

Proactive behaviour towards strength use and deficit improvement, hope and efficacy as predictors of life satisfaction amongst first-year university students

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Orientation: The orientation of this study is towards proactive behaviour towards strength use (PBSU) and proactive behaviour towards deficit improvement (PBDI) and their relationship with hope, efficacy and life satisfaction of first-year university students.

Research purpose: To (1) determine whether PBSU and PBDI predict life satisfaction, (2) determine whether PBSU and PBDI predict hope and efficacy and (3) investigate a structural model where hope and efficacy mediate the relationship between PBSU and PBDI and life satisfaction.

Motivation for the study: To validate the use of PBSU and PBDI as resources that will assist first-year university student to attain life satisfaction and to delineate the need for universities to incorporate interventions that promote PBSU and PBDI amongst these students. This supports the case for positive organisational behaviour.

Research design, approach and method: A convenience sample of 566 first-year students from a university in Gauteng was used with a cross-sectional research design. Structural equation modelling was used to establish the validity of the measurement model, fit for the structural model and to test the mediating effects.

Main findings: The results indicated that PBSU was a significant predictor of hope, efficacy and life satisfaction and that PBDI was a significant predictor of hope and efficacy. Hope mediated the relationship between PBSU, PBDI and life satisfaction. Efficacy mediated the relationship between PBSU and life satisfaction.

Practical/managerial implications: Evidence suggests that PBSU was a predictor of life satisfaction. This was not the case with PBDI, which in fact negatively correlated with life satisfaction. Both PBSU and PBDI, however, predicted hope and efficacy. On a practical level this reveals that universities should, in line with positive organisational behaviour, introduce interventions that develop PBSU and PBDI amongst first-year students. It further suggests that, as is postulated by positive psychology, universities should focus more particularly on developing the ability of strength use amongst students, as opposed to deficit improvement.

Contributions/value-add: This research proposes a strong case for the introduction of interventions that promote first-year university students' ability for strength use, in particular, but also for deficit improvement, in line with positive organisational behaviour. Further, it validates for strength use as a stronger value proposition in achieving life satisfaction, supporting the philosophy of positive psychology.

Introduction

It is well documented that first-year university students often find themselves inadequately prepared for the challenges that face them at tertiary educational level (Mouton, Louw & Strydom, 2013). In South Africa, this is of particular relevance as various dynamics influence the probability of academic success of first-year intakes (Petersen, Louw & Dumont, 2009). This poses a unique challenge to the higher educational fraternity as there is increasing pressure to provide access to quality higher education to a larger portion of the country's population (Vandeyar, 2010). These pressures have emerged amidst a process of transformation and change in the higher education landscape and must be navigated cautiously (Le Grange, 2011).

The challenges that first-year university students face are many and varied. Salanova, Schaufeli, Martínez and Bresó (2009) argue that the first year of study at university poses a difficult trial as it can be considered unfamiliar terrain. Students often find that they lack the required resources to effectively deal with the challenges facing them at tertiary educational level (Reeve, Shumaker,

Yearwood, Crowell & Riley, 2013). In South Africa, first-year students are the products of a secondary educational system that has undergone significant changes in recent years, including new policy directions and structures (Steenkamp, Baard & Frick, 2009). Access, funding, and quality of teaching and learning are other stressors that South African first-year students face (Mouton *et al.*, 2013). These stressors inevitably influence the graduation rate of students in South Africa, which stands at only 15% (Department of Higher Education and Training, 2013).

The array of challenges that students have to deal with in a complex learning environment can potentially influence their levels of life satisfaction, an important component of well-being (Van Zyl & Rothmann, 2012). Bakker, Albrecht and Leiter (2011) postulate that it is important to investigate factors that influence student well-being as a means of developing interventions that could assist in the development of this part of their lives.

This study will investigate the influence of proactive behaviour towards strength use (PBSU), proactive behaviour towards deficit improvement (PBDI) and two psychological capital constructs (hope and efficacy) on the satisfaction with life levels of first-year students at a South African university.

Proactive behaviour towards strengths use and deficit improvement

PBSU and PBDI approaches form part of a modern school of thought known as positive psychology. This branch of psychology is focused on ascertaining insight into the potentialities and virtues of individuals (Linley, Joseph, Harrington & Wood, 2006; Seligman & Csikszentmihalyi, 2000; Wood, Linley, Maltby, Kashdan & Hurling, 2011). It supplements the premise of traditional psychology approaches that have been concentrated on rectifying human flaw, abnormality or deficiency (Cravens, Oliver & Stewart, 2010). Positive psychology is organised around understanding what people are good at, rather than what they may be doing wrong (Compton, 2005).

