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How job resources and personal resources influence work engagement and burnout

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Abstract

Purpose – The purpose of this paper is to present a model of the relationships between personal resources (Psychological Capital (PsyCap)) and satisfaction with job resources, and their effect on work engagement and burnout.

Design/methodology/approach – Data were collected from a convenience sample of 407 full-time employees from various public and private sector organisations, using a questionnaire consisting of PsyCap (PCQ-24), the Utrecht Work Engagement Scales, the Maslach Burnout Inventory, and a questionnaire measuring job resources (Parker and Hyett, 2011). The data were analysed using variance-based structural equation modelling (SmartPLS 3).

Findings – The influence of employees' satisfaction with job resources on both dimensions of burnout (emotional exhaustion and cynicism) was negative and statistically significant. Satisfaction with job resources had a statistically significant positive influence on both dimensions of work engagement (vigour and dedication). PsyCap had a statistically significant positive influence on satisfaction with job resources. Satisfaction with job resources partially mediated the influence of PsyCap on emotional exhaustion and cynicism, and partially on vigour and dedication.

Research limitations/implications – As this was an exploratory study, it used a convenience sample and a variance-based approach to structural equation modelling (SmartPLS). It is suggested that future researchers replicate the model in different contexts to corroborate the proposed relationships using larger samples, probability-based sampling and a covariance-based approach to structural equation modelling.

Practical implications – Management must realise that employees' satisfaction with job resources plays a central role in their work engagement and burnout levels. Workplace practices that reflect respect and care for the employee and the development of employees' personal resources (i.e. PsyCap) will improve work engagement and reduce burnout.

Originality/value – This paper fills a gap in the literature by explaining how personal resources (PsyCap) and job resources (the organisation's perceived respect for the employee and employer care) influence work engagement and burnout via mediation paths.

Keywords Burnout, Psychological capital, Job resources, Work engagement, Personal resources

Paper type Research paper

1. Introduction

The effective utilisation of employees' human capital in the workplace and the cognitive and emotional involvement level of employees in their work have been shown to be the key factors in organisational success. Encouraging employees' psychological well-being is of long-term strategical importance. Schaufeli and Bakker (2004) argue that burnout and work engagement are the main indicators of employee psychological well-being and are the mediators in motivational processes. Greater work engagement and decreased burnout have beneficial outcomes for organisational performance (Gallup, 2013), employee loyalty (Vokić and Hernaus, 2015), commitment to the organisation (Geldenhuys *et al.*, 2014) and job satisfaction (Tarcan *et al.*, 2017). Therefore, the optimisation of employees' psychological states is essential for productive work outcomes.

The job demands-resources model (Bakker and Demerouti, 2007), used to assess employee well-being, assume that occupational stresses are caused by job demands and mitigated by job resources. Job demands are the physical, psychological, social and organisational aspects of the job that require sustained physical or psychological effort and have physical or psychological costs, such as work overload and emotionally demanding interactions

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with clients. Job resources are the physical, social, psychological and organisational aspects that stimulate personal growth and help to achieve work goals and mitigate the costs of job demands (Bakker and Demerouti, 2007). Job resources can be derived from the organisation: a positive workplace with good organisational practices and managerial support gives employees job satisfaction, which in turn motivates them, increases their work engagement and psychological well-being (Bakker and Demerouti, 2008; Parker and Hyett, 2011; Herbert, 2011). But employees' perception and use of job resources also depend on personal resources such as resilience and optimism and positive self-evaluation of their ability to control their environment (Bakker and Demerouti, 2007; Herbert, 2011). Previous studies showed that employees' levels of psychological capital (PsyCap) – consisting of self-efficacy, hope, optimism and resilience – can improve work engagement and decrease burnout, and that engaged employees are better able to cope with demands, achieve goals and outperform nonengaged employees (Youssef and Luthans, 2007; Bakker and Demerouti, 2008; Herbert, 2011; Malinowski and Lim, 2015; Shoji *et al.*, 2015).

Although previous research shows that various personal and job resources lead to work engagement and prevent burnout (Bakker and Demerouti, 2008; Herbert, 2011; Xanthopoulou *et al.*, 2007), scholars disagree on which constructs are antecedents, which are effects or outputs, and which are mediators (Youssef and Luthans, 2007; De Waal and Pienaar, 2013; Bruinhof, 2016; Nohlmans, 2016). The relationships between personal resources (PsyCap), job resources and their influence on work engagement and burnout are unclear. To fill this research gap, this study creates a model of these relationships, based on the literature, and tests the model.

