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Article

The influence of psychological capital, self-leadership, and mindfulness on work engagement

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Abstract

Psychological capital, self-leadership, and mindfulness are assumed to be theoretically linked with important implications for work engagement. This article presents a conceptual model by combining together, for the first time, psychological capital, self-leadership, mindfulness, and work engagement. The sample comprised 407 employees from a variety of organisations. The results showed that psychological capital has a positive influence on work engagement, that self-leadership is a stronger determinant of psychological capital than mindfulness, and that psychological capital fully mediates the influence of self-leadership on the dedication component of work engagement and partially mediates the self-leadership–vigour relationship and the influence of mindfulness on vigour and dedication – both components of work engagement. Overall, the data suggested the importance of developing employees' personal resources in order to enhance work engagement.

Keywords

Mindfulness, personal resources, PsyCap, psychological capital, self-leadership, work engagement

Beneficial workplace outcomes, such as increased organisational performance, job satisfaction, and employee commitment, have been observed when levels of work engagement are high (Geldenhuys, Łaba, & Venter, 2014; Sorenson, 2013). Macey and Schneider (2008) describe 'engagement' as a positive, fulfilling, affective-motivational mind state, suggesting that engaged employees experience higher energy levels while being enthusiastically focused on their tasks. According to Schaufeli and Bakker (2010), work engagement reflects a psychological state, mediating the effect of personal and job resources on organisational outcomes. Schaufeli, Martinez, Pinto, Salanova, and Bakker (2002) treat 'work engagement' as a broad construct with three components: vigour, dedication, and

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absorption. They characterise 'vigour' as high levels of mental resilience and energy and a willingness to invest effort in one's work, and 'dedication' as deriving a sense of significance from one's work, and feeling proud, important, inspired, enthusiastic, and challenged. 'Absorption' is characterised as being totally and happily engrossed in one's work and having difficulty detaching oneself from it. Schaufeli and Bakker (2004) see vigour and dedication as the 'core components' of work engagement, and absorption rather as the consequence.

Several personal resources, as antecedents of work engagement, have been identified and empirically investigated, such as coping style and being problem focused (Rothmann & Storm, 2003), and self-efficacy, optimism, organisational self-esteem, and resilience (Bakker, Gierveld, & Rijswijk, 2006, cited in Bakker, 2009; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). More recent studies have investigated the role of psychological capital (PsyCap), self-leadership, and mindfulness in work engagement (Leroy, Anseel, Dimitrova, & Sels, 2013; Malinowski & Lim, 2015; Shaoping, Huachun, & Yongheng, 2015; Tabaziba, 2015). Scholars disagree about which of the constructs are the antecedents, the effects or outputs, or the mediators (De Waal & Pienaar, 2013; Leroy et al., 2013; Shaoping et al., 2015; Tabaziba, 2015). For instance, while the results of a study by Avey, Wernsing, and Luthans (2008) suggest that a higher level of mindfulness assists individuals lower on PsyCap to become aware of thinking patterns that hinder their PsyCap development, Tabaziba (2015) found that mindfulness mediates the PsyCap–work engagement relationship. Although studies show a relationship between self-leadership and work engagement, no research could be found on the relationship between self-leadership and PsyCap. Furthermore, some research indicates that PsyCap acts as a buffer, neutralising the negative effects of job demands and stressful working environments and is a mediator in the relationship between personal or organisational resources and work outcomes (Luthans, Norman, Avolio, & Avey, 2008). For example, Malinowski and Lim (2015) found empirical evidence that PsyCap mediates the relationship between mindfulness and work engagement by increasing positive affect, hope, and optimism. Research by Abbas et al. (2013) shows that higher PsyCap is related to a less negative effect of organisational politics on employees' performance and job satisfaction. Those who view PsyCap as a psychological resource individuals draw upon anticipate that it will 'play an important role in buffering the influence of various challenges thrown at the individual' (Newman, Ucbasaran, Zhu, & Hirst, 2014, p. 128). If PsyCap plays such a key role in the relationships between personal and job resources and work outcomes, we need to understand how these personal resources interact to produce work engagement. Since all these constructs are regarded as state-like and open to development and can be managed to improve performance (DiLiello & Houghton, 2006; Luthans, Avolio, Avey, & Norman, 2007), their sequential effect on work engagement may be significant. The relationships between these resources have not yet been explained in one model; therefore, this study aimed to fill this gap by creating and testing a self-leadership, mindfulness, PsyCap, and work engagement relationship model based on a literature review.