PBSU can be described as the proactive behaviour that people utilise to accomplish goals (Van Woerkom, Mostert, Els, Rothmann & Bakker, in press). Moreover, it can be viewed as the inclination of not merely accepting the status quo, but actively capitalising on one's areas of strength, virtue and potentiality, mobilising one's inherent capitals of forte to ensure that development ensues (Van Woerkom *et al.*, in press). Crant (2000) describes this as being crucial in reaching workplace and personal goals. Frese and Fay (2001) label proactive behaviour as essential in dealing with challenges and persevering, regardless of obstacles. PBSU implies pre-emptive behaviour on the part of the individual, such that this person would be positively inclined to make active use of their talents rather than accepting in a passive manner that they do not have control over a set of circumstances

(Botha & Mostert, 2014). PBDI has been designated as the proactive behaviour that an individual holds to develop their areas of deficit in order to efficiently deal with personal and work-related stressors and accomplish goals (Van Woerkom *et al.*, in press). This behaviour is critical in developing the holistic self, as one must capitalise on one's strengths whilst being equally realistic about one's shortcomings, proactively developing these areas towards becoming a rounded human being (Linley *et al.*, 2006).

Relationship between PBSU, PBDI and satisfaction with life

Both PBSU and PBDI have been associated with positive personal outcomes. Firstly, PBSU has been associated with meaningful experiences, satisfaction, engagement and pleasure in a working context (Seligman, 2011). Elevated and sustainable well-being has been reported through the use of personal strengths (Peterson & Seligman, 2004). In a study led by Wood *et al.* (2011), PBSU predicted positive affect, vitality and lower levels of perceived stress amongst community members from central and northern parts of England. PBDI has been proven as a practically significant (with large effect) predictor of work engagement amongst a sample of sport coaches (Stander & Mostert, 2013). It is also traditionally linked to the development of people through what is known as the balanced strength-and-deficit-based approach (Kaiser & White, 2009).

The broaden-and-build model holds that the positive, proactive utilisation of strengths and improvement of deficits will evoke positive emotions that harness thought-action repertoires that create personal resources (Frederickson, 2002). With regard to strengths use amongst university students, Bowers and Lopez (2010) suggest that university students who possessed the capacity to use their personal strengths were able to effectively draw on social support and were well positioned to reach successful outcomes in their tertiary educational career.

Little work exists on the relationship between a balanced strength-and-deficit-based approach and favourable personal outcomes in the context of South African students and much less so amongst specifically first-year students. This study will seek to investigate the relationship between PBSU, PBDI and satisfaction with life, a construct that has been described by Seligman (2011) as one of the very first empirical measures of happiness. Satisfaction with life comprises an individual's cognitive and emotional evaluation over the state of their life at a particular point in time (Diener, 1984). Satisfaction with life is a critical psychological construct in the context of university students as it has been proven to be a predictor of academic performance in a large sample of South African university students (Van Zyl & Rothmann, 2012). This finding is also supported by Rode *et al.* (2005), who found a positive relationship between satisfaction with life and academic achievement, as well as between satisfaction with life and positive assessment centre results in a sample of university

students from the United States. Considering the premise of the broaden-and-build theory and the research outlined above, this paper postulates the following:

Hypothesis 1a: PBSU will predict satisfaction with life (SWL) in a sample of South African first-year university students.

Hypothesis 1b: PBDI will predict satisfaction with life (SWL) in a sample of South African first-year university students.

The relationship between PBSU, PBDI, hope and efficacy

The use of strengths and the improvement of deficits elicit positive affects which lead to heightened motivation and subsequent better performance (Cropanzano & Wright, 2001), and can generate subjective well-being that assists in achieving goals (Kaiser & White, 2009). Psychological capital (PsyCap) has been supported in research as an emerging higher order construct associated with higher performance (Luthans, Avolio, Avey & Norman, 2007); it draws from Hobfoll's (2002) psychological resource theory and is linked to positive individual outcomes. Psychological capital, together with contextual influences, directs the perception of well-being (Singh & Mansi, 2009) and can be defined as 'an individual's positive psychological state of development' (Luthans, Youssef & Avolio, 2007, p. 3). PsyCap comprises four psychological resources, namely (1) being assured enough (*self-efficacy*) to embrace challenging tasks, (2) being positive (*optimism*) about achieving current and future success, (3) showing tenacity towards goal achievement and, in pursuit of success, even redirecting paths to goals (*hope*) when necessary and (4) when encountering adversity or problems, being *resilient* enough to bounce back (and beyond) in pursuit of success (Luthans *et al.*, 2007).

According to the conservation of resources theory, individuals accrue, preserve and protect those resources they value and that they can apply to accommodate, resist or conquer threats (Hobfoll, Freedy, Lane & Geller, 1990), which may include the personal resources as contained in PsyCap (hope, efficacy, resilience and optimism). Traumatic events, such as attending university for the first time, consume these resources and might even deplete them, causing individuals to experience stress which may render them potentially inadequate to resolve imminent strains, leading to burnout (Gorgievski & Hobfoll, 2008), which then results in minimal or no engagement (Chen, Westman & Eden, 2009; Gorgievski & Hobfoll, 2008; Xanthopoulou, Bakker, Demerouti & Schaufeli, 2008).