2. Literature review

2.1 Work engagement

Work engagement is "a positive, fulfilling work-related state of mind" where employees see themselves as "able to deal well with the demands of their jobs" (Schaufeli *et al.*, 2006, p. 702). Work engagement is originally characterised by vigour, dedication, and absorption, but various researchers regard vigour and dedication the "core components" of work engagement, and absorption rather as the consequence (Schaufeli and Bakker, 2004; Schaufeli, 2013; Taris *et al.*, 2017). Schaufeli *et al.* (2002, p. 74) define "vigour" as mental resilience, energy and willingness to work hard. Vigour is seen as a motivational concept (Mauno *et al.*, 2007) and is most evident when "addressing one's tasks" with persistence and effort (Sonnentag, 2017, p. 14), even when encountering difficulties at work.

Dedication is defined as "being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge" (Schaufeli *et al.*, 2002, p. 74). It includes both affective and cognitive processes "that might also occur when not being busy with one's tasks, but when thinking about them during non-work time or when telling to others about one's work" (Sonnentag, 2017, p. 14). Dedication shares some conceptual similarity with the concept of job commitment, but is regarded as a broader phenomenon as it includes feelings of pride, enthusiasm, challenge and inspiration (Mauno *et al.*, 2007). Defining work engagement in this manner keeps the focus on the experience or the psychological state, and does not include what drives or what results from work engagement.

Sonnentag (2017) state that work engagement requires both favourable work conditions in the form of job resources, as well as favourable personal resources. Employees with high levels of personal resources such as self-efficacy and high levels of job resources such as social support tend to be highly engaged even when they may not experience positive task characteristics such as regular feedback, autonomy or task significance. Several personal resources, as antecedents of work engagement, have been identified and empirically investigated, such as coping style and being problem focussed (Storm and Rothmann, 2003), and self-efficacy, optimism, organisational self-esteem, and resilience (Bakker *et al.*, 2006, cited in Bakker, 2009; Xanthopoulou *et al.*, 2007).

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When levels of work engagement are high, various positive workplace outcomes have been observed. A 2012 Gallup Poll showed that employee engagement affects nine organisational performance outcomes. Those businesses or work units that scored in the top half of employee engagement were twice as likely to succeed as the bottom half (Gallup, 2013). Also, work engagement effects employees' job satisfaction, loyalty, commitment to the organisation, and willingness to adapt to changes in the organisation, positively (May *et al.*, 2004; Geldenhuys *et al.*, 2014; Parent and Lovelace, 2015; Vokić and Hernaus, 2015). Yet, despite the evidence relating to the importance of work engagement in organisational effectiveness, a 2016 Gallup poll reports that worldwide only 13 per cent of employees are engaged in their work (Mann and Harter, 2016).

2.2 Burnout

Burnout is defined as a state of physical and mental exhaustion that develops in reaction to stressful working conditions over an extended period, leading to cynicism about the value of one's work and eventually doubt about one's capacity to perform. It is described as consisting of three separate but interrelated constructs: emotional exhaustion, cynicism and reduced personal accomplishment (Maslach *et al.*, 1996, 2001). Emotional exhaustion is characterised by feeling emotionally drained, extremely tired, with a lack of energy and the necessary emotional resources to cope with continuing demands. It is accompanied by distress, decreased motivation, and the development of dysfunctional attitudes and behaviours at work (Cordes and Dougherty, 1993; Schutte *et al.*, 2000; Maslach *et al.*, 2001; Maslach and Jackson, 1986). In order to conserve and regulate their levels of energy, employees who have reached this point of exhaustion reduce their involvement with their work. By slowly withdrawing cognitively and emotionally from it, they protect themselves from further emotional depletion, and it results in a negative, cynical, uncaring, or unusually detached response to various aspects of the job. Cynicism is a form of coping that has serious implications for organisations. When employees use cynicism as a form of coping in response to high levels of emotional exhaustion, they will tend to be less responsive to and involved with the needs of customers and other stakeholders inside and outside their organisations (Maslach *et al.*, 2001; Singh, 2000; Singh and Goolsby, 1994). Emotional exhaustion and cynicism are regarded as the core components of burnout (Schaufeli and Bakker, 2004; Rothmann, 2008; Taris *et al.*, 2017). Feelings of incompetence, lack of achievement, and lower productivity may subsequently follow after emotional exhaustion and cynicism have set which can lead to feelings of reduced professional accomplishment (Cordes and Dougherty, 1993; Schutte *et al.*, 2000; Maslach *et al.*, 2001). In the case of job burnout, the emphasis is on a crisis in one's relationship with work in general and not necessarily on a crisis in one's relationship with people at work (Maslach, 1982; Maslach and Jackson, 1986; Maslach *et al.*, 1996, 2001).

