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Organizational resources, organizational engagement climate, and employee engagement

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Abstract

Purpose – The majority of job demands-resources (JD-R) research has focused on identifying the job demands, job resources, and personal resources that influence engagement. The purpose of this paper is to assess the significance of proposed associations between organizationally focused resources, organizational engagement climate, and engagement.

Design/methodology/approach – The authors tested a model proposing that six specific organizational resources would have positive associations with organizational engagement climate, and positive direct and indirect associations with job resources and employee engagement. Confirmatory factor analysis (CFA) and structural equation modeling (SEM) were conducted on cross-sectional survey data provided by 1,578 employees working in a range of different organizations.

Findings – The CFA and SEM analyses yielded good fit to the data. As proposed, all six organizational resources were positively associated with organizational engagement climate. Four were positively associated with job resources, and two were positively associated with engagement. Organizational engagement climate was positively associated with job resources and employee engagement. Significant indirect relationships were also observed.

Research limitations/implications – Despite self-reported data and a cross-sectional design, tests of common method variance did not suggest substantive method effects. Overall, the results contribute new insights about what may influence engagement, and highlight the importance of organizational engagement climate as a motivational construct.

Practical implications – The research offers up potentially useful measures of six organizational resources and a measure of organizational engagement climate that can complement and broaden the current focus on job-level diagnostics. As such, targeted management action and survey feedback processes can be used to identify processes to build sustainable organizational engagement capability.

Originality/value – No previous research has identified a comprehensive set of organizational resources, operationalized organizational engagement climate, or examined their relationships within a JD-R context. The results suggest that the JD-R can perhaps usefully be extended to include more organizationally focused constructs.

Keywords Engagement, Organizational resources, Engagement climate, JD-R

Paper type Research paper

Researchers have clearly demonstrated that employee engagement is associated with a range of positive individual and organizational outcomes. Meta-analytic studies have shown, for example, that engagement is strongly associated with increased employee well-being, in-role performance, extra-role performance, and reduced turnover (Christian *et al.*, 2011; Halbesleben, 2010; Crawford *et al.*, 2010; Halbesleben, 2010). More broadly, evidence and arguments have been presented promoting engagement as a key source of competitive advantage and financial profitability (Albrecht *et al.*, 2015; Barrick *et al.*, 2015; Macey and Schneider, 2008; Salanova *et al.*, 2005; Xanthopoulou *et al.*, 2009). The construct therefore continues to receive a great deal of attention from researchers and practitioners.

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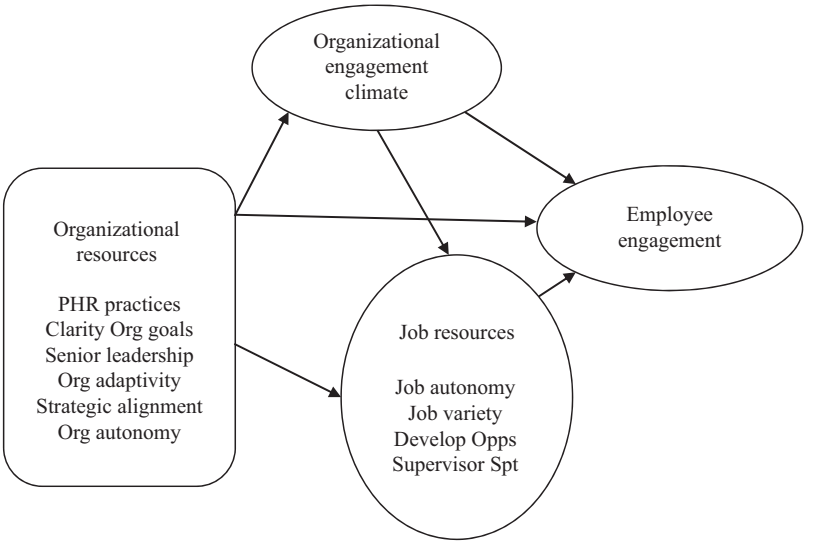
Although there is some disagreement among scholars and practitioners about how best to define and measure work engagement (e.g. Rich *et al.*, 2010; Schaufeli *et al.*, 2002; Shuck *et al.*, in press; Soane *et al.*, 2012), Schaufeli *et al.*'s definition of engagement as a "positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption" (p. 74) remains widely used in the academic literature. Other researchers have suggested engagement also encompasses a willingness to work toward the successful achievement of work role and organizational goals (Albrecht, 2010; Macey *et al.*, 2009).

The job demands-resources (JD-R) model (Bakker and Demerouti, 2007, 2008, 2014) has emerged as the dominant model for explaining the antecedents and outcomes associated with employee engagement. The JD-R assumes two distinct underlying psychological processes (Bakker and Demerouti, 2008). The health impairment process focuses on job demands as predictors of adverse psychological and organizational outcomes, while the motivational process focuses on job resources and personal resources as predictors of positive motivational and organizational outcomes.

With respect to the motivational process, Bakker and Demerouti (2007) defined job resources as physical, psychological, social, or organizational aspects of a job that facilitate achieving work goals, reduce job demands, and stimulate personal development. Meta-analytic studies have identified a number of job resources that are consistently associated with employee engagement. Crawford *et al.* (2010), for example, identified job autonomy, feedback, opportunities for development, rewards and recognition, supervisory support, job variety, and work role fit as important predictors of engagement. Consistent with the "J" in JD-R, the majority of engagement related research has focused on identifying more proximal job-level resources that directly influence employee engagement. Although personal resources have been added to the original formulation of the JD-R (e.g. Bakker and Demerouti, 2014; Xanthopoulou *et al.*, 2007) to acknowledge the influence that self-efficacy, optimism, and other individual factors have on engagement, job resources remain the most frequently researched component of the JD-R motivational process (Schaufeli and Taris, 2014).