A fundamental goal of universities is to help build human capital that will eventually become companies' most important (competitive) assets through delivering educated, mature graduates by equipping them with knowledge, skills and competencies that will enable them to excel in the workplace. It is thus imperative to build on students' strengths and positive psychological resources (Luthans *et al.*, 2007). Previous research studies that investigated

the relationship between the different psychological constructs that comprise PsyCap and student academic performance have consistently shown either all of the individual constructs or occasionally two of them to be strong predictors of academic success (Chemers, Hu & Garcia, 2001; Curry, Snyder, Cook, Ruby & Rehm, 1997; Martin & Marsh, 2006; Ruthig, Perry, Hall & Hladkyj, 2004; Stajkovic & Luthans, 1998). In this study, efficacy and hope as constructs of PsyCap will be investigated in relation to PBSU and PBDI of first-year university students. These constructs were selected out from the PsyCap literature due to the extensive research done in student contexts on these constructs in particular.

Efficacy

According to Bandura (1998), an optimistic sense of personal efficacy is a prerequisite for positive well-being, especially in overcoming the great number of obstacles on the road to success. Self-efficacy refers to the individual's own positive belief about their capabilities to organise and mobilise courses of action towards successfully performing a specific task within a certain context (Singh & Mansi, 2009; Stajkovic & Luthans, 1998). Bandura (1998) postulates that self-efficacy beliefs impact almost every aspect of an individual's life and therefore an individual's actual behaviour can often be better predicted by the beliefs they have about their competencies than by what they are actually capable of achieving.

A clear distinction can be drawn between the behaviour of individuals who regard themselves as highly efficacious and those who perceive themselves to be inefficacious. Efficacious individuals show PBSU in that they regard difficult tasks as challenges to be mastered, are committed towards goal attainment and show strong perseverance and confidence in the face of adversity, always exerting more effort and dedication towards difficult tasks, recovering quickly from disappointments and acquiring new knowledge and skills to address and improve their shortcomings (deficit improvement). Individuals with low self-efficacy, on the other hand, may regard problems as more severe than they actually are, perhaps even avoiding them, show weak commitment to goals and, in the face of adversity, would focus on their personal failings and negative outcomes and slacken (or halt) their efforts in accomplishing a difficult task (Bandura, 1998; Singh & Mansi, 2009).

Perceived self-efficacy plays a fundamental role in academic success, through motivation and achievement, enhancing effort and tenacity in academic activities (Zimmerman, 1995). Students' beliefs in their efficacy to control their own learning and to accomplish academic activities govern their ambitions, motivation and academic achievements (Bandura, 1993). PBSU and PBDI are resources that will enable a first-year student to deal with challenging situations at university, predicting the inherent belief that they could successfully overcome challenges and pressures. A study by Stander and Mostert (2013) found a practically significant correlation

between PBSU and self-efficacy. On the basis of this literature support, the following hypotheses are proposed:

Hypothesis 2a: PBSU will predict efficacy in a sample of South African first-year university students.

Hypothesis 2b: PBDI will predict efficacy in a sample of South African first-year university students.

Hope

Hope, according to Snyder, Harris and Anderson (1991), can be defined as a positive emotional state and comprises two components, namely *agency* (willpower) and *pathways* (Snyder, 2000). *Agency* refers to an individual's motivation or willpower to not only start working towards a given goal, but to continue until the task has been accomplished effectively. Motivation towards accomplishing goals becomes especially important when obstacles arise, and willpower becomes evident in positive self-talk comments, such as 'I will not be stopped' or 'I can do this' (Snyder, Lapointe, Crowson & Early, 1998). *Pathways* refer to creating the necessary routes to accomplish those goals. Hope has been linked to various positive outcomes in the work context, such as greater organisational success (Adams *et al.*, 2002), financial performance, employee retention and job satisfaction (Peterson & Luthans, 2003), organisational commitment (Larson & Luthans, 2006; Youssef & Luthans, 2007) and happiness at work (Youssef & Luthans, 2007). In relation to academic success, hope allows students to set prized goals, identify ways of achieving those goals and find the motivation to accomplish them (Snyder, 2002), and it has been linked to positive academic achievements amongst college business students (Luthans, Luthans & Avey, 2013).

In view of the uncertainty surrounding their new circumstances at university, pre-emptive behaviour such as with PBSU will allow a first-year student to put their talents to active use towards regulating their circumstances, simultaneously generating positive emotional feelings that will instil a will to succeed and guide them to find the way to success. PBDI will allow the first-year to develop their areas of deficit to enable them to deal with any stressors or traumatic events by preserving and protecting their valued personal resources, and will instil in them the necessary hope to identify ways of overcoming any obstacles in pursuit of their goals. PBSU and PBDI are personal resources that, according to Van Den Heuvel, Demerouti, Schaufeli and Bakker (2010), empower individuals to negotiate their challenges and stressors more effectively and enable them to accomplish their goals. On the basis of this literature support, the following hypotheses are proposed:

Hypothesis 3a: PBSU will predict hope in a sample of South African first-year university students.

