think... I don't know.

Interviewer: Okay Uhm so you don't have to worry much about that so as you move uh to other questions I think they might help, to maybe, for you to pick up something that maybe wasn't so useful.

Participant 5: Okay.

Interviewer: Okay, what do you think that BPS intervention was about?

Participant 5: I think it was about basically um okay, besides learning like how to like set goals like in a really good way and all that stuff it's also about achieving them and knowing um like your capabilities and all that.

Interviewer: Okay and why do you say that, is there anything specific that kind of you know uhm showed you that is about what you're saying?

Participant 5: Uh well throughout the, the whole thing it was about your dreams your goals and that so I got yeah, I think the best possible self.

Interviewer: Okay, and do you think it made a difference on those uhm aspects like you know your goals um dreams, did it contribute to that like to kind of having a perspective around that.

Participant 5: Uh yes certainly, certainly.

Interviewer: Okay.

Participant 5: It actually helped me like actually put my my dreams and my goals into, into it words, ja.

Interviewer: Okay...okay uhm so would you recommend the BPS intervention to your friends?

Participant 5: Yes.

Interviewer: Why is that?

Participant 5: [pause] knowing one's uhm goals and dreams, it's a really good thing and with the best possible self, uhm yeah with the whole thing [interviewer interjects "yes"], the whole survey uhm you, you are able to learn like about yourself a lot more with that yeah.

Interviewer: Okay, so you think in that way it would help them?

Participant 5: Yes.

Interviewer: Okay, what do you suggest can be done to improve the BPS intervention, so maybe is there anything that was not clear while you will completing the BPS activity?

Participant 5: I think for me it was probably with the whole when are you going to start, when is the dream or the goal going to be achieved it was really hard setting like a timeframe for that thing so I wasn't too sure how to go about that, I don't know.

Interviewer: Okay, okay that's good, uhm and the last question I have, is there anything else you would like to say or comment on?

Participant 5: I, I really enjoyed the thing it was fun, it was [inaudible]

Interviewer: OK that's great

Participant 5: I don't know, I'm sorry.

Interviewer: Hello...

Participant 5: Yes.

Interviewer: So are you saying you enjoyed it?

Participant 5: Yes, I did enjoy it

Interviewer: Okay, no, that's good to hear. Okay so we've reached the end of the interview and so I'd just like to thank you for taking the time to participate um so in completing all the questionnaires and joining this interview and you have actually provided information that's valuable it's really feedback that can be used and so yeah it's much appreciated and I wish you a great week.

Participant 5: Okay eh I hope that all helps and you too though, have a good week.

Interviewer: Yes, it does help, thank you, take care.

Participant 5: Okay.

Interviewer: Bye.

Participant 5: Bye.

Participant 6

Interviewer: Recording...okay everything is fine now we can proceed then so during this interview session I will be asking you questions about your experience of the Best Possible Self intervention so that's the PSYC 1004 BPS tutorial activity which you completed and submitted in the second week of September and so this includes the presentation videos and the worksheet.

Participant 6: Yes.

Interviewer: Okay, okay so the first question, what was the most useful part of the BPS intervention?

Participant 6: Uhm I think it was really nice for me to like re-analyse my goals especially after this like COVID thing and see what I actually like want achieve again and be like realistic like with what's happened and everything.

Interviewer: Okay and what was the least useful part of the BPS intervention?

Participant 6: ooh [laughs] I don't think there was anything I actually really enjoyed it [laughs].

Interviewer: Okay, that's good and what do you think the BPS intervention was about?

Participant 6: Uhm I think it was about just our personal selves and looking at ourselves and our goals.

Interviewer: Okay and why is that, is, is there anything specific that's actually you know leading you to think in that way?

Participant 6: Because if we don't have our goals and stuff then we never gonna achieve what we really want to and work for what we want to do in the end.

Interviewer: Okay and do you think it made a difference on those aspects uhm of goal setting, did it make a contribution?

Participant 6: Ja I think it did.

Interviewer: Okay, so would you recommend the BPS intervention to your friends?

Participant 6: Oh yes definitely.

Interviewer: Why is that?

Participant 6: I think it was a nice, like we've done it at school before as well, I think they call it the smart method where you look at your goals, it's not, you don't just write down I wanna achieve this in whatever subject, it's like an actual proper analysis of like your goal and how you gonna achieve it, which is really good.

Interviewer: Okay so you've done the smart goal setting before?

Participant 6: Yes.

Interviewer: Okay so was there anything really different about this uhm intervention based on the fact that I mean you've done it before [participant interjects "ja"] you know how it works was there anything additional that stood out in terms of the BPS intervention?