PsyCap is a second-order construct composed of four integrated components: self-efficacy, hope, optimism, and resilience (Avey, Luthans, & Youssef, 2010). 'Self-efficacy' is the conviction that one can mobilise the motivation, cognitive resources, and courses of action necessary to execute a specific task successfully within a given context (Luthans, Avey, & Petera, 2008); 'hope' is a cognitive process that involves being determined to achieve goals and planning pathways to meet those goals; 'optimism' is the expectation of good outcomes, which may increase one's motivation and perseverance; and 'resilience' is one's ability to 'bounce back' from difficulties and adversity and adapt and cope successfully (Snyder et al., 1991). Resilience is often regarded as a reactive mode – a response to a setback – while efficacy, hope, and optimism are proactive, but Avey et al. (2010) see resilience as sharing certain characteristics with the other three. Resilience and efficacy have an underlying element of perseverance that allows for endurance in the face of obstacles.

Resilience and hope are inherently adaptational: To recover from setbacks, resilient people use adaptational processes to draw on their assets, and hopeful people generate alternative pathways (Avey et al., 2010).

PsyCap can be developed as a personal resource to enhance work outcomes, such as work engagement. The relationship between PsyCap and work engagement has been supported empirically in various organisational contexts (Herbert, 2011; Simons & Buitendach, 2013), but not all researchers agree on the nature and direction of this relationship. Herbert (2011) argues that higher PsyCap may enable an employee to evaluate the job resources, available support, interpersonal relations, team climate, and career opportunities more positively and use them more effectively. She found that developing PsyCap increases engagement. Simons and Buitendach (2013) showed that the integrated construct of PsyCap had more influence on the outcome of work engagement than its four components separately, while Xanthopoulou et al. (2007) found that self-efficacy and optimism were positively related to work engagement. In contrast, De Waal and Pienaar's (2013) longitudinal investigation of the sequential relationship between work engagement and PsyCap found that initial levels of work engagement predict subsequent PsyCap, and they conclude that 'protecting' and 'fostering' work engagement build PsyCap. This argument is supported by Cordery (2007) who found engagement to be a strong predictor of hope, optimism, and self-efficacy. Thus, the question remains whether work engagement builds PsyCap or whether PsyCap influences employees' level of work engagement.

'Self-leadership' has its theoretical roots in Bandura's (1977, 1986) social learning and social cognitive theories, in self-regulation theory (Carver & Scheier, 1981) and in the concept of 'self-management' (Manz, 1983), and is related to the concept of influencing oneself (Alves et al., 2006). Bandura's (1977, 1986) theories explain how people can influence their own motivation, cognition, and behaviour. The continuous interaction between themselves and their environment allows them to use the consequences of their own behaviour as a source of information and motivation (Norris, 2008). Behavioural self-regulation processes enable people to monitor the gap between actual performance levels and the standards or goals they set themselves (Carver & Scheier, 2002). Self-leadership strategies are applied to improve the effectiveness of these self-regulatory processes. These strategies include behaviour-focused strategies, natural reward strategies, and constructive thought strategies (Neck & Houghton, 2006).

Behaviour-focused strategies include self-observation and self-assessment, self-goal setting, self-rewards to energise oneself, self-punishment, and self-cueing (Alves et al., 2006). Self-observation helps people to become aware of why, how, and when they display certain behaviour and so to avoid unproductive behaviour (Ugurluoglu, Saygili, Ozer, & Santas, 2013). Natural reward strategies consist of focusing on and enhancing enjoyable task features, and constructive thought strategies consist of reducing dysfunctional beliefs and assumptions and negative self-talk, while thinking positively and creating a positive self-image (Alves et al., 2006).