Hypothesis 3b: PBDI will predict hope in a sample of South African first-year university students.

Hope and efficacy as mediators in the relationship between PBSU, PBDI and satisfaction with life

A number of studies have been conducted that have effectively postulated PsyCap as a mediator between various variables and positive personal and work-related outcomes. For example, Wang, Chang, Fu and Wang (2012) established that the PsyCap constructs partially mediated the relationship between work-family conflict and burnout in a large sample ($N = 1332$) of Chinese nurses. In another study, it was proven that PsyCap acted as mediator between leadership and creative performance behaviours within a sample of scientists working in the research and development sector in India (Gupta & Singh, 2014). Pertaining to the university student context specifically, Riolli, Savicki and Richards (2012) confirm that PsyCap mediates between stress and physical and psychological well-being in a sample of undergraduates from a university in the United States. In the context of that study, PsyCap constructs effectively served as a buffer to reduce the stress experienced by these students as a means of enhancing satisfaction with life and augmenting positive psychological outcomes. It thus serves as a strong theoretical substantiation for the purposes of the current study. The mediating properties of PsyCap can be attributed largely to these personal capitals' ability to equip the individual to more effectively negotiate job demands and, equally so, capitalise on job resources to attain favourable personal and work-related goals (Schaufeli & Bakker, 2004). It holds true of both the PsyCap constructs investigated in this article, namely hope and efficacy.

The PsyCap construct of hope has been proven to be in a reciprocal relation with engagement in a study amongst university students, led by Siu, Bakker and Jiang (2013). Furthermore, in a study amongst Slovakian university and school students, hope was proven to be a mediator between various personality factors (such as extraversion, conscientiousness and neuroticism) and satisfaction with life (Halama, 2010). Based on these studies and the theoretical description of PsyCap outlined in this article, it is plausible to postulate the following:

Hypothesis 4a: The PsyCap construct of hope will mediate between PBSU and satisfaction with life (SWL) in a sample of South African first-year university students.

Hypothesis 4b: The PsyCap construct of hope will mediate between PBDI and satisfaction with life (SWL) in a sample of South African first-year university students.

With regard to the PsyCap construct of efficacy, research also supports the mediating properties of this variable. In a study amongst student volunteers from a university in Canada, efficacy was proven to be a full mediator between conscientiousness and meaning in life (Lightsey *et al.*, 2014). Based on this, this paper predicts that:

Hypothesis 5a: The PsyCap construct of efficacy will mediate between PBSU and satisfaction with life (SWL) in a sample of South African first-year university students.

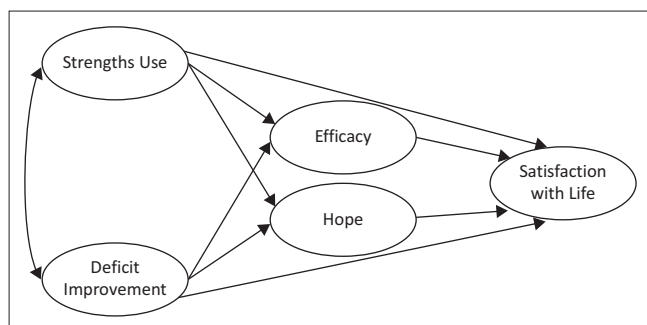


FIGURE 1: The research model.

Hypothesis 5b: The PsyCap construct of efficacy will mediate between PBDI and satisfaction with life (SWL) in a sample of South African first-year university students.

Research method

Research design

A cross-sectional design was used to achieve the objectives of this study (Shaughnessy, Zechmeister & Zechmeister, 2009). Salkind (2009) refers to a cross-sectional design to be one that measures a number of responses from different participants at one particular point in time.

Research participants and procedure

The research participants were 566 first-year university students from two faculties (Humanities and Economic Sciences) from a Gauteng-based university. The average age of the sample was 19.76 ($SD = 1.75$). There were 358 (63.3%) female participants and 192 (36.7%) male participants. The majority were black students (82.2%), followed by white students (13.9%), Asian students (1.4%) and mixed-race students (1.2%). From the sample, 17.7% spoke English and Afrikaans, 23.9% Nguni (isiNdebele, isiZulu, isiXhosa, siSwati), 51.6% Sotho (Sesotho, Setswana, Sepedi) and 3.7% Xitsonga or Tshivenda.