2.3 Job resources

Job resources fulfil basic human needs and can play an intrinsic motivational role when they foster learning and development, or can play an extrinsic motivational role when they are instrumental in achieving work goals (Schaufeli and Bakker, 2004). Job resources can be derived from the organisation, the social relations at work, the way work is organised, and the task itself (Herbert, 2011). These may include social support, growth opportunities, organisational support, job security and opportunities for advancement (Rothmann and Jordaan, 2006; Coetzer and Rothmann, 2010). Parker and Hyett (2011) identify several job resources that affect employees' well-being, such as organisational respect (employers seem trustworthy and ethical and value their employees), employer care (manager or supervisor is caring, pays attention to employees' concerns, and treats them well), and intrusion of work into private life. The latter relates to whether a non-supportive work environment exists

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where the performance targets, work hours and responsibilities of employees are unreasonable and excessive – to such an extent that their work continuously interferes with their personal lives and cause them to suffer from too much pressure and the inability to relax after hours (Parker and Hyett, 2011). Employees see supportive job resources as resources they can use to buffer job demands and increase psychological well-being. Both work engagement and psychological well-being are generated and maintained when employees perceive the organisation to value their work and care for their well-being (Brunetto *et al.*, 2014). Managers and supervisors are responsible for establishing and maintaining positive workplace conditions and practices as this influence employees' job demands and resources (Van den Broeck *et al.*, 2008; Alzyoud *et al.*, 2015).

3. Conceptual model and hypotheses

Figure 1 shows the model that was developed from the literature review.

3.1 Relationship between job resources and burnout

Satisfaction with job resources is essential for employees' psychological well-being (Parker and Hyett, 2011). Job resources reduce job demands, therefore, when job resources are lacking, the job demands will remain high and will foster burnout (Schaufeli and Bakker, 2004). Managers can create a supportive climate and prevent employee burnout by showing concern for employees' well-being, valuing their work, helping their career development (Paterson *et al.*, 2014), and not intruding into their personal lives by making inappropriate adjustments to schedules and workloads and unfairly increasing job demands (Dollard and Bakker, 2010). High levels of employer and supervisor care, implying understanding and responsiveness, help employees cope with demands and avoid emotional exhaustion. Previous studies in various work contexts have shown that workplace resources were negatively related to emotional exhaustion and cynicism. Jimenez and Dunkl (2017) examined the relationships among areas of work life, job resources and burnout and identified workload and reward as the most important predictors of burnout. Workload was a significant predictor of emotional exhaustion and cynicism and reward was an important predictor of cynicism. These authors explain that a lack of reward "contributes to feelings of

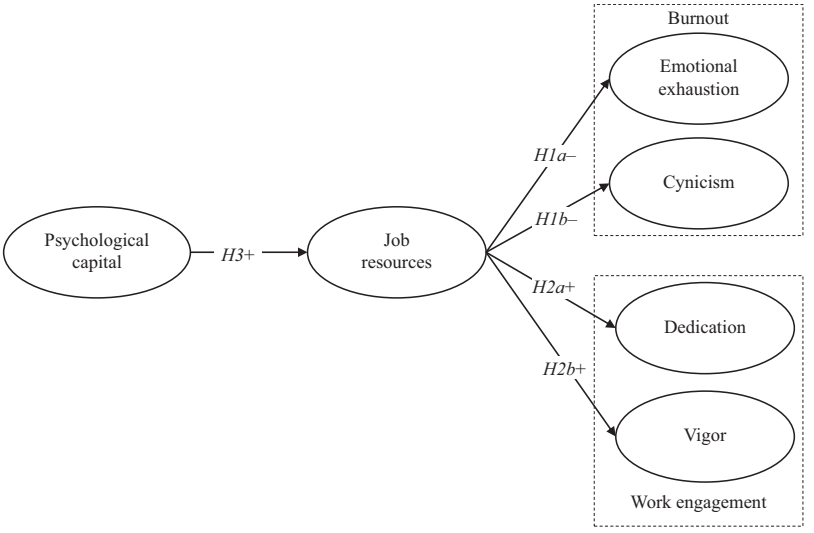

Figure 1.
Conceptual model

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inefficacy and meaninglessness which can be precursors for cynicism" (Jimenez and Dunkl, 2017, p. 5). A study by Yener and Coşkun (2013) conducted in municipalities in Istanbul, Turkey, found that coworkers' support was negatively related to burnout levels and that work overload and role conflict increased burnout levels. In a meta-analysis of 203 independent samples ($n = 186{,}440$), Nahrgang *et al.* (2011) found that job resources such as a supporting work environment were negatively related to burnout. Employees who are surrounded by a resourceful work environment are more likely "to experience feelings of psychological freedom, interpersonal connectedness and effectiveness and therefore will in turn feel less exhausted" (Van den Broeck, *et al.*, 2008).

The following hypotheses are proposed:

H1a. Satisfaction with job resources has a statistically significant negative influence on the emotional exhaustion component of burnout.

H1b. Satisfaction with job resources has a statistically significant negative influence on the cynicism component of burnout.