Beyond the influence of job-level factors, it has been argued that contextual factors such as senior leadership support, clarity of organizational vision and goals, organizational climate, organizational support, and supportive human resource (HR) management practices might also directly or indirectly influence engagement. As described below, organizational resources provide the context for how employees experience their work (Albrecht, 2012; Albrecht *et al.*, 2015; Leiter and Bakker, 2010). As such, it is here argued that more distal organizational resources might influence employee perceptions of more proximal job resources and employee engagement. Furthermore, Albrecht (2014) proposed that organizational resources might influence "organizational engagement climate", that will, in turn, influence employee perceptions of job resources and engagement.

A number of alternative theoretical frameworks have been proposed that help explain how organizational resources result in competitive advantage through the development of organizational and job-level engagement. Such frameworks include Becker *et al.*'s (1997) HRM-performance model, Guest's (1997) HRM-performance model, Purcell *et al.*'s (2003) abilities, motivation, opportunity to participate (AMO) framework, and Posthuma *et al.*'s (2013) taxonomy of high performance work practices. Albrecht *et al.* (2015) drew from a number of these models to propose an integrated strategic engagement model that included consideration of organizational context factors, job context factors, engagement, and individual, team, and organizational outcomes. Albrecht *et al.* argued that "engagement provides a conceptually well-developed and well-researched strategy by which competitive advantage can be achieved, developed and maintained" (p. 26). Further research is needed, however, to more fully understand how organizational factors such as HRM practices and organizational engagement climate relate to employee perceptions of job resources and employee engagement within a JD-R context. Figure 1 shows a range of organizational



Notes: PHR, perceived human resource; Org, organizational; Develop Opps, development opportunities; Spt, support

Figure 1. Proposed model showing direct associations between the constructs

resources having a direct relationship with organizational engagement climate, job resources, and engagement. Figure 1 also shows organizational engagement climate having a direct relationship with job resources and employee engagement. After first overviewing research supporting the idea of an organizational engagement climate, we briefly overview research that supports the modeling proposed in Figure 1.

Organizational engagement climate

Organizational climate remains a fundamental construct to organizational research and practice, and is widely recognized as an important determinant of attitudinal, behavioral, and performance related outcomes (e.g. Denison *et al.*, 2014; Schneider *et al.*, 2009). Schneider *et al.* (1975, 1983) argued that climate is constituted of employees' shared perceptions of the policies, practices, procedures, and behaviors that are rewarded, supported, and expected in an organizational context. Additionally, Schneider (1975) suggested that rather than conceptualizing climate as a generic and generalizable construct, it is better be conceptualized as a "functionally specific" construct couched in terms of a "climate for […]. [something]." Schneider's research, for example, has focused on a "climate for service." Irrespective of whether conceptualized as generic or as functionally specific, the link between organizational climate and employee engagement has not been clearly drawn in the literature. Although Crawford *et al.* (2010) and Halbesleben (2010) provided meta-analytic evidence showing low to moderate positive associations between organizational climate and engagement, Halbesleben's conclusion was based on a limited number of studies reporting associations with vigor and dedication, and not the construct as a whole.

Extrapolating from existing definitions in the engagement literature, Albrecht (2014) defined organizational engagement climate as shared perceptions about the energy and involvement willingly focused by employees toward the achievement of organizational goals. Consistent with "levels of analysis" and "referent shift" arguments (see Chan, 1998), Albrecht (2014) proposed a number of items to measure organizational engagement climate that had the organization (as opposed to individualized employee experience) as the referent.

The measure included items such as "people in this organization are enthusiastic about their work", "people here are fully involved in their work," and "overall, people in this organization strive to perform at the best of their ability." Confirmatory factor analysis (CFA) provided initial support for the validity and the reliability of the measure. Furthermore, structural equation modeling (SEM) identified that senior leadership, as an organizational resource, was associated with organizational engagement climate that, in turn, was related to employee engagement both directly and indirectly through job resources such as autonomy and skill development. Along similar lines, Barrick *et al.* (2015) showed that organizational resources such as motivating work design, HRM practices, and CEO transformational leadership were significantly associated with a construct they termed "collective organizational engagement." However, as previously noted, research on the antecedents of organizational engagement climate and its influence on employee engagement is limited, and further research is needed.

Organizational resources

Organizational resources refer to employee experiences of the "upstream" (Dollard and Bakker, 2010), distal, contextual, or system-level aspects of the organizational environment (Albrecht, 2012). Organizational resources are here defined as the physical and psychological system-level aspects of the organizational environment, that are not role specific, and that directly or indirectly influence organizational engagement climate, job resources, and engagement. More generally, organizational resources are system sponsored sources of supply and support that can be drawn upon by individuals and groups to help achieve psychological, attitudinal, motivational, behavioral, team, and organizational outcomes. As previously noted, and as shown in Figure 1, strategic alignment, clarity of organizational goals, senior leadership support, organizational adaptivity, autonomy climate, and employee perceptions about HR management practices are example organizational resources that may be directly or indirectly related to organizational engagement climate, perceptions of job resources, and engagement.