The research was conducted during the welcoming and orientation programme at the beginning of the academic year. The university management allowed for designated time slots during the above-mentioned programme and students were organised into their respective faculties and sub-study fields to ensure that the research process could be conducted in a controlled and structured manner. Students were organised in groups of about 100 per time slot and assembled in large lecture halls earmarked for the research project. All groups were thoroughly briefed on the intent, purpose and method of the research project. Students were assured that the research purposes of the project were aimed at gathering useful information, and were guaranteed absolute confidentiality pertaining to their details. They were briefed on the fact that their participation would be anonymous and that participation was absolutely voluntary; they were under no obligation to partake in the research process and could also quit participation during any stage. The researchers working on this project were also available in the designated lecture halls throughout the data collection

process, particularly to assist with questions the students could potentially raise. Informed consent was obtained through consent letters distributed to the students. The research was done under the auspices of ethical clearance of a broader research project.

Measuring instruments

A biographical questionnaire was used to obtain information regarding the biographical characteristics of participants (e.g. age, gender, and home language). Three additional measuring instruments were administered.

Proactive behaviour towards strengths use and deficit improvement.

Two of the subscales of the Strengths Use and Deficit Improvement Questionnaire (SUDIQ; Van Woerkom *et al.*, in press) were adapted to measure PBSU and PBDI. The SUDIQ in its original format has four subscales; however, only the individual dimensions were relevant to this study. Since the SUDIQ was developed for use in organisational context, items were adapted for the university context. For example, a PBSU item 'I use my strengths at work' was adapted to 'I use my strengths when performing tasks'. An example item of PBDI, 'In my job, I work on my shortcomings', was adapted to read 'During tasks, I work on my shortcomings'. Items are measured on a seven-point Likert scale ranging from 0 (almost never) to 6 (almost always). Reliability of the scales has been proven sufficient through Cronbach's alpha coefficients of 0.93 for PBSU and 0.93 for PBDI (Stander & Mostert, 2013).

Hope and efficacy

The two PsyCap constructs of hope and efficacy were measured through the 12-item *PsyCap Questionnaire* (PCQ 12; Luthans *et al.*, 2007). As in the case of the SUDIQ, items on the PCQ 12 were also adapted to ensure that it would be relevant to the student context. For example, an item for hope, 'I can think of many ways to reach my current work goals', was adapted to 'I can think of many ways to reach my current study goals'. With regard to efficacy, the item 'I feel confident presenting information to a group of colleagues', was adapted to 'I feel confident presenting information to a group of co-students'. The PCQ 12 has been established as a reliable short measure to assess PsyCap, with Cronbach's alpha coefficients of 0.82 (hope) and 0.79 (efficacy) being reported by Luthans *et al.*, (2007). Items are measured on a six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree).

Life satisfaction

Life satisfaction was measured through the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985). A typical item for the SWLS is 'I am satisfied with my life'. The SWLS utilises a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) and comprises five items. Sufficient reliability for the SWLS has been proven; for example, Alfonso and Allison (1992) established a Cronbach's alpha of 0.89 for the scale.

Statistical analysis

Mplus 7.2 (Muthén & Muthén, 2014) was used to investigate the research hypotheses. Mplus is a powerful statistical software package with the ability to investigate latent variables. In this study no item parcelling, mean or sum score techniques were implemented. The individually observed indicators (items) were therefore used to implement confirmatory factor analysis for each of the latent corresponding variables in one measurement model with maximum likelihood methodology. Regressions paths were then added to the measurement model in accordance with the research hypotheses to constitute a structural model. The following fit statistics were considered: comparative fit index (CFI; acceptable values between 0.90 and 0.99), Tucker-Lewis index (TLI; acceptable values between 0.90 and 0.99), root mean square error of approximation (RMSEA; acceptable values between 0.01 and 0.08) and standardised root mean residual (SRMR; acceptable values between 0.01 and 0.08) (Hooper, Coughlan & Mullen, 2008; Van de Schoot, Lugtig & Hox, 2012). Given the call for psychologists to move from reporting the problematic alpha coefficient to the better-performing omega coefficient for reliability, the omega coefficient was calculated in Mplus (cf. Dunn, Baguley & Brunson, 2013). For correlations, the level of practical significance (r) is set at 0.30 or above for a medium effect and 0.50 or above for a large effect (Cohen, 1988). To investigate the mediating effects in the model, indirect function was specified in Mplus with a request for 5000 resampling draws in order to focus on the indirect effects in the model (Rucker, Preacher, Tormala & Petty, 2011). Moreover, mediation results would be described in terms of the contemporary suggestions by Zhao, Lynch and Chen (2010) as either complementary, competing, indirect-only, direct-only or non-mediation effects. Statistical significance (p) is set at 0.05 or above.

Results

Results revealed that the model fit the data well for both the measurement model: CFI (0.91), TLI, (0.91), RMSEA (0.04) and SRMR (0.05), and the structural model: CFI (0.91), TLI, (0.90), RMSEA (0.04) and SRMR (0.06). Furthermore, the results of measurement invariance testing revealed configural and metric invariance based on gender, which indicates that the factor structure and loadings were similar for both men and women. Based on these results, the following results are presented: the correlation matrix for the latent variables, the structural regressions and the results for mediation testing of indirect effects in the model.