Empirical evidence of a statistically significant positive relationship between self-leadership and work engagement is emerging. For example, Breevaart, Bakker, and Demerouti (2014) found that daily self-management (comprising five strategies: self-goal setting, self-reward, self-punishment, self-observation, and self-cueing) was positively related to employees' resourcefulness and increased their daily work engagement. They argue that self-leadership enables employees to motivate themselves, achieve required standards, and optimise their work environment, and thus, increases their work engagement. Furthermore, Shaoping et al. (2015) found a positive relationship between self-leadership and work engagement.

Self-leadership has also been shown to be related to higher psychological functioning (i.e., greater optimism and hardiness). Self-leadership strategies may help employees to become more confident in their self-efficacy (Norris, 2008). Neck and Houghton (2006) note that self-efficacy is

the single most commonly mentioned self-leadership outcome and the primary mechanism through which self-leadership affects performance. Since self-leadership entails self-observation (Ugurluoglu et al., 2013), it should also enable employees to create alternative pathways (inspired by hope) in order to achieve goals. Furthermore, constructive thought processes focus on reducing dysfunctional beliefs and negative self-talk, while creating positive thinking (DiLiello & Houghton, 2006) – which may be related to higher levels of perseverance (i.e., resilience) and optimism. Despite these theoretical arguments, no research on the relationship between self-leadership and PsyCap (self-efficacy, hope, optimism, and resilience) could be found.

Mindfulness derives from Eastern contemplative traditions. Kabat-Zinn (2003, p. 145) defines it as 'an awareness that emerges through paying attention on purpose, in the present moment, and nonjudgementally to the unfolding of experience moment by moment'. Academic and philosophical conceptualisations of mindfulness vary but several common features can be identified: Mindfulness is a state of consciousness, an inherent human capacity that varies from person to person, but is learnable as a skill and therefore can be developed or enhanced through training (Brown & Ryan, 2003; Dane, 2011; Leroy et al., 2013). Mindfulness means being attentive to the 'here and now' rather than preoccupied with the past or future (Dane, 2011; Depenbrock, 2014). It involves attending to present moment phenomena, both external and internal. Such awareness is, of course, a normal function: Mindfulness differs in being a higher level of that function (Brown & Ryan, 2003).

The construct of 'mindfulness' has applications in the workplace. It has been argued that mindfulness promotes key work outcomes since the way that employees focus their attention affects behaviours such as decision-making and risk-taking. Yet empirical studies by organisational scholars of mindfulness in the workplace are only now starting to emerge (e.g., Dane & Brummel, 2013; Hyland, Lee, & Mills, 2015; Malinowski & Lim, 2015). Leroy et al. (2013) and Malinowski and Lim (2015) find that mindfulness – being 'fully there' in the present moment, open and attentive – is positively related to work engagement because it promotes heightened states of involvement and wakefulness and strengthens personal resources. Workplace mindfulness differs from 'work engagement', however, because work engagement implies affective qualities. It refers to the degree to which an employee's attention is focused on a broad span of events unfolding in the workplace (Dane & Brummel, 2013). Depenbrock (2014) argues that mindfulness is positively related to work engagement because it helps employees to make good use of the resources they need to be active and involved at work.

Avey et al. (2008) found that mindfulness was also related to all four PsyCap components, but mostly to resilience, and that it interacts statistically significantly with PsyCap to predict positive emotions. Their research also suggested that when PsyCap is low, mindful employees are better able to become aware of thinking patterns that hinder their ability to be self-efficacious, resilient, optimistic, and hopeful. They may therefore intentionally choose more efficacious, resilient, optimistic, and hopeful ways to deal with their job demands.

In summary, based on the above theoretical arguments and previous research, it seems that work engagement – a positive psychological work-related state (Bakker, 2009) – can be threatened by excessive job demands or workplace challenges with detrimental effects on workplace outcomes. Yet, individuals' levels of PsyCap, viewed as a positive psychological state of development, could assist them in continuously buffering these challenges or demands by staying hopeful, optimistic, and resilient, while believing that they can put forth the necessary effort to stay focused and successfully achieve their goals (Luthans et al., 2007). Therefore, any challenges to employee work engagement may be counteracted by continuous positive psychological states (i.e., PsyCap). Furthermore, other personal resources (self-leadership and mindfulness) could impact positively on PsyCap since individuals with higher levels of mindfulness are more aware of their thinking patterns and how