3.2 Relationship between job resources and work engagement

Because job resources play an intrinsic and extrinsic motivational role – either through the satisfaction of basic needs or through the achievement of work goals – it is likely that it will lead to higher levels of engagement (Schaufeli and Bakker, 2004). Job resources such as perceived organisational and social support, autonomy, and a good relationship with management have been shown to predict work engagement (Nahrgang *et al.*, 2011; Brunetto *et al.*, 2014; Alzyoud *et al.*, 2015). Xanthopoulou *et al.* (2007) state that employees who have supportive colleagues, who receive good quality coaching, feedback, and opportunities for professional development, and who have more autonomy are more likely to be vigorous and dedicated to their work. Mauno *et al.* (2007) investigated the role of job demands and job resources on work engagement among health care personnel and found that job resources predicted work engagement better than job demands. Saks (2006, p. 613) found that perceived organisation support predicts work engagement and that employees "who perceive higher organisational support are more likely to reciprocate with greater levels of engagement in their job". In an international study where employees from China, India, the UK and the Netherlands were included, it was found that employees who received more performance feedback, development opportunities, task variety and autonomy were more engaged in their work. The findings of the study also showed that the perception of power distance between managers and employees influence work engagement, meaning that how employees conceptualise authority varies their degree of work engagement (Zhang, 2013). A poor relationship between management and employees can mean "job demands swamping employees until they become disengaged" (Brunetto *et al.*, 2014, p. 2348). Therefore, managers can mitigate high job demands by improving job resources, keeping employees engaged and boosting well-being. The following hypotheses are proposed:

H2a. Satisfaction with job resources has a statistically significant positive influence on the dedication component of work engagement.

H2b. Satisfaction with job resources has a statistically significant positive influence on the vigour component of work engagement.

3.3 Personal resources: PsyCap

The foundation of PsyCap is rooted in the social cognitive theory (Bandura, 1977) and is regarded as a higher order, multidimensional construct comprising of four components: self-efficacy, hope, optimism, and resilience (Luthans *et al.*, 2008). According to Luthans *et al.* (2008)

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self-efficacy can be defined as individuals' convictions about their abilities to mobilise the motivation, cognitive resources, and courses of action necessary to successfully execute a specific task within a given context. Hope is described as a cognitive process that is based on "a reciprocally derived sense of successful goal-directed determination (agency) and planning (pathways) to meet the envisaged goals" (Snyder *et al.*, 1991, p. 585), while optimism is seen as the expectancy that one will experience good outcomes in life. These expectations of positive outcomes may result in increased levels of perseverance. Resilience generally includes the ability of individuals to "bounce back" from adversity and challenging circumstances and to adapt and cope successful with difficult situations (Fergus and Zimmerman, 2005). In summary, Youssef-Morgan and Luthans (2015) state that PsyCap links individuals' past experiences being optimistic to influence persistence in the present through efficacy and resilience, to ultimately influence their future through hopeful pathways.

The integration of these components represents the core construct of PsyCap (Avey *et al.*, 2010), and the four components have been proven psychometrically to be indicators of one underlying construct which "accounts for higher positive effects than does each component individually" (Norman *et al.*, 2010, p. 382). Therefore, PsyCap is best measured as a second-order factor (Norman *et al.*, 2010). Various studies have shown that PsyCap can be developed to enhance work outcomes such as work engagement and psychological well-being (Herbert, 2011; Simons and Buitendach, 2013).

3.3.1 Relationship between PsyCap and job resources. The viewpoint of the Conservation of Resources theory (Hobfoll, 1989) is that "positive experiences or resources are likely to accumulate, creating a positive spiral of resources" (Mauno *et al.*, 2007, p. 150). Therefore, employees with higher PsyCap evaluate job resources, such as management support, more positively and use them more effectively (Herbert, 2011). Because of their positive emotions and use of "broader thought-action repertoires" to solve problems (Avey *et al.*, 2011, p. 133), they promote desirable behaviours in the workplace, to the organisation's benefit (Luthans *et al.*, 2007; Newman *et al.*, 2014). Also, employees with higher levels of PsyCap seem to have more positive expectations about future outcomes and believe they can deal with workplace challenges. They are less inclined to be negatively affected by poor job resources, and experience increased job satisfaction. Therefore, the following hypothesis is proposed:

H3. PsyCap has a statistically significant positive influence on the level of satisfaction with job resources.

3.4 Mediating role of job resources

Job resources can be conceptualised as a variable that mediates between independent and dependent variables (Hochwarter *et al.*, 2003), for example, between personal resources (PsyCap) and workplace outcomes (work engagement and burnout). Jimenez and Dunkl (2017) investigated the role of workplace resources on the relationship between areas of work life and burnout in a longitudinal sample of Austrian workers and found that workplace resources moderated the relationship between work stressors and burnout and that workplace resources buffer the negative effect of stressors on strain. Newman *et al.* (2014) state that research has focussed mainly on investigating the relationship between PsyCap and workplace outcomes, but the factors that may moderate such a relationship have not been investigated adequately. Satisfaction with job resources brings positive work outcomes, as employees feel obliged to repay the organisation for its care and goodwill (Rhoades and Eisenberger, 2002). If higher PsyCap enables employees to evaluate their organisation's job resources more positively (Herbert, 2011), this positive evaluation will indicate how much the organisation values their contribution and shows concern for their well-being (Eisenberger *et al.*, 1986, in Hochwarter *et al.*, 2003). Thus job

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resources may be seen as mediators between personal resources and work outcomes. It is therefore proposed that:

H4a. Satisfaction with job resources mediates between PsyCap and the emotional exhaustion component of burnout.