Biggs *et al.* (2014), in one of the few studies within a JD-R context to explicitly acknowledge organizational resources, examined the influence of strategic alignment on employee engagement. Strategic alignment reflects an organization's ability to communicate strategic priorities that help employees understand how their daily job tasks and roles directly contribute to the success of strategic priorities. Biggs *et al.* showed that strategic alignment had a significant and positive, although modest, influence on engagement over a 12-month time lag. Although Biggs *et al.* also considered the influence of control and support as job resources, they did not consider the influence of additional organizational resources. Further research is needed that assesses the relationships between strategic alignment and organizational engagement climate, job resources, and engagement when additional organizational resources are considered.

Clarity of organizational goals, an organization's ability to clearly define its goals to employees (Patterson *et al.*, 2005), can also be conceptualized as an organizational resource. Although related to strategic alignment, clarity of organizational goals is more concerned with clarity and less concerned with whether employees understand how daily job tasks and roles align with strategic priorities. Macey and Schneider (2008) argued that clarity of organizational goals is a key determinant of engagement. However, despite some empirical evidence suggesting that clarity of organizational goals has strong associations with job satisfaction and overall job performance (Denison *et al.*, 2014), no research, to date, has explicitly examined the relationships between clarity of organizational goals and employee engagement climate, job resources, or engagement within a JD-R research framework.

The senior leadership of an organization is typically composed of the CEO, vice-presidents, divisional heads and functional heads, and others who directly contribute to an organization's

key strategic and business priorities and decisions (Albrecht and Travaglione, 2003). Senior leaders within organizations "symbolise the values of the organization, determine the flow of the organizational resources, and model employees' ways of thinking, feeling, and reacting to important events" (Leiter and Bakker, 2010, p. 5). Although a significant amount of research has identified the influence of direct report transformational or empowering leadership on employee engagement (e.g. Tuckey *et al.*, 2012; Xu and Cooper-Thomas, 2011), only a limited amount of research (e.g. Albrecht, 2014; Barrick *et al.*, 2015) has examined the impact of senior leadership on organizational engagement climate or employee engagement. Barrick *et al.* reported that CEO transformational leadership was more strongly related to collective organizational engagement than motivating work design or perceptions about HRM practices. Albrecht (2014) reported that senior leadership engagement and support accounted for 37 percent of the variance in organizational engagement climate. Given the very important role that senior leadership have in modeling appropriate values, attitudes, and behaviors within their organizational context (Avolio *et al.*, 2004), additional research on the relationships between senior leadership and organizational engagement climate and employee engagement is warranted (Bakker *et al.*, 2011).

Perceived human resource practices (PHRP) refer to employees' general perceptions of the HR practices within their organizational context (Alfes *et al.*, 2013). PHRP refers to the extent that employees perceive that HR provides, for example, sufficient opportunities for training and development, uses effective selection practices, and keeps employees informed about how well the organization is performing. Barrick *et al.* (2015) proposed that because HRM practices "shape the nature of the employee-firm relationship" (p. 116) they serve as important antecedents of collective organizational engagement. Although Barrick *et al.* showed that HR management practices are indeed significantly associated with collective organizational engagement, further research on the extent to which PHRP is directly or indirectly associated with organizational engagement climate, job resources, and engagement within a JD-R framework is required. As previously noted, there has been limited empirical research on the relationship between HRM practices and engagement.

Patterson *et al.* (2005) defined and operationalized organizational autonomy as shared perceptions about the extent to which employees can exercise discretion and decision-making authority. Just as job autonomy is a job resource that has consistently been shown to be an important influence on job-level engagement (Crawford *et al.*, 2010), it is here argued that organizational autonomy is an organizational resource that will influence organizational engagement climate, perceptions of job resources, and engagement. That is, the extent to which an organization is generally perceived to support and encourage employees to make their own decisions will result in an individual and collective sense of positive energy, involvement, and willingness to work toward the achievement of organizational goals. No research to date has examined the extent to which organizational autonomy is directly or indirectly associated with organizational engagement climate, job resources, and engagement.

The ability for organizations to continually adapt to changing environmental contexts, threats, and opportunities is increasingly being acknowledged as a critical attribute of competitive and successful organizations (Huber, 2011; van den Heuvel *et al.*, 2014). Organizational adaptivity, flexibility, agility, innovation, and openness to change have all been identified as important dimensions of organizational culture and climate in contemporary organizational contexts (Costanza *et al.*, 2016; Denison *et al.*, 2014; Ployhart and Turner, 2014). Organizational adaptivity, as an organizational resource, reflects the extent to which there is a shared perception among employees that an organization encourages flexibility and is open and supportive of change (Ployhart and Turner, 2014). Although there is a limited amount of research linking organizational adaptability to outcomes such as employee satisfaction and self-rated organizational performance (Denison *et al.*, 2014), researchers have yet to look at the relationship between organizational adaptivity and engagement.

Study aims

As previously noted, the primary aim of the research was to assess the direct and indirect relationships between organizational resources, organizational engagement climate, and employee engagement within a JD-R context. Figure 1 shows a direct relationship between the six organizational resources and organizational engagement climate (*H1*), job resources (*H2*), and engagement (*H3*). Figure 1 also shows a direct relationship between organizational engagement climate and job resources (*H4*) and employee engagement (*H5*). Consistent with the existing literature, job resources, modeled as a higher order construct, are shown to have a direct relationship with engagement (*H6*). Figure 1 also suggests indirect relationships between organizational resources and engagement through engagement climate (*H7*) and through job resources (*H8*). Indirect relationships are also proposed between organizational resources and job resources through engagement climate (*H9*), and between engagement climate and engagement through job resources (*H10*). Overall, the study aimed to fill a gap in the existing engagement and JD-R literatures by examining the relationships between a range of organizational resources, engagement climate, and engagement, while taking account of the influence of job resources.