these may hinder their ability to use their PsyCap effectively or enable them to intentionally choose more efficacious, resilient, optimistic, and hopeful ways to deal with job demands (Avey et al., 2008). Similarly, self-observation, as entailed by self-leadership, should enable them to create alternative pathways inspired by hope in order to achieve their goals. By implementing constructive thought processes and positive self-talk, higher psychological functioning (greater optimism and higher levels of resilience) is expected (Houghton, Wu, et al., 2012; Ugurluoglu et al., 2013). Therefore, the personal resources of self-leadership and mindfulness are proposed to influence PsyCap positively, while PsyCap mediates the relationship between self-leadership and work engagement and mindfulness and work engagement. Subsequently, the following propositions were developed. First, PsyCap positively influences work engagement (vigour and dedication). Second, PsyCap is determined by self-leadership and mindfulness. Third, PsyCap mediates the relationships between self-leadership and work engagement, as well as between mindfulness and work engagement. To test these propositions, an empirical study was conducted.

Method

Participants

A total of 407 employees from various private and public organisations (approximately 60% and 40%, respectively) participated in this study. About 52% were female, while the majority (55%) were between 26 and 45 years old. Overall, 38.3% had less than 6 years, 31.7% had 6–15 years, 19.4% between 15 and 25 years, and 10.6% had more than 25 years of work experience. Participants represented the following language groups: indigenous African languages (47.7%), Afrikaans (41.8%), English (10.3%), and other languages (.2%), and the following population groups: Black (51.8%), White (39.4%), Coloured (7.6%), and Asian (1.2%).

Instruments

Work engagement. The Utrecht Work Engagement Scale (UWES-9, short version; Schaufeli, Bakker, & Salanova, 2006) was used to measure two components of work engagement (vigour and dedication). Because evidence suggests that vigour (e.g., 'When I get up in the morning, I feel like going to work') and dedication (e.g., 'I am proud of the work that I do') are core components of engagement (Schaufeli & Bakker, 2004), this study measured work engagement using these two components. Although some researchers (De Bruin & Henn, 2013) recommend the use of the total score for the UWES-9, including these components as separate independent variables may enhance one's understanding of the influence of personal resources on work engagement and its separate components. A cross-national study indicated that Cronbach's alpha (α) values for the UWES-9 varied across countries: between .60 and .88 (median = .77) for the vigour component and between .75 and .90 (median = .85) for the dedication component. They also found acceptable goodness of fit for the UWES-9: comparative fit index (CFI) = .96; root mean square error of approximation (RMSEA) = .03; goodness-of-fit index (GFI) = .95 (Schaufeli, Bakker, & Salanova, 2006).

PsyCap. The PsyCap questionnaire (PCQ-24; Luthans et al., 2007) was used to measure PsyCap (as a second-order construct). It is a 24-item self-report questionnaire and comprises four subscales, namely hope, optimism, resilience, and self-efficacy. All the responses for the PCQ are anchored on a six-point Likert scale with the response options: 1 = *strongly disagree* to 6 = *strongly agree*. PsyCap includes statements such as 'At the present time, I am energetically pursuing my goals' and 'I am optimistic about what will happen to me in the future as it pertains to work'. Luthans et al.

(2007) report Cronbach's α for each of the four 6-item adapted measures and the overall PsyCap measure for four samples as follows: α = .80 for self-efficacy, α = .76 for hope, α = .70 for resiliency, and α = .75 for optimism. When using all the PsyCap items, the average reliability over the four samples was .89. Luthans et al. (2007, p. 557) also report the following estimates of the model fit: CFI = .934, RMSEA = .046 and Standardised Root Mean Square Residual (SRMR) = .051.

Self-leadership. The abbreviated self-leadership questionnaire (ASLQ; Houghton, Dawley, & DiLiello, 2012) was used to measure self-leadership. The questionnaire consists of nine items and uses a five-point Likert scale (1 = *not at all accurate*; 5 = *completely accurate*). The instrument gives an overall measure of self-leadership, representing three coherent and rational groupings of self-leadership strategies. A South African study (Nel & Van Zyl, 2015, p. 6) reported that the unidimensional ASLQ model fitted the data well (CFI = .99; RMSEA = .07; and SRMR = .048), and that it is 'better to use a single composite score representing self-leadership'. An α = .89 reliability estimate was reported.