Table 1 presents the correlation matrix for the latent variables in the structural model.

Correlations revealed that PBSU and PBDI are practically significantly correlated with each other to a large degree ($r = 0.62$). PBSU was also practically correlated to SWL ($r = 0.35$; medium effect), self-efficacy ($r = 0.51$; large effect) and hope ($r = 0.59$; large effect). PBDI was practically

TABLE 1: Correlation matrix for the latent variables.

Variables	PBSU	PBDI	SWL	Efficacy	Hope
PBSU	(0.82)	-	-	-	-
PBDI	0.62**	(0.83)	-	-	-
SWL	0.35*	0.12	(0.73)	-	-
Efficacy	0.51**	0.46*	0.29	(0.77)	-
Hope	0.59**	0.56**	0.37*	0.47*	(0.72)

Omega reliability coefficients in brackets on the diagonal.

PBDI, individual deficit improvement; PBSU, individual strengths use; SWL, satisfaction with life.

All correlation values were significant: $p < 0.05$.

*, Medium practical significance;

**, Large practical significance

TABLE 2: Standardised estimates for the structural paths.

Regression path	β	SE	p	Result
PBSU \rightarrow Efficacy	0.36	0.08	0.001	Significant
PBSU \rightarrow Hope	0.41	0.07	0.001	Significant
PBSU \rightarrow SWL	0.25	0.09	0.008	Significant
PBDI \rightarrow Efficacy	0.25	0.08	0.001	Significant
PBDI \rightarrow Hope	0.31	0.07	0.001	Significant
PBDI \rightarrow SWL	-0.28	0.07	0.001	Significant
Self-efficacy \rightarrow SWL	0.16	0.08	0.032	Significant
Hope \rightarrow SWL	0.32	0.09	0.001	Significant

β , beta coefficient; p , two-tailed statistical significance; PBDI, individual deficit improvement; PBSU, individual strengths use; SE, standard error; SWL, satisfaction with life.

significantly correlated with efficacy ($r = 0.46$; medium effect) and hope ($r = 0.56$; large effect). Furthermore, SWL was also practically correlated to hope with medium effect ($r = 0.37$), but had a borderline medium practical association with efficacy ($r = 0.29$).

Table 2 presents the structural regression results of the structural model from structural equation modelling.

Results from the structural relationships revealed that all of the regressions were significant, which confirmed H_{1a} through H_{3b} . PBSU had relationships with efficacy ($\beta = 0.36$), hope ($\beta = 0.41$) and SWL ($\beta = 0.25$). Similar results were evident for PBDI which had relationships with efficacy ($\beta = 0.25$) and hope ($\beta = 0.31$). However, PBDI had a negative relationship with SWL ($\beta = -0.28$). Efficacy had a relationship with SWL ($\beta = 0.16$), but the relationship between hope and SWL was stronger ($\beta = 0.32$).

Concerning the mediation hypotheses, bootstrapping revealed that there were some significant indirect effects. Hope mediated the relationship between PBSU and SWL with an indirect effect of 0.21 (95% CI [0.10; 0.31], $p = 0.003$), confirming H_{4a} and indicating a complementary mediation (direct effect and indirect in same direction). Hope also mediated the relationship between PBDI and SWL with an indirect effect of 0.12 (95% CI [0.03; 0.20], $p = 0.008$), confirming H_{4b} and indicating a competitive mediation (direct and indirect effects exist, but in opposite directions). Regarding the mediation role of efficacy in the relationship between PBSU (H_{5a}), PBDI (H_{5b}) and SWL, efficacy had a small indirect effect between PBSU and SWL: 0.07 (95% CI [0.01; 0.12], $p = 0.03$), but a non-significant indirect effect between PBDI and SWL was evident, which indicated no mediating action for efficacy between PBDI and SWL: 0.05 (95% CI [0.01; 0.10],

$p = 0.08$). Thus, H_{5a} was confirmed as a complementary mediation, but H_{5b} was rejected, indicating a direct-only non-mediation (direct effect exists, but no indirect effect).

Discussion

The first positive contribution of this study is the fact that all the adapted measures were proven to be reliable on all dimensions, based on the omega reliability coefficient values. This is applicable to PBSU ($\omega = 0.82$) and PBDI ($\omega = 0.83$) in the case of the SUDIQ, as well as for hope ($\omega = 0.72$) and efficacy ($\omega = 0.77$) in the case of the PCQ 12. This is significant from a practical perspective as it ensures the measures can be used with scientific reliability for further studies specifically relating to these topics within the student and tertiary educational domain. Pertaining to the hypothesised outcomes of this study, PBSU predicted SWL in the sample of first-year students from various disciplines. This holds noteworthy value from the understanding of developmental psychology as it predicts that students who display the ability and self-starting behaviours to proactively utilise their areas of potentiality will be able to effectively navigate the array of challenges presented to them during their first year of study at tertiary educational level. They will be able to achieve satisfaction with life, despite the contests during this crucial time of their academic career. It supports the work of Seligman (2011), who has established that PBSU could potentially facilitate various positive personal outcomes, such as pleasure and meaningful personal work experiences.