H4b. Satisfaction with job resources mediates between PsyCap and the cynicism component of burnout.

H5a. Satisfaction with job resources mediates between PsyCap and the vigour component of work engagement.

H5b. Satisfaction with job resources mediates between PsyCap and the dedication component of work engagement.

4. Research method

4.1 Participants

A convenience sample of 407 full-time employees from various organisations participated in the study, about 60 per cent were employed in the private sector and 40 per cent in the public sector. In total, 52 per cent were female and 55.1 per cent between 26 and 45 years old. Their languages were: indigenous African languages (47.7 per cent), Afrikaans (41.8 per cent), English (10.3 per cent) and other languages (0.2 per cent).

4.2 Measurement instruments

4.2.1 Burnout. Burnout was measured by the two burnout scales Exhaustion (Ex) (i.e. "I feel emotionally drained from my work") and Cynicism (Cy) (i.e. "I have become more cynical about whether my work contributes anything") from Maslach's Burnout Inventory (MBI-GS) (Schaufeli *et al.*, 2002). Since accumulating evidence suggests that exhaustion and cynicism constitute the core of burnout (Rothmann, 2008; Taris *et al.*, 2017), the third component, reduced personal accomplishment, was excluded here. On a seven-point Likert scale, respondents indicated how often they experienced the feeling described by each statement with options ranging from never true of me to almost always true of me.

4.2.2 Work engagement. The UWES-9 (short version) (Schaufeli *et al.*, 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 and Bakker, 2004; Taris *et al.*, 2017), the present study measured work engagement using these two components. Although some researchers (de Bruin and 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 job resources on work engagement and its separate components.

4.2.3 Job resources. Parker and Hyett's (2011) questionnaire was used to measure satisfaction with three job resources. These job resources include organisational respect for the employee: whether employees judge senior people in their organisation to be trustworthy and having ethical values, as well as whether the organisation values its staff and treats them well. This component includes seven items such as "In general terms, do you trust the senior people in your organisation?" Employer care: how well employees feel their employers and managers treat them. This component indicates whether the superior is caring, willing to listen, is understanding about work concerns and treats employees as they wish to be treated. It consists of seven items including statements such as: "Do you feel that your boss is empathic and understanding about your work concerns?" Intrusion of work into private life: the work environment causes employees to feel stressed and pressurised to

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meet unreasonable targets. Their work affects their private lives and they find it difficult to relax after work. This component includes seven items such as "Do you feel stressed in organising your work time in order to meet demands?" All the responses for the questionnaire are anchored on a five-point Likert scale with the response options: 0 = not at all to 5 = extremely.

4.2.4 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"; "I am optimistic about what will happen to me in the future as it pertains to work".

4.3 Data analysis

Before the psychometric properties of the measurement instrument was analysed, the null hypothesis was tested that the data are from a multivariate-normal population, using the program SAS 9.4. The Mardia Skewness test-statistic was 20,762 ($p < 0.0001$) and the Mardia Kurtosis test-statistic was 86.42 ($p < 0.0001$). Therefore, the null hypothesis was rejected. As the data deviated from multivariate normality, the hypotheses were tested using the variance-based structural equations modelling program SmartPLS 3 (Ringle *et al.*, 2015).

The psychometric properties of the measurement model were assessed using confirmatory factor analysis and SmartPLS 3. Construct validity was tested by assessing the model for convergent and discriminant validity (Hair *et al.*, 2010). Convergent validity was assessed by considering outer loadings, average variance extracted (AVE), composite reliability (CR) and Cronbach's α. To demonstrate convergent validity, the standardised loadings (in SmartPLS, outer loadings) in the model should be 0.70 or higher, and items with a loading of less than 0.4 are excluded (Hair *et al.*, 2011). The AVE should be 0.50 or higher. The CR and α value of each latent variable should be 0.70 or higher (Hair *et al.*, 2010). Discriminant validity was assessed by using the method described in Fornell and Larcker (1981), which entails comparing the square-root of the AVE for each pair of constructs in the model with the correlation between the two constructs. For evidence of discriminant validity, the square-root of the AVE of two constructs must be higher than the correlation between the two constructs. Cross-loadings can be inspected for evidence of discriminant validity (Hair *et al.*, 2011). The two second-order factors were specified as reflective-reflective type I models because PsyCap and satisfaction with job resources manifest by the specified components of each construct. The structural model was estimated using the two-stage approach described in Becker *et al.* (2012). The mediation hypotheses were tested in accordance with the four-step process described in Kenny (2016).