Mindfulness. The 15-item mindful attention awareness scale (MAAS; Brown & Ryan, 2003) was used to measure mindfulness. Because the items reflect an absence of mindfulness and higher numbers indicate less endorsement, higher scores on the six-point scale (1 = *almost always* to 6 = *almost never*) indicate greater mindfulness. The total score was calculated by adding all the scores on the 15 items of the MAAS. The items include 'I find it difficult to stay focused on what's happening in the present' and 'I do jobs or tasks automatically, without being aware of what I'm doing'. Another South African study (Kotzé & Nel, 2016) found acceptable reliability estimates (α = .89) for the 15-item MAAS and evidence of an acceptable model fit (CFI = .97; RMSEA = .065; and SRMR = .054).

Procedure

The researcher presented the research project to prospective candidates for MBA and leadership development programmes at a South African Business School. After completing assessments for selection purposes, candidates were asked if they would participate in the study voluntarily. The aim of the research and data-gathering instruments participants would need to complete if they decided to participate in the project was discussed with them. The questionnaires were collected immediately after the applicants had completed them.

Ethical considerations

Ethical clearance was received from the Director of the Business School and the Vice-Rector (Research) of the University of the Free State. The participants signed a consent form that guaranteed anonymity and publication only of aggregate, not individual, data.

Data analysis

Before the measurement instruments' psychometric properties were analysed, the null hypothesis – that the data are from a multivariate normal population – was tested using the programme SAS 9.4. The Mardia's skewness test statistic was 56517 ($\rho < .0001$), and the Mardia's kurtosis test statistic was 85.56 ($\rho < .0001$), which confirmed that the data did not meet the criterion of multivariate normality. The research intended to explore the relationships among specific variables within a model, as well as the relevance of theory in explaining the proposed model. Lowry and Gaskin

(2014) recommend that for exploratory work in behavioural research fields, partial least squares (PLS) should be selected as it could provide distinctive theoretical insights. The hypotheses were therefore tested using the variance-based structural equations modelling program SmartPLS 3 (Ringle, Wende, & Becker, 2015), specifically, version 3.2.4. The measurement model's psychometric properties were tested by conducting a confirmatory factor analysis (CFA) using SmartPLS 3. Construct validity was tested by assessing the measurement model for convergent and discriminant validity (Hair, Black, Babin, & Anderson, 2010). Convergent validity was assessed by considering the outer loadings, average variance extracted (AVE), composite reliability, and Cronbach's α. To demonstrate convergent validity, the standardised loadings (in SmartPLS, outer loadings) in the measurement model should be .70 or higher, and items with a loading of less than .4 should be excluded from the measurement model; the AVE should be .50 or higher; and the composite reliability value and Cronbach's α value of each latent variable should be .70 or higher (Hair et al., 2010). Fornell and Larcker's (1981) method was used to assess discriminant validity. The second-order construct in the model was specified as the reflective-reflective type I model, because PsyCap is manifested by the specified components of the construct. The structural model was estimated in two stages (Becker, Klein, & Wetzels, 2012). The mediation proposition was tested according to the three-step process described by Kenny (2016), complemented by estimating the 95% bias-corrected confidence interval for each indirect effect.

Results

Testing the measurement model

The results of the original measurement model showed that four constructs, mindfulness, optimism, resilience, and self-leadership, did not meet the minimum AVE of .5. The composite reliability index for each construct was above .7. The Cronbach's α for all the constructs, except for optimism and resilience, was higher than .7. For optimism, it was .588, and for resilience, it was .670. To meet the minimum AVE of .5, items with loadings lesser than .4 were excluded from the model. Where necessary, additional items with low loadings were also excluded to obtain the minimum AVE of .5. Table 1 shows the results of the modified measurement model. Most of the items loaded higher than .7 on the intended constructs. All other items had a loading higher than .5. Furthermore, for all constructs, the AVE, composite reliability, and Cronbach's α indices were above the recommended values. Thus, the modified measurement model provided sufficient evidence of convergent validity.