The power of PBSU is explained well through the research of Bowers and Lopez (2010), who established that university students who had the capacity for capitalising on their own strengths were better equipped to accumulate and utilise the resources available to them in the realm of their educational career as a means of achieving desired outcomes. From a practical perspective, it is now possible to argue that South African universities must actively seek and promote interventions that aid first-year students in utilising their strengths. Examples of such interventions can include utilising the resources already available through university staff and departments to conduct targeted strength-based development intercessions on an individual level, for example through student counselling services, as well as on the group level, through workshops on strength-based development, customised and presented at specific levels for specific year groups of students. This will lead to higher levels of satisfaction with life, which in the dominion of South African university students has been proven to be a direct predictor of academic performance (Van Zyl & Rothmann, 2012). In the context of this research, the fact that PBSU was proven as a predictor of SWL supports the notion of the broaden-and-build theory of Frederickson (2002). From a practical perspective, it is now possible to argue that South African universities must actively seek and promote interventions that aid students in utilising their strengths as a way to facilitate life satisfaction and increase likelihood for academic performance amongst these students.

Interestingly, Hypothesis 1b, which predicted that PBDI would predict SWL, revealed a negative relationship between these two constructs, meaning, on a practical level, that should a first-year student be focused on proactively and consistently working on their areas of deficit, that student is less likely to experience satisfaction with life. The correlation between PBDI and SWL, albeit negative, proved nearly as strong as the positive correlation between PBSU and SWL. This proved an intriguing part of this research. The only practical explanation one can offer for this phenomenon is the fact that, if an individual is overly focused on their areas of deficit and consistently examines and scrutinises these so-called areas of flaw, that person will be negatively inclined and is likely to experience less general satisfaction with their life. This state of affairs, as proven in this research, is a significant bolster to positive psychology which holds that a focus on potentialities and virtues has a far stronger value proposition than only focusing on what an individual is not good at (Cravens *et al.*, 2010). It does not detract from the notion that balanced development will yield value for holistic development, but highlights the value of strength-based approaches in particular. Although the positive correlation between PBDI and SWL is salvaged by the mediating properties of PsyCap (later discussed in this article), it becomes evident that an in-depth enquiry needs to be made of the difference between PBSU and PBDI in fostering SWL, setting the scene for fruitful further research on this topic, particularly amongst South African university students.

In this study, both PBSU and PBDI were proven as predictors of efficacy, thus confirming Hypothesis 2a and Hypothesis 2b. Considering the elements of the construct, it becomes clear that self-starting, proactive behaviours of both strength use and deficit improvement will, in theory at the very least, be valuable to achieve greater levels of efficacy. Singh and Mansi (2009) commented that individuals with lower levels of perceived self-efficacy will feel less equipped to deal with challenges and will perceive themselves as being powerless in the navigation of stressors in their personal lives. This is contrary to what is implied through the PBSU and PBDI constructs which both allude to self-starting, proactive behaviours, thus inferring that an individual will take charge of a particular situation or challenge rather than merely stand back, accepting their fate as that of being unable to effectively deal with such a challenge (Van Woerkom *et al.*, in press).

Efficacy is a construct of well-being and should thus be strengthened through PBSU and PBDI when considering the broaden-and-build theory (Frederickson, 2002). Efficacy is directly related to how an individual feels about their ability to deal with a particular challenge. It should thus be reflected by an individual's capacity to proactively seek the use of their psychological faculties to utilise strengths and improve deficits as a means of dealing with trials (Luthans, Avey, Avolio & Peterson, 2010). As in the case of SWL, efficacy has also been proven to be a significant predictor of academic success amongst students (Bandura, 1993; Zimmerman, 1995); further ensuring that the contribution of

this study, particularly within the context of South African university students, becomes a practical one. It can now be argued that PBSU and PBDI should be actively encouraged within South African universities and amongst the students, as a way of stimulating these students' perceptions of their ability to overcome challenge and effectively deal with the various stressors associated with the first year of study at an institution of higher learning.

Both PBSU and PBDI were proven as predictors of the PsyCap construct of hope, thereby confirming Hypothesis 3a and Hypothesis 3b. It can therefore be argued with scientific merit that, by incorporating PBSU and PBDI interventions within the realm of South African universities, progress may be achieved towards stimulating PsyCap constructs such as hope. This must be understood from the perspective of what hope essentially represents. According to Snyder (2000), hope entails both the will to achieve a particular goal or end result as well as the ability to actively seek and find ways as to achieve the said goal or result. Considering the self-starting nature of both PBSU and PBDI (Van Woerkom *et al.*, in press), it becomes evident that an individual who actively seeks opportunities to utilise their strengths and develop their deficits will more likely experience higher levels of hope. Such a person will feel in better control of their future and will seek pragmatic pathways towards reaching the stated goals, as postulated by Snyder. This supports the hypotheses outlined above.