5. Results

5.1 Assessment of the measurement model

The results of the original model showed that three components – intrusion into private life, optimism, and resilience – did not meet the minimum AVE of 0.5. The CR index for each construct was above 0.7. The α values for all the constructs except optimism and resilience were higher than 0.7. The α value for optimism was 0.588 and for resilience 0.670. To meet the minimum AVE of 0.5, items with loadings lower than 0.4 were excluded. Where necessary, additional items with low loadings were excluded to attain the minimum AVE of 0.5. An AVE of 0.5 could not be achieved for the construct "intrusion of work into private life" so it was excluded. The cross-loadings matrix showed that EC7 had a stronger loading on organisational respect than on employer care, so in the modified measurement model EC7 was specified onto the organisational respect construct. Table I shows the results of the

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Constructs	Items	Outer loadings	Average	Composite reliability	Cronbach's α
Burnout					
Emotional exhaustion (EE)	EE1	0.816	0.711	0.925	0.899
	EE2	0.859			
	EE3	0.874			
	EE4	0.814			
	EE5	0.852			
Cynicism (CYN)	CYN1	0.913	0.822	0.949	0.928
	CYN2	0.919			
	CYN3	0.904			
	CYN4	0.890			
Work engagement					
Vigour (VIG)	VIG1	0.796	0.726	0.888	0.812
	VIG2	0.883			
	VIG3	0.875			
Dedication (DED)	DED1	0.915	0.827	0.935	0.895
	DED2	0.943			
	DED3	0.867			
Job resources					
Organisational respect (OR)	OR1	0.755	0.627	0.930	0.914
	OR2	0.839			
	OR3	0.847			
	OR4	0.862			
	OR5	0.732			
	OR6	0.702			
	OR7	0.703			
	EC7	0.871			
Employer care (EC)	EC1	0.792	0.694	0.931	0.911
	EC2	0.843			
	EC3	0.894			
	EC4	0.858			
	EC5	0.765			
	EC6	0.841			
PsyCap					
Self-efficacy (EFF)	EFF1	0.648	0.603	0.900	0.866
	EFF2	0.857			
	EFF3	0.834			
	EFF4	0.800			
	EFF5	0.718			
	EFF6	0.783			
Hope (H)	H1	0.639	0.533	0.872	0.822
	H2	0.748			
	H3	0.671			
	H4	0.791			
	H5	0.823			
	H6	0.691			
Resilience (RES)	RES2	0.708	0.544	0.827	0.722
	RES3	0.700			
	RES5	0.764			
	RES6	0.777			
Optimism (OPT)	OPT1	0.681	0.549	0.829	0.724
	OPT3	0.810			
	OPT4	0.778			
	OPT6	0.688			

Table I. Reliability and validity of the first-order constructs

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modified measurement model. Most of the items loaded higher than 0.7 on the intended constructs (see Table II), and all other items higher than 0.5. For all constructs, the AVE, CR and α indices were above the recommended values. The modified model thus provided sufficient evidence of convergent validity.

The two second-order factors were assessed for convergent validity. Table II shows the outer loadings for both second-order factors were higher than 0.7, the AVEs were above 0.5, and the CR and α indices were above 0.7.

The modified measurement model was inspected for discriminant validity, following Fornell and Larcker (1981) and only two pairs of constructs did not meet their criterion as explained in the analysis plan (see Table III). The correlation between employer care and organisational respect (0.798) was slightly higher than the square-root of the AVE of respect (0.792). The cross-loadings matrix showed that the items measuring the two constructs, as in Table III, loaded stronger on each construct than on the other construct. These results offered sufficient evidence of construct validity to continue hypothesis testing.

5.2 Testing of hypotheses H1 to H3

Figure 2 shows the results of testing *H1* to *H3*. The predictive validity of the model was as follows: job resources explained 14.2 per cent of the variance in emotional exhaustion, cynicism 19.6 per cent, dedication 20.1 per cent and vigour 19.9 per cent. PsyCap explained 9 per cent of job resources.

The influence of job resources on emotional exhaustion and cynicism was negative and significant. Thus, *H1a* and *H1b* were accepted. Job resources had a stronger negative influence on cynicism than on emotional exhaustion (compare −0.442 with −0.377). The data

Second-order constructs	First-order constructs	Outer loadings	Average	Composite reliability	Cronbach's α
Job resources	Organisational respect	0.961	0.898	0.902	0.855
	Employer care	0.934			
PsyCap	Self-efficacy	0.872	0.699	0.946	0.888
	Hope	0.859			
	Resilience	0.749			
	Optimism	0.858			