The second-order construct was also tested for convergent validity. Table 2 shows that this construct's inner loadings, composite reliability, and Cronbach's α were higher than .7, and the AVE was above .5.

The modified measurement model was inspected for discriminant validity, following Fornell and Larcker (1981). All pairs of constructs in Table 3 met the Fornell and Larcker criterion – for each pair of constructs, the square root of the AVE of each construct is higher than the correlation between the two constructs.

In conclusion, the results showed there was sufficient evidence of construct validity to continue testing the propositions.

Figure 1 shows that PsyCap explained 24.6% of the variance in vigour and 24.4% in dedication. Together, the two determinants of PsyCap, self-leadership and mindfulness, explained 32.6% of the PsyCap variance. The influence of PsyCap on vigour and dedication was positive and statistically significant. PsyCap had a slightly stronger positive influence on vigour than on dedication (.499 as opposed to .497). The influence of self-leadership and mindfulness on PsyCap was .385

Table 1. Reliability and validity of first-order constructs.

Constructs	Items	Outer loadings	Average (AVE)	Composite reliability (CR)	Cronbach's α
Work engagement					
Vigour (VIG)	VIG1	.804	.727	.889	.812
	VIG2	.891			
	VIG3	.861			
Dedication (DED)	DED1	.909	.826	.935	.895
	DED2	.939			
	DED3	.878			
Psychological capital (PsyCap)					
Self-efficiency (EFF)	EFF1	.648	.603	.900	.866
	EFF2	.857			
	EFF3	.835			
	EFF4	.799			
	EFF5	.717			
	EFF6	.783			
Hope (H)	H1	.638	.533	.872	.822
	H2	.749			
	H3	.669			
	H4	.792			
	H5	.824			
	H6	.692			
Resilience (RES)	RES2	.706	.544	.826	.722
	RES3	.698			
	RES5	.763			
	RES6	.780			
Optimism (OPT)	OPT1	.680	.549	.829	.724
	OPT3	.810			
	OPT4	.778			
	OPT6	.688			
Self-leadership (SL)					
	SL1	.721	.524	.846	.774
	SL4	.719			
	SL5	.684			
	SL6	.678			
	SL8	.809			
Mindfulness (M)					
	M2	.658	.509	.903	.878
	M3	.649			
	M7	.760			
	M8	.736			
	M9	.695			
	M10	.779			
	M12	.705			
	M13	.642			
	M14	.777			

Table 2. Reliability and validity of second-order construct.

Second-order construct	First-order constructs	Inner loadings	Average (AVE)	Composite reliability (CR)	Cronbach's α
Psychological capital (PsyCap)	Self-efficiency (EFF)	.875	.697	.902	.855
	Hope (H)	.868			
	Resilience (RES)	.729			
	Optimism (OPT)	.859			

Table 3. Assessment of discriminant validity of first-order constructs.

	DED	EFF	H	M	OPT	RES	SL	VIG
DED	.909							
EFF	.439	.776						
H	.504	.694	.730					
M	.318	.403	.340	.713				
OPT	.447	.634	.654	.390	.741			
RES	.195	.554	.496	.321	.549	.738		
SL	.331	.439	.383	.298	.427	.359	.724	
VIG	.819	.460	.454	.352	.441	.261	.348	.853

Square root of AVEs on the diagonal, correlations below the diagonal. DED: Dedication; EFF: self-efficiency; H = hope; M = mindfulness; OPT: optimism; RES: resilience; SL: self-leadership; VIG: vigour.