Method

Participants and procedure

Data were collected by a large Australian consulting organization that routinely collects online survey data from consenting clients and contacts for its own internal research, norming and marketing purposes. Participants were informed that the data they provided could be used for research purposes. The consulting organization offered potential participants the chance to win one of three cash prizes if they completed the survey. Inclusion criteria required participants to be 18 years or older and to have been working 20 hours per week or more in an organization for more than three months. The use of the data for present research purposes was approved by the first author's university ethics committee.

In response to an e-mail invitation sent to approximately 10,500 potential respondents, 2,681 responses were received (estimated response rate of 26 percent). The analyses were conducted on 1,578 cases that had complete data. A broad range of occupational groupings and industry sectors were represented (e.g. local government 9 percent, education and training 10 percent, state government 9 percent, health care 7.5 percent, and professional, scientific, and technical services 7.5 percent). Of the 1,573 participants who reported their gender, 812 were male (51.6 percent), and 761 were female (48.4 percent).

Measures

All of the constructs included in Figure 1, except for engagement, were measured with items anchored on a seven-point Likert scale (1 = strongly disagree, to 7 = strongly agree). Engagement was measured on a seven-point Likert scale (0 = never, to 6 = always/every day). Items included in the test of the proposed relationships are shown in Table I. Scale means, standard deviations, reliabilities, and correlations are shown in Table II.

Organizational resources

The items used to measure the six organizational resources were adapted from existing scales or self-developed. Employee perceptions regarding HR practices (PHRP) were assessed using three items adapted from Gould-Williams and Davies (2005). Senior leadership was measured using eight items adapted from Albrecht (2014). Clarity of organizational goals was measured using four items from the organizational climate

Scale	Item	Loading
Organizational level resources		
PHRP1	HR provide me with sufficient opportunities for training and development	0.868
PHRP2	HR keeps me informed about business issues and about how well it is doing	0.848
PHRP3	A rigorous selection process is used to select new recruits	0.648
SA1	I have a clear understanding of my organization's strategic priorities	0.832
SA2	I am aware of how my day-to-day work aligns with my organization's strategic priorities	0.906
SA3	I have a clear understanding of how my workgroup's operational priorities help my organization achieve its strategic objectives	0.880
SA4	It is important to me to help my organization achieve its strategic objectives	0.687
SL5	Senior leaders in this organization strive to perform to the best of their ability	0.863
SL6	Senior leaders really try to do a good job for this organization	0.899
SL7	Senior leaders in this organization are very positive about meeting organizational goals	0.848
SL8	Senior leaders in this organization are willing to do their best to achieve the best possible outcomes for the organization	0.883
COG1	People have a good understanding of what this organization is trying to do	0.808
COG2	The future direction of the organization is clearly communicated to everyone	0.901
COG3	Everyone who works here is well aware of the long-term plans and direction of this organization	0.931
COG4	People in this organization have a strong sense of where it is going	0.915
ORGAUT1	This organization supports people to make their own decisions	0.907
ORGAUT2	The organization encourages people to do what they think best	0.907
ORGAUT3	People in this organization are encouraged to take the initiative in decision making	0.896
ORGAUT6	Employees in this organization have the right to take the initiative	0.841
ADAPTIV1	This organization encourages us to be flexible	0.771
ADAPTIV2	This organization readily changes the way that we do things	0.804
ADAPTIV3	Change is welcomed in this organization	0.885
ADAPTIV5	This organization is not resistant to change	0.801
Organizational engagement climate		
CE1	Overall, people in this organization strive to perform to the best of their ability	0.841
CE2	People in this organization are enthusiastic about their work	0.856
CE4	People here really try to do a good job for the organization	0.865
CE5	People here are fully involved in their work	0.847
CE7	People here are willing to do their best to achieve the best possible outcomes for the organization	0.861
Job-level resources		
JV1	My work is very varied	0.879
JV2	I do a wide range of tasks at work	0.929
JV3	I do many different things at work	0.935
JV5	My work has a lot of variety	0.888
OD3	I build my abilities at work	0.894
OD4	My work gives me lots of opportunities to improve my skills and knowledge	0.893
OD5	I build my skills and knowledge at work	0.931
OD6	At work I learn things which make me better at my job	0.880
SSM1	The person I report to is supportive of me	0.918
SSM2	The person I report to is helpful to me	0.957
SSM3	The person I report to helps me succeed at my job	0.926

(*continued*)

Table I. Re-specified CFA items and their item loadings

Scale	Item	Loading
SSM6	The person I report to tries to have good relations with staff	0.784
AUT1	In my workgroup I am permitted to make my own decisions	0.913
AUT3	In my workgroup I am free to decide how to do things	0.894
AUT4	In my workgroup I am allowed to make my own decisions	0.941
AUT6	In my workgroup I can be confident that I am allowed to do things for myself	0.894
Engagement		
E1	At work, I feel bursting with energy	0.817
E2	At my job, I feel strong and vigorous	0.841
E3	I am enthusiastic about my job	0.855
E4	My job inspires me	0.838
E5	When I get up in the morning, I feel like going to work	0.815
E6	I feel happy when I am working intensely	0.651
E7	I am proud of the work that I do	0.696
E8	I am immersed in my work	0.738
E9	I get carried away when I am working	0.573

Notes: PHRP, perceived human resource practices; SL, senior leadership; COG, clarity of organizational goals; SA, strategic alignment; ORGAUT, organizational support for autonomy; ADAPTIV, organizational adaptivity and openness to change; JV, job variety; OD, opportunities for development; SSM, supervisor support; AUT, job autonomy; E, employee engagement

Table I.

measure (Patterson *et al.*, 2005). Strategic alignment was measured using four items adapted from Biggs *et al.* (2014). Organizational autonomy and organizational adaptivity were each measured with five self-developed items. All items except for the Biggs *et al.*'s measure of strategic alignment had the organization as the referent.