Hope has directly correlated with a number of positive work-related outcomes, such as financial performance, employee retention and job satisfaction (Peterson & Luthans, 2003), as well as organisational commitment (Larson & Luthans, 2006; Youssef & Luthans, 2007). It is thus reasonable to argue that hope as a construct will also be a valuable commodity in the arsenal of the first-year South African student towards achieving desired outcomes such as academic performance. In this instance, PBSU and PBDI can serve as valuable personal resources to facilitate higher levels of hope amongst these students.

The following hypotheses of this study predicted that hope would serve as mediator between PBSU and SWL (Hypothesis 4a) and PBDI and SWL (Hypothesis 4b), respectively. This was postulated, based on evidence from two research studies in particular. Firstly, Siu *et al.*, (2013) proved that hope was an effective facilitator of engagement amongst a sample of students from a Hong Kong university. Secondly, Halama (2010) proved that hope could effectively mediate between a variety of personality factors and SWL, particularly in a large sample of Slovakian secondary and tertiary educational students. In the context of this study, it was established that hope served as a mediator between PBSU and SWL (confirming Hypothesis 4a), through complementary mediation with direct effect. It can thus be argued that hope will act in strengthening the relationship between PBSU and SWL, and must be actively promoted in the context of South African universities as a means of

ensuring that first-year students experience higher levels of SWL. Hope also proved to be a mediator between PBDI and SWL (confirming Hypothesis 4b), with indirect effect. This proves the significant value of hope, particularly amongst first-year university students, as a negative correlation was actually established between PBDI and SWL in this study. Thus, although direct paths exist between PBSU and SWL, as well as hope and SWL, hope can serve as a mobilising agent between PBSU and SWL. Further, hope can also translate the capacity for PBDI towards a state of SWL as a mediator.

Within the context of this study, efficacy was established as a mediator between PBSU and SWL, thus confirming Hypothesis 5a, albeit with small indirect effect. This supports the work of Lightsey *et al.* (2014), who established efficacy as a full mediator between conscientiousness and meaning in life in a sample of Canadian university students. Through this study, it can now be argued that university management teams in South Africa should actively look for and implement interventions to raise students' levels of self-efficacy as a means of strengthening the relationship between PBSU and SWL. This is particularly true of first-year students who are likely to experience various stressors, perhaps even feeling unequipped to effectively deal with the transition from secondary to tertiary educational level (Mouton *et al.*, 2013). Hypothesis 5b, which postulated that efficacy would mediate between PBDI and SWL, could not be conclusively proven. This can be directly attributed to the fact that PBDI had a negative correlating relationship with SWL, which is highly enthralling and should be further explored.

Limitations of the study and suggestions for future research

According to Kamakura (2010), cross-sectional study designs can potentially lead to common-method bias. This cross-sectional study could potentially significantly benefit from a longitudinal design, in which phenomena are studied over the course of the student's development as a first-year and also as a senior student. The population utilised in this study, albeit large and highly representative of the South African population was drawn from one province and one university. It could be beneficial to include all the universities in South Africa, across a number of provinces, to strengthen the validity of the research results. The most significant finding of this research, which will also set the basis for further research, was the fundamental difference between PBSU and PBDI in their properties and predicting qualities towards SWL. Highly intriguing was the fact that PBDI held a negative correlation with SWL, as directly opposed to PBSU which had a direct positive correlation with SWL. This warrants an in-depth future investigation, as it will shed light on the position of both PBSU and PBDI within the domain of positive psychology.

On a practical level, this study presents a clear value proposition for the utilisation of interventions to develop first-year students' capacity to proactively utilise their strengths as a means of achieving SWL, in particular.

This can be done on an individual level, such as through student counselling, as well as on a group level, through interventions such as workshops, targeted to specific year groups of students. This will be particularly useful when combined with interventions that enable hope and efficacy amongst these students. Through these interventions, SWL can be effectively fostered amongst these first-year students who have to navigate their way in a complex and very new environment largely unbeknown to them, one in which they have to equip themselves to deal with a number of challenges. This will ask for a very concerted effort from university management to source, structure and implement these interventions, but will clearly hold significant value as SWL will directly lead to higher academic performance.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

F.W.S. (North-West University) was the research project leader, responsible for the administration of the project and acted as corresponding author on this work. E.D. (North-West University) and K.M. (North-West University) were involved as co-authors and subject matter experts. L.T.d.B. (North-West University) was a co-author and was responsible for the statistical analysis and reporting of this work.

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