Participant 6: Uhm, the only part that I hadn't done before was like uh writing to myself, I think it was, about who I wanna be and what I wanna be in the future.

Interviewer: Yes, the personal story.

Participant 6: Yes, I've never done that before which is nice.

Interviewer: Okay, okay then. Uhm so what do you suggest can be done to improve the BPS intervention?

Participant 6: Uhh maybe slightly shorter because I feel like some people looked at it and were like oh my gosh so much to do and like I don't know which goal I wanna do.

Interviewer: Mmh...okay.

Participant 6: But otherwise I think it was fun.

Interviewer: Okay and then just to go back a bit so why would you recommend it to your friends?

Participant 6: I think a lot of people are just lost especially at this time with the COVID, everything [interviewer interjects "mhm"] that they forget about their goals and how things have in the world changed now so I think at this time they really need, everyone needs to like re-analyse their goals and ja.

Interviewer: Okay, okay, and then is there anything that was not clear while you were completing the BPS activity?

Participant 6: No.

Interviewer: Okay, is there anything else, so this is the last question actually, is there anything else you would like to say or comment on?

Participant 6: I was just a very confused I don't know if it was on your part or the actual PSYC tutorial group, but like only like, I think there was maybe 10 people out of the whole PSYC like who had the BPS, everyone had the other thing which confused me a bit.

Interviewer: [laughs] and how did you feel about that did you wanna go to the DA 'cause everyone is doing it?

Participant 6: I was just like why is there only so few of us, I did look at it though [laughs].

Interviewer: OK so you know what actually happened, so because uhm, so the, my study is based on the tutorial activity so it means some of those people that actually signed up to be participants had to be split between like an experimental and control group so the experimental is the BPS intervention where we see whether this uhm intervention works and then the DA would be like the control to just contrast if there's a difference between the two so everyone else who didn't participate uhm landed up in the DA activity, I don't know if it makes sense [participant interjects "oh"], yes.

Participant 6: Ja okay.

Interviewer: Okay then, so I'd actually like to thank you for taking the time to participate I really appreciate this I mean you've completed all the questionnaires and you joined this interview and thanks for the valuable information that you provided about your experience.

Participant 6: No problem.

Interviewer: Okay then, take care.

Participant 6: You too.

Interviewer: Thanks, bye.

Appendix N

Ethics Clearance Certificate



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

CLEARANCE CERTIFICATE:

PROTOCOL NUMBER: MASPR/20/04

PROJECT TITLE:

Hope and Optimism: An Application of the Best Possible Self Intervention

INVESTIGATOR

Ramanyatsa Kgomo (441826)

SCHOOL/DEPARTMENT OF INVESTIGATOR

SHCD/Psychology

DATE CONSIDERED

16 June 2020

DECISION OF THE COMMITTEE

Approved unconditionally

RISK LEVEL

Low Risk

EXPIRY DATE

31 December 2022

ISSUE DATE OF CERTIFICATE

21 June 2020

CHAIRPERSON
 (Dr Sahba Besharati)

cc: Dr Aline Ferreira Correia (Supervisor)

DECLARATION OF INVESTIGATOR

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

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

 Signature

 Date 29 / 06 / 2020

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix O

Request for Permission to Access Student Sample



Psychology
School of Human & Community Development

University of the Witwatersrand
Private Bag 3, WITS, 2050

Tel: (011) 717 4500 Fax: (011) 717 4559



Dear Ms Carol Crosley,

My name is Kgomotso Ramanyatsa. I am a student (441826) at the University of the Witwatersrand completing a Master's in Social and Psychological Research. As part of my degree, I am required to conduct a research project. The title of the research is 'Hope and Optimism: An Application of the Best Possible Self Intervention'. The study aims to establish whether a positive psychology intervention can improve Hope, Optimism and Psychological Capital (PsyCap) in a group of first-year students taking a course in Psychology for Health Sciences. I am writing to request permission to carry out the study in the institution.

I would like to ask you for permission to do this in your institution. Students will be asked to complete a questionnaire which should take approximately 15-20 minutes (before and after the intervention). Students will be assigned to an experimental or control group. To understand the process related factors responsible for the results of the intervention, semi-structured interviews of 20 minutes will be carried out with students that provide consent and have participated throughout the study.

I will be applying for ethical clearance with the School Ethics Committee and will honour the ethical principles of informed consent, confidentiality, voluntary participation, and the right to withdraw from the study.

Please feel free to contact me (441826@students.wits.ac.za) or my research supervisor, Dr Aline Ferreira-Correia (aline.ferreiracorreia@wits.ac.za) if you need more information about the study.

Thank you for your consideration.

With Kind Regards

Kgomotso Ramanyatsa

Appendix P

Box Plots