Organizational engagement climate

Engagement climate was measured with seven items adapted from Albrecht (2014). As shown in Table I, example items included: "overall, people in this organization strive to perform at the best of their ability" and "people in this organization are enthusiastic about their work." Albrecht reported an α of 0.94 for a similarly constructed scale.

Job-level resources

Each of the four job resources were measured with items adapted from existing scales. Job variety was measured with five items adapted from Albrecht and Su (2012) and Bakker *et al.* (2005). Supervisor support was measured with six items adapted from Morgeson and Humphrey (2006) and Xanthopoulou *et al.* (2007). Opportunity for development was measured with six items adapted from Bakker *et al.* and Xanthopoulou *et al.* (2007). Autonomy was measured with six items adapted from Spreitzer (1995) and Hackman and Oldham (1980). Consistent with previous research, the four job resources were modeled as first-order factors as part of a higher order job resources factor (Albrecht, 2012; Bakker and Demerouti, 2007; Hakanen *et al.*, 2006).

Employee engagement

Employee engagement was measured using the nine-item version of the Utrecht Work Engagement Scale (UWES-9; Schaufeli *et al.*, 2006). Consistent with the very high correlations among the three UWES sub-dimensions, and the highly correlated error terms among sub-dimension items, researchers have argued in support of using a uni-dimensional

Table II.
Means, standard deviations, Cronbach's α (on diagonal in italics), and correlations among first-order variables in the re-specified measurement model

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Engagement	4.25	0.98	*0.92*											
2. Engagement Climate	5.31	1.05	0.54	*0.93*										
3. PHRPractices	4.35	1.49	0.48	0.53	*0.82*									
4. Clarity Org Goals	4.86	1.41	0.46	0.66	0.60	*0.94*								
5. Senior Leadership	5.25	1.34	0.46	0.70	0.54	0.68	*0.93*							
6. Org Adaptivity	4.61	1.39	0.48	0.62	0.61	0.71	0.63	*0.89*						
7. Strategic Alignment	5.54	1.20	0.58	0.58	0.53	0.70	0.59	0.54	*0.89*					
8. Org Autonomy	4.86	1.34	0.50	0.59	0.58	0.63	0.61	0.75	0.54	*0.94*				
9. Autonomy	5.54	1.24	0.48	0.42	0.40	0.38	0.42	0.48	0.49	0.64	*0.95*			
10. Job Variety	5.71	1.20	0.54	0.31	0.29	0.23	0.26	0.26	0.38	0.30	0.39	*0.95*		
11. Development Opps	5.32	1.20	0.58	0.45	0.53	0.42	0.40	0.46	0.47	0.50	0.43	0.54	*0.94*	
12. Supervisor Support	5.29	1.37	0.40	0.44	0.49	0.42	0.49	0.49	0.41	0.53	0.52	0.25	0.51	*0.94*

Notes: $n = 1{,}578$. Engagement Climate, organizational engagement climate; PHRPractices, perceived human resource practices; Clarity Org Goals, clarity of organizational goals; Org, organizational; Development Opps, opportunities for development. All correlations significant at $p < 0.01$

composite score (e.g. Hallberg and Schaufeli, 2006; Schaufeli and Bakker, 2010; Sonnentag, 2003). Schaufeli *et al.* reported a median α of 0.92 for the nine-item scale for data drawn from multiple cross-national samples.

Data analytic strategy

Given that three-item scales enable reliable and efficient specification of constructs (Bagozzi and Yi, 1988; Jöreskog and Sörbom, 1993), preliminary analyses were conducted, where appropriate, to reduce the number of items required to define each construct. As such, and in line with Anderson and Gerbing's (1988), a two-step approach to SEM, CFA, was first conducted to determine the discriminant and convergent validity of the constructs included in the model, and to identify a minimum of three high loading items for each construct. CFA can ostensibly be used in an exploratory sense when researchers have an a priori expectation that specific sets of items measure specific constructs (Levine, 2005; Marsh *et al.*, 2014). The preliminary CFA analyses were therefore conducted on a randomly generated sub-set (approximately half) of the full sample, before being cross-validated on the alternative half of the sample, and then on the full data set.

Having established a defensible measurement model, SEM was conducted to test the proposed relationships shown in Figure 1. All CFA and SEM models were assessed against generally accepted fit indices: $\chi^2/df < 2$, NFI > 0.90, TLI > 0.95, CFI > 0.95, SRMR < 0.08, RMSEA < 0.50, and upper RMSEA confidence interval < 0.05 (Hu and Bentler, 1999; Jackson *et al.*, 2009; MacCallum *et al.*, 1996).