Table II. Reliability and validity of the second-order factors

	CYN	DED	EC	EFF	EE	H	OPT	OR	RES	VIG
CYN	0.906									
DED	−0.648	0.909								
EC	−0.36	0.358	0.833							
EFF	−0.38	0.437	0.21	0.776						
EE	0.639	−0.374	−0.304	−0.168	0.843					
H	−0.415	0.503	0.288	0.693	−0.226	0.730				
OPT	−0.362	0.448	0.212	0.634	−0.199	0.655	0.741			
OR	−0.463	0.472	0.798	0.257	−0.397	0.343	0.265	0.792		
RES	−0.166	0.192	0.09	0.554	−0.109	0.496	0.549	0.113	0.738	
VIG	−0.569	0.824	0.361	0.46	−0.414	0.454	0.442	0.468	0.257	0.852

Notes: CYN, Cynicism; DED, Dedication; EC, Employer care; EFF, Self-efficacy; EE, Emotional exhaustion; H, Hope; OPT, Optimism; OR, Organisational respect; RES, Resilience; VIG, Vigour. Square-root of AVEs are on the diagonal; correlations below the diagonal

Table III. Assessment of discriminant validity of the first-order constructs

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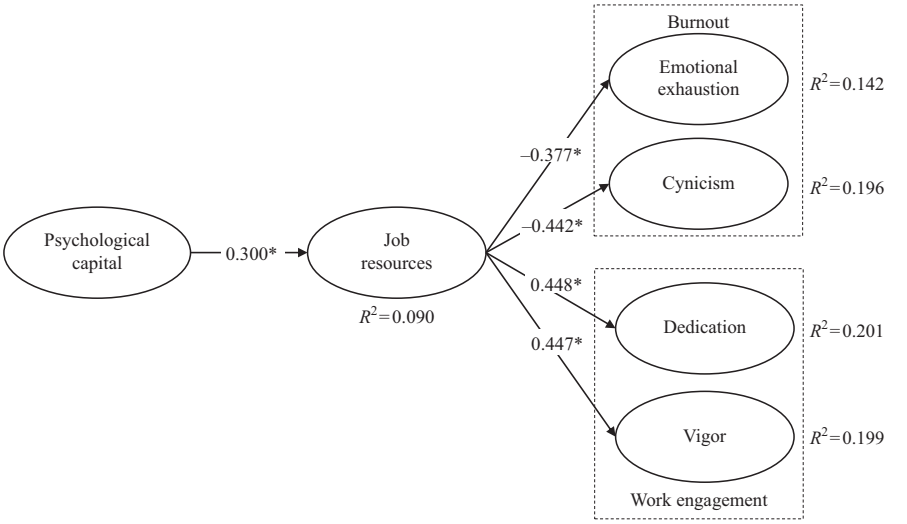

Figure 2. Results of *H1* to *H3*

Note: $*p<0.001$

supported *H2a* and *H2b*, but job resources had a stronger positive influence on dedication than on vigour. The influence of PsyCap on job resources was significant (0.300). Therefore, *H3* was accepted.

5.3 Testing of mediation hypotheses H4a-H4b to H5a-H5b

Total effects were first estimated to confirm that a relationship existed between the predictor and outcome variables. Table IV shows that PsyCap had a negative influence on emotional exhaustion and cynicism, and a positive influence on vigour and dedication. These two hypotheses could thus be tested.

As shown in Table V, the influence of PsyCap on emotional exhaustion, cynicism, vigour and dedication was partially mediated by job resources. In all four instances, the direct influence of PsyCap on emotional exhaustion, cynicism, vigour and dedication was statistically significant, controlling for the mediator (job resources). In all instances, the indirect effects through job resources were statistically significant. The indirect influence of PsyCap on cynicism was negative and the indirect influence of PsyCap on vigour and dedication was positive.

Thus, *H4*a-*H4*b to *H5*a-*H5*b were accepted. It can be concluded that the influence of PsyCap on emotional exhaustion, cynicism, vigour and dedication is mediated by job resources.

6. Discussion and conclusion

This study investigated how job and personal resources interact to produce burnout and work engagement. First, it was proposed that the sample's satisfaction level with their

Table IV. Total effects (step 1)

Hypotheses	Relationship	Effect	95% bias-corrected confidence interval LLCI	ULCI
H4a	PsyCap→EE	−0.214	−0.303	−0.123
H4b	PsyCap→CYN	−0.414	−0.501	−0.319
H5a	PsyCap→VIG	0.496	0.398	0.582
H5b	PsyCap→DED	0.492	0.386	0.585

Notes: PsyCap, Psychological capital; EE, Emotional exhaustion; CYN, Cynicism; VIG, Vigour; DED, Dedication