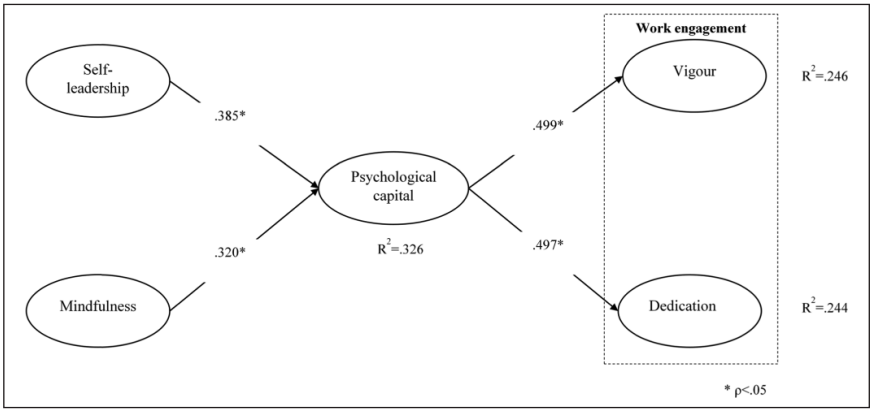

Figure 1. Results of relationships between self-leadership, mindfulness, PsyCap, and work engagement.

and .320, respectively, and thus statistically significant. Therefore, self-leadership was the stronger determinant of PsyCap.

The results of the assessment of the mediation proposition are as follows. Table 4 shows that self-leadership and mindfulness had a statistically significant positive influence on vigour and dedication. Thus, a statistically significant total effect is confirmed as proposed in Kenny (2016).

Table 5 shows that only the influence of self-leadership on dedication was fully mediated by PsyCap. Controlling for the mediator, the direct influence of self-leadership on dedication was zero (the bias-corrected confidence interval includes zero), and the indirect influence that included the

Table 4. Assessment of predictor variable–outcome variable relationship.

Relationship	Effect	95% bias-corrected confidence interval	
		Lower level confidence interval (LLCI)	Upper level confidence interval (ULCI)
SL → VIG	.348	.247	.415
M → VIG	.352	.241	.427
SL → DED	.331	.263	.431
M → DED	.319	.277	.454

Note. DED: Dedication; M = mindfulness; SL: self-leadership; VIG: vigour.

Table 5. Direct and indirect effects.

Mediation proposition	Relationship	Effect	95% bias-corrected confidence interval	
			LLCI	ULCI
SL → VIG mediated by PsyCap	SL → VIG	.141	.036	.252
	SL → PsyCap	.481	.385	.565
	PsyCap → VIG	.432	.323	.544
	SL → PsyCap → VIG	.207	.139	.280
M → VIG mediated by PsyCap	M → VIG	.166	.066	.258
	M → PsyCap	.435	.352	.516
	PsyCap → VIG	.427	.331	.527
	M → PsyCap → VIG	.186	.132	.242
SL → DED mediated by PsyCap	SL → DED	.120	−.007	.211
	SL → PsyCap	.481	.409	.579
	PsyCap → DED	.440	.357	.590
	SL → PsyCap → DED	.211	.157	.318
M → DED mediated by PsyCap	M → DED	.169	.065	.274
	M → PsyCap	.403	.303	.476
	PsyCap → DED	.370	.255	.491
	M → PsyCap → DED	.149	.091	.205

Note. DED: Dedication; EFF: self-efficiency; H: hope; LLCI: lower level confidence interval; M: mindfulness; OPT: optimism; RES: resilience; SL: self-leadership; VIG: vigour; ULCI: upper level confidence interval.

mediator was positive and statistically significant. The influence of self-leadership on vigour was partially mediated by PsyCap, and the influence of mindfulness on both vigour and dedication was partially mediated by PsyCap.

Discussion

The aim of this study was to understand how personal resources interact to produce work engagement. It was proposed that PsyCap positively influences work engagement (vigour and dedication) and that PsyCap is determined by self-leadership and mindfulness, and this was supported by the data. First, the results showed that PsyCap had a statistically significant positive influence on both components of work engagement (vigour and dedication), with a slightly stronger positive influence on vigour than on dedication. Views on the relationship between PsyCap and work engagement differ: Some argue

that work engagement can facilitate the mobilisation of job and personal resources and that employee engagement is a strong predictor of PsyCap (e.g., Cordery, 2007; De Waal & Pienaar, 2013), whereas others argue the reverse (e.g., Simons & Buitendach, 2013; Tabaziba, 2015). The results of this study seem to corroborate research findings reported by Simons and Buitendach (2013) and Tabaziba (2015), which also indicate that PsyCap has a positive influence on work engagement.