Results

Measurement model

CFA of a randomly generated sub-set of the data ($n = 761$) yielded reasonably good fit to the data (Model $\chi^2 = 6187.226$, df = 2211, $\chi^2/df = 2.798$, NFI = 0.887, TLI = 0.920, CFI = 0.924, SRMR = 0.038, RMSEA = 0.040, RMSEA 90 percent confidence interval = 0.047-0.050, PCLOSE = 0.940). However, despite all standardized loadings being significant at $p < 0.001$ (ranging between 0.516 and 0.938), the NFI, TLI, CFI, and the χ^2 ratio were not quite at generally accepted criteria. Inspection of the modification indices suggested opportunities to improve model fit by deleting a number of redundant items. Apart from retaining all nine engagement items, three to six items with high loadings and smaller modification indices were retained for each measured construct. The re-specified CFA yielded improved and acceptable fit ($\chi^2 = 3160.453$, df = 1259, $\chi^2/df = 2.510$, NFI = 0.921, TLI = 0.946, CFI = 0.951, SRMR = 0.034, RMSEA = 0.045, RMSEA 90 percent confidence interval = 0.043-0.047, PCLOSE = 1.00).

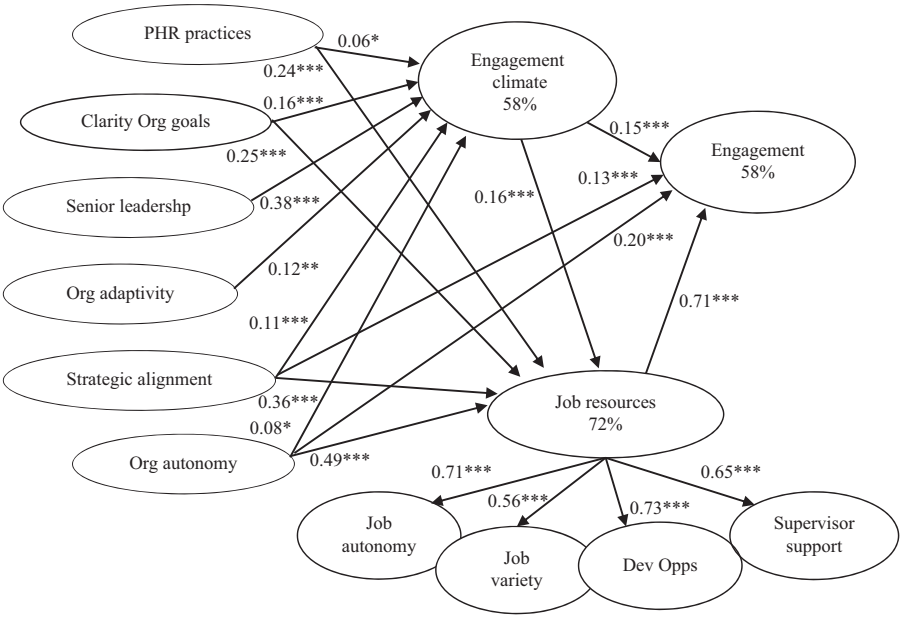
CFA of the re-specified measurement model using the alternative sub-set of the sample ($n = 817$) also revealed acceptable fit ($\chi^2 = 3214.986$, df = 1259, $\chi^2/df = 2.554$, NFI = 0.924, TLI = 0.948, CFI = 0.952, SRMR = 0.037, RMSEA = 0.044, RMSEA 90 percent confidence interval = 0.042-0.046, PCLOSE = 1.00). Furthermore, CFA of the full sample ($n = 1578$) also yielded acceptable fit ($\chi^2 = 4383.676$, df = 1259, $\chi^2/df = 3.482$, NFI = 0.945, TLI = 0.957, CFI = 0.960, SRMR = 0.034, RMSEA = 0.040, RMSEA 90 percent confidence interval = 0.038-0.041, PCLOSE = 1.00). All standardized factor loadings were significant at $p < 0.001$ and ranged between 0.573 and 0.957 (see Table I). The null model, a one-factor model, and an alternative three-factor measurement model, as comparison models, did not yield acceptable fit. The three-factor model, for example, with all job resource items loading on a single factor, all organizational resources loading on a single factor, and all nine engagement items loading on a single factor yielded an unacceptable fit to the data (e.g. $\chi^2/df = 25.630$, CFI = 0.586, SRMR = 0.122, RMSEA = 0.125).

Table II shows the means, standard deviations, Cronbach's αs, and correlations among the first-order variables included in the re-specified CFA. The α reliabilities exceed the

minimum accepted criterion, and the correlations, ranging from 0.23 to 0.75, did not suggest multi-collinearity. Furthermore, testing for common method variance (CMV) using procedures recommended by Podsakoff *et al.* (2012) showed that the standardized loadings for only three of the items decreased more than 0.25 when a common method was included in the model. The three items were supervisor support job resource items. Overall, given that the standardized loading decreased on average a very modest 0.01, and that all factor loadings remained statistically significant ($p < 0.001$) after the inclusion of the common method factor, the influence of method effects can, to a large extent, be discounted (Elangovan and Xie, 2000; Johnson *et al.*, 2011; Podsakoff *et al.*, 2012).

As previously noted, the four job resources were modeled as a higher order construct. Credé and Harms (2015) argued that the validity of higher order models cannot be assumed and tests need to be conducted to satisfy a number of criteria. The "Target Coefficient 2" (TC_2; Marsh, 1987) was therefore used to assesses whether the higher order factor adequately explained the covariation among the first-order factors. The TC_2 of 0.91, being close to 1, supports the higher order modeling (Marsh, 1987). The standardized loadings of the first-order job resources ranged from 0.56 to 0.73 (see Figure 2).