Hypotheses	Relationship	Effect	95% bias-corrected confidence interval LLCI	ULCI
H4a	PsyCap→EE	−0.111	−0.201	−0.021
	PsyCap→JR	0.300	0.207	0.397
	JR→EE	−0.344	−0.439	−0.244
	PsyCap→JR→EE	−0.103	−0.151	−0.066
H4b	PsyCap→CYN	−0.309	−0.406	−0.209
	PsyCap→JR	0.300	0.205	0.392
	JR→CYN	−0.350	−0.460	−0.245
	PsyCap→JR→CYN	−0.105	−0.153	−0.067
H5a	PsyCap→VIG	0.398	0.300	0.485
	PsyCap→JR	0.300	0.206	0.393
	JR→VIG	0.327	0.237	0.412
	PsyCap→JR→VIG	0.098	0.064	0.143
H5b	PsyCap→DED	0.393	0.283	0.491
	PsyPapC→JR	0.300	0.204	0.391
	JR→DED	0.330	0.242	0.414
	PsyCap→JR→DED	0.099	0.062	0.142

Notes: PsyCap, Psychological capital; EE, Emotional exhaustion; JR, Job resources; CYN, Cynicism; VIG, Vigour; DED, Dedication

Table V. Direct and indirect effects (steps 2-4)

organisation's job resources influenced their levels of work engagement and burnout. It was found that their satisfaction with job resources had statistically significant negative influences on the components of burnout (emotional exhaustion and cynicism). In other words, those participants that perceived their organisations' senior management as trustworthy felt that their organisations adhere to ethical values treat their staff with respect, and that felt that their superiors are empathetic and understanding about their work concerns, experienced lower levels of emotional exhaustion and cynicism. Satisfaction with these job resources had a stronger negative influence on cynicism than on emotional exhaustion. These findings are in line with previous related research that found that burnout is predicted by a lack of job resources (Schaufeli and Bakker, 2004) and that job resources reflecting a supporting work environment were negatively related to burnout (Nahrgan *et al.*, 2011; Yener and Coşkun, 2013). Rothmann and Joubert (2007, p. 58) also found that cynicism and exhaustion correlated negatively with job resources because of insufficient organisational support.

It was also found that the sample's satisfaction with job resources had statistically significant positive influences on the two components of work engagement (vigour and dedication). Satisfaction with job resources had a stronger positive influence on dedication than on vigour. This implies that when employees view their organisations as respectful and caring towards them, they will be more dedicated and emotionally involved in their jobs. Also, if they are not satisfied with the way that they are treated by their employers, they will become more cynical, uncaring or detached from their jobs. These findings confirm previous related research. Brunetto *et al.* (2014) investigated the influence of supervisor – subordinate relationships and perceived organisational support on work engagement, well-being, organisational commitment and turnover intentions in nurses and police officers in Australia and found that satisfaction with the supervisor – subordinate relationship and organisational support do predict work engagement. Saks (2006) found that perceived organisational support predicts job and organisational engagement.

Second, it was proposed that PsyCap – a personal resource – influenced the sample's satisfaction with their organisation's job resources. It was found that PsyCap had a statistically significant positive influence on the sample's satisfaction with job resources.

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Those employees who had higher levels of PsyCap perceived their organisations to be more respectful and caring towards them. It was further found that the influence of PsyCap on emotional exhaustion and cynicism was partially mediated by satisfaction with job resources, and the influence of PsyCap on vigour and dedication was also partially mediated by satisfaction with job resources. This supports the finding of related research (Hochwarter *et al.*, 2003) that job resources, such as supportive behaviours, can mediate the relationship between personal resources and work outcomes. The measurement model results confirm the importance of both personal and job resources in work engagement and burnout.

6.1 Implications of the study

Employees' psychological capabilities, involvement and well-being are currently of concern for organisations worldwide. This study considered the role of personal and job resources in two indicators of psychological well-being – work engagement and burnout – and found that satisfaction with job resources played a central role in these outcomes. Management should understand the positive effect of designing and implementing organisational practices that reflect respect for employees and managerial/supervisory practices that are perceived as empathic and caring towards employees. Relationships between managers/supervisors and employees that are of such a nature that work concerns can be discussed openly and honestly, seem imperative in creating a work environment where employees' engagement in their work, as well as their psychological well-being can be enhanced. The results also show that employees' satisfaction with job resources can be increased by investing in the personal development of employees by improving their PsyCap. According to Hobfoll *et al.* (2003), resources tend to accumulate, creating a "positive spiral of resources", and these "resources caravans" are likely to increase individuals' beliefs in their capabilities. Therefore, it is important to help employees to develop their personal resources. There is evidence that PsyCap can be developed and increased through relatively short workplace interventions and that it can potentially not only result in competitive advantage, but also increase revenues (Luthans *et al.*, 2006; Hodges, 2010). These can enable organisations to effectively leverage the psychological states of employees to the benefit of both the organisation and the employees.

6.2 Limitations of the study and future research

The study was limited by its exploratory nature, necessitating the use of a variance-based approach to structural equation modelling (SmartPLS) and a convenience sample. It is suggested that future researchers replicate the model in different contexts to corroborate the proposed relationships using larger samples, probability-based sampling and a covariance-based approach to structural equation modelling.

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