Second, the results showed that self-leadership and mindfulness had statistically significant positive influences on PsyCap, with the former having a stronger influence than the latter. The finding that mindfulness had a statistically significant positive influence on PsyCap is in line with those of Avey et al. (2008) and Malinowski and Lim (2015). Yet, the fact that self-leadership has a stronger influence on PsyCap than mindfulness is interesting since mindfulness, as a personal resource in the workplace, is currently attracting much attention, while self-leadership antecedents and outcomes have not been researched extensively in recent years. Even Manz (1983, 2015), whose concept of self-management forms part of the theoretical roots of the self-leadership concept, has asked whether self-leadership is still relevant. Therefore, Manz's (2015) quest to take a 'fresh look' at self-leadership seems warranted.

It was proposed that PsyCap mediates the relationships between self-leadership and work engagement and mindfulness and work engagement. The findings of the mediation analysis show that PsyCap explains the influence of self-leadership on one component of work engagement, dedication. The finding is based on the full mediation effect reported. PsyCap also partly explains the relationships between self-leadership and vigour and between mindfulness and both components of work engagement. Self-leadership, therefore, exerted a direct and indirect influence on vigour via PsyCap, and mindfulness exerted a direct and indirect influence on vigour and dedication via PsyCap. These results support the finding by Malinowski and Lim (2015) that mindfulness predicts work engagement, and that this relationship is mediated by PsyCap and positive job-related affect. They state that mindfulness has positive effects on work engagement by increasing hope and optimism and positive affect, and these on their own and in combination enhance, that is, fully mediate work engagement. Avey et al. (2008) showed that mindfulness interacted with PsyCap in predicting positive emotions, and that positive emotions mediated the relationship between PsyCap and engagement. In contrast, Tabaziba (2015) found that PsyCap and work engagement both had positive relationships with mindfulness, but that mindfulness partially mediated the relationship between PsyCap and work engagement.

Overall, this study's findings indicate that self-leadership, mindfulness, and PsyCap are factors that influence employees' work engagement. This study suggests that both self-leadership strategies and mindfulness are relevant personal resources within the workplace, especially for their effect on PsyCap and its relationship (directly and indirectly) with work engagement. Personal resources do not exist in isolation. According to Hobfoll (2002), 'resources caravans' are likely to increase individuals' beliefs in their capabilities. The results of this study indicate that those individuals who implement self-leadership strategies effectively and are mindful are likely to enhance their PsyCap. Langer and Moldoveanu (2000) state that one key component of mindfulness is sensitivity to novelty. The process of drawing novel distinctions can lead to various consequences, such as openness to new information, the creation of new categories for structuring perception, and enhanced awareness of multiple perspectives in problem solving (Langer & Moldoveanu, 2000). These consequences of mindfulness may enhance individuals' confidence to take on challenging tasks, assist them to create alternative pathways and persevere in achieving their goals (Avey et al., 2010). In other words, both self-leadership and mindfulness can strengthen individuals' belief that they have what it takes to succeed (self-efficacy), and help them remain hopeful, optimistic, and resilient despite adversity (Bandura, 1986). As a result, employees show higher levels of work engagement and perform better.

In terms of the limitations of this study, it should be noted that it is highly likely that there are other variables influencing the variables in this model. The intention of this research was to explore

the relationships among these specific variables and the relevance of theory in explaining the proposed model. For this purpose, SmartPLS was used (Lowry & Gaskin, 2014). It is suggested that future researchers replicate the present model in different contexts to confirm the proposed relationships, using the co-variance-based approach to structural equation modelling, as well as longitudinal studies. A larger sample and a co-variance-based approach to structural equation modelling may provide evidence on whether the items removed from certain measurement instruments in this study would, in fact, be valid in measuring the various constructs. Furthermore, in order to generalise the findings, probability-based sampling should be employed in future.

Conclusion

This study yielded useful insights for further exploring the role of self-leadership, mindfulness, and PsyCap programmes in work environments. Using these personal resources more effectively should increase employee work engagement and benefit both the individual and the organisation. The results may potentially inform selection strategies as well as short workplace interventions that aim to enhance employees' personal resources so as to improve their use of job resources, and thus enhance work engagement and the performance of their workforce.

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