Having established a defensible measurement model with CFA, SEM was used to test the fit of the proposed structural model (see Figure 1). The structural model yielded good fit to the data: $\chi^2 = 4942.231$, df = 1285, $\chi^2/df = 3.846$, NFI = 0.938, TLI = 0.950, CFI = 0.953, SRMR = 0.050, RMSEA = 0.042, RMSEA 90 percent confidence interval = 0.041-0.044, PCLOSE = 1.00. All six proposed parameters from organizational resources to organizational engagement climate were significant. Four of the proposed parameters from organizational resources to job resources were significant, and organizational



Notes: PHR, perceived human resource practices; Org, organizational; Dev Opps, development opportunities; %, percent variance explained. All constructs are latent variables; items and errors not shown for ease of representation; no errors were correlated in the modeling.
*,**,***significant at 0.05, 0.01 and 0.001, respectively

Figure 2.
Re-specified model showing parameter estimates and variance explained

autonomy and strategic alignment had significant direct associations with engagement. The proposed parameters from organizational engagement climate to job resources, from organizational engagement climate to engagement, and from job resources to engagement were also significant.

A re-specified model, with the non-significant proposed parameters deleted, also yielded good fit: $\chi^2 = 4949.326$, df = 1291, $\chi^2/df = 3.834$, NFI = 0.938, TLI = 0.950, CFI = 0.953, SRMR = 0.051, RMSEA = 0.042, RMSEA 90 percent confidence interval = 0.041-0.044, PCLOSE = 1.00. All parameters in the re-specified model were significant (see Figure 2), and the non-significant χ^2 difference between the proposed and the re-specified model ($\chi^2_{diff} = 7.131$, $df_{diff} = 6$; $p < 0.01$) suggested the more parsimonious re-specified model as the preferred final model. Pairwise parameter comparisons identified that senior leadership had a stronger association with organizational engagement climate than the other five organizational resources (z ranging from −3.664 to −8.430). Pairwise parameter comparisons also confirmed that the parameter from higher order job resources to engagement was significantly stronger than the parameters from organizational engagement climate, strategic alignment, and organizational autonomy to engagement ($z = -8.825$, −8.900, −10.637, respectively).

As shown in Figure 2, the model explained a large proportion of the variance in organizational engagement climate (58 percent), job resources (72 percent), and engagement (58 percent). Additionally, bias corrected bootstrapping revealed a significant indirect relationship from organizational engagement climate, through job resources, to engagement ($\beta = 0.110$; 90 percent CI = 0.062-0.163, $p < 0.001$), and from all six organizational resources through engagement climate to job resources (ranging from $\beta = 0.012$ to 0.059), and to engagement (ranging from $\beta = 0.031$ to 0.368). More specifically, user-defined estimands (Gaskin, 2016) showed that each of the six organizational resources had significant indirect effects through organizational engagement climate on engagement.

Discussion

The research aimed to determine the extent to which a range of organizational context factors were associated with organizational engagement climate, employee perceptions of job-level resources, and employee engagement. In contrast to previous studies that have included only a relatively narrow range of organizational resources (e.g. Albrecht, 2012; Barrick *et al.*, 2015; Biggs *et al.*, 2014), six organizational resources were proposed to be directly and indirectly associated with engagement climate, job resources, and engagement. The six organizational resources included perceptions about HR practices (PHRP), senior leadership, clarity of organizational goals, organizational adaptivity, strategic alignment, and organizational autonomy.

Consistent with hypothesis one, all six organizational resources were shown to be directly associated with organizational engagement climate. As such, the results reinforce the importance of organizations ensuring that HR departments inform employees about business issues and performance, that employees experience a strong sense of how work activities align with strategic priorities, that the future direction of the organization is clearly communicated, that the organization encourages employees to participate in decision making, and that flexibility and change is welcomed and embraced. Importantly, the extent to which senior leaders are seen to strive to perform to the best of their ability and to be doing their best for the organization was most strongly associated with engagement climate compared to the five other organizational resources. This finding is consistent with previous research showing that senior leadership engagement accounts for sizable amounts of the variance in organizational engagement climate (Albrecht, 2014; Barrick *et al.*, 2015) and reinforces the important role that senior leadership plays in setting and embedding the climate in organizational contexts (Albrecht, 2014; Schneider *et al.*, 1995).

In partial support of *H2*, the results showed that four of the six organizational resources had a direct relationship with how employees perceive their job resources. Clarity of organizational goals, perceptions about HR practices, strategic alignment, and organizational autonomy were shown to be directly associated with employee perceptions of job-related resources such as supervisor support, career development opportunities, and job autonomy. Given the very large body of research that has established that job resources influence engagement (e.g. Christian *et al.*, 2011; Crawford *et al.*, 2010; Nahrgang *et al.*, 2011), the findings suggest important "upstream" (Dollard and Bakker, 2010) organizational factors that can potentially increase employee experiences of job resources, and therefore engagement.

In partial support of *H3*, strategic alignment and organizational autonomy were shown to have a direct association with engagement, even after also considering the influence of job resources and engagement climate. These findings therefore corroborate the importance that researchers and practitioners have placed on the need for organizations to clearly communicate how the day-to-day activities of employees align with organizational goals and priorities (Boswell *et al.*, 2006). The results also reinforce the need for organizations to encourage and support employee initiative and participation in decision-making. Although previous research has shown that constructs similar to organizational autonomy influence outcomes such as levels of job responsibility (e.g. Patterson *et al.*, 2005), no previous research has shown a link between organizational autonomy and engagement.

Consistent with *H8* and *H9*, the results identified that, beyond the direct associations, all six organizational resources had indirect relationships to job resources and engagement. As such, the association between organizational resources and employee engagement may, in part, be filtered through organizational engagement climate and job-level resources. The results therefore support the contention that a strategically connected system of organizational-level and job-level resources is important to the emergence and maintenance of employee engagement (Albrecht *et al.*, 2015). Overall, and as previously noted, the findings highlight the important need for organizations to develop capability for employee engagement at the organizational level through the provision of organizational resources.

Consistent with *H4*, *H5*, *H5*, and *H10*, the research corroborates previous preliminary research suggesting that organizational engagement climate is directly associated with how employees perceive their job resources and is both directly and indirectly associated with engagement (Albrecht, 2014). Organizational engagement climate therefore appears to be an important upstream source for the motivational process described by the JD-R. At a broader level, the research suggests that existing taxonomies of "climates for something" (e.g. Kuenzi and Schmink, 2008) that include climates for innovation, support, empowerment, safety, performance, service, and diversity can be extended to include organizational engagement climate (Albrecht, 2014).

Overall, the research makes a contribution to the employee engagement theory (Bakker and Demerouti, 2014) by supporting calls to elaborate the JD-R model to include organizational resources and organizational climate constructs (e.g. Albrecht, 2014; Albrecht *et al.*, 2015; Barrick *et al.*, 2015; Biggs *et al.*, 2014). As such, engagement researchers and practitioners might usefully focus beyond job level and individual influences on engagement and also consider more macro, organizational perspectives, or influences. Just as early formulations of the JD-R (Bakker and Demerouti, 2007, 208) were extended to include personal resources (e.g. Xanthopoulou *et al.*, 2007), current formulations could be extended to explicitly include organizational resources.

Practical implications

The research offers up potentially defensible measures of six organizational resources and a measure of organizational engagement climate that can be used in engagement surveys and research to complement and broaden the current focus on job-level diagnostics. Beyond

assessing the influence of job-level resources on engagement, baseline surveys can be administered to determine the extent to which employees perceive clarity of organizational goals, job alignment with strategy, HR support, senior leadership effectiveness, organizational autonomy, and organizational flexibility and openness to change. Survey feedback processes can then be used to identify improvement opportunities and build on strengths and to build sustainable organizational-level engagement capability. Additional intervention options might include coaching senior leaders on how to optimize engagement climate through positive emotional contagion (Byrne, 2015), on how to clarify and communicate organizational goals, and on modeling strong and enthusiastic leadership.

Limitations

While the present research has provided new insights into the relationships between organizational resources, organizational engagement climate, job resources, and engagement, some limitations need to be acknowledged. Although rigorous confirmatory and structural modeling techniques were used, the cross-sectional data do not enable the determination of causal relations. Longitudinal analyses, preferably drawn over three or more time periods, would enable much stronger claims to be made about causality and reciprocal influence among the variables. Additionally, given that the data were collected through self-report procedures, the usual caveats around CMV apply (Podsakoff *et al.*, 2003). However, given that the measurement model demonstrated acceptable fit to the data, given that the correlations between the measured constructs were moderate and varied quite considerably, given the very modest average reduction in the standardized loadings after a common methods factor was included, and given that all the factor loadings remained statistically significant after the common methods factor was modeled, the issue of CMV appears not to be overly problematic. Another important limitation centers on the generalizability of the findings. The participants in the present study were working in a range of different organizations. It would be useful in future studies to obtain data from particular organizations in different industry sectors to better assess the degree of shared perceptions of climate-related constructs, and to test the generalizability of the model across different organizational contexts.

Considerations for future research

As suggested above, future research could usefully look to further validate the expanded JD-R framework and to test the generalizability of the model. Future research could also be directed toward examining the separate and combined influence of additional organizational resources on engagement. For example, future research could examine the influence of organizational resources such as organizational culture, generalized organizational climate, knowledge management, and clarity of organizational values. Such research could most usefully be conducted using a JD-R model that not only accounts for organizational, job, and personal resources, but also accounts for organizational, job and personal demands and burnout. Additionally, as suggested by Albrecht *et al.* (2015) and Barrick *et al.* (2015), researchers could usefully test how organizational resources influence proposed "black box" psychological explanatory mechanisms such as psychological safety and meaningfulness.

The present research has offered up a range of measures that can potentially be of use to researchers and practitioners. However, there remain opportunities to further develop, refine, and cross-validate the measures. For example, additional attributes of the HR functioning might usefully be included in the measure of perceived HR practices. The items measuring strategic alignment (Biggs *et al.*, 2014) could be adapted to have the organization, rather than the individual, as the referent. The role of psychosocial safety climate (Dollard and Bakker, 2010) could be considered. Given the moderately strong correlations between the organizational resources, the viability of operationalizing organizational resources as a higher order construct could also usefully be tested.

Conclusion

Overall, a primary aim of the research was to establish if the JD-R framework could usefully be expanded to include organizationally focused constructs. While, job resources had the strongest positive association with engagement, the results clearly support the contention that the JD-R can be usefully extended to include organizational resources and organizational engagement climate.

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