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A multilevel examination of skills-oriented HRM and perceived skill utilization during recession: Implications for the wellbeing of all workers

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Belgin Okay-Somerville*

Adam Smith Business School,
University of Glasgow,
Gilbert Scott Building,
Glasgow, G12 8QQ,
Scotland, UK
Belgin.okay-somerville@glasgow.ac.uk

Dora Scholarios

Department of Work, Employment & Organisation
Strathclyde Business School
199 Cathedral Street
Glasgow G4 8QU,
Scotland, UK
d.scholarios@strath.ac.uk

*Corresponding author: Belgin Okay-Somerville, Adam Smith Business School, University of Glasgow, belgin.okay-somerville@glasgow.ac.uk

A multilevel examination of skills-oriented HRM and perceived skill utilization during recession: Implications for the wellbeing of all workers

Abstract

This article examines whether organizations can enhance employee wellbeing by adopting human resource management (HRM) practices strategically targeted to improve skill development and deployment in a recessionary context. Employee skill utilization is proposed as the mediating mechanism between HRM practice and wellbeing. The role of workplace skill composition is also examined as a boundary condition within which HRM differentially impacts employee outcomes. Using a nationally representative survey of UK workplaces (Workplace Employment Relations Survey 2011) and matched management and employee data, the analysis focused on organizations which had implemented some recessionary action following the 2008-09 global financial and economic crisis. The findings show that human capital enhancing HRM and enriched job design positively influenced both job satisfaction and work-related affective wellbeing through increased employee skill utilization. Organizations with predominantly high-skilled workforces were more likely to adopt these skills-oriented HRM practices. Nevertheless, the effects of HRM on employee outcomes via skill utilization applied across organizations, regardless of workforce skill composition. The findings demonstrate employee skill utilization as a driver of HRM outcomes and the sustainability of ‘best practice’ HRM arguments across all skill levels, even in the face of recession.

Keywords: Job design, Human capital, Quality of work life, Attitudes, Strategic HR, Satisfaction

Introduction

Policymakers have advocated for investment in workforce skills as a route to building resilience and aiding recovery following economic recession (e.g., OECD, 2012). Nonetheless, the most common employer responses following the 2008-09 global financial and economic crisis were to freeze wages and recruitment, reduce work hours, or restructure and downsize (Freyssinet, 2010; Kondilis et al., 2013). In this recessionary climate, it is not surprising that some workers were likely to experience skill underutilization (Sum, Khatiwada, & Palma, 2010). For instance, between 10 percent and one-third of employees were reported to be overskilled or overqualified in their jobs (Bell & Blanchflower, 2011; ILO, 2014).

This article aims to understand (i) the efficacy of skills-oriented human resource management (HRM) practices for improving employee skill utilization and wellbeing in recessionary climates; and (ii) whether the outcomes of such HRM investment are sustained across organizations with workforce skill differentiation. ‘Progressive’ HRM, whether in the form of High Performance Work Systems, High Involvement Management, or High Commitment Management, has been associated with improved human capital and employee skill utilization (Payne, 2013), notably through bundles of skill-enhancing HRM practices (Jiang, Lepak, Hu, & Baer, 2012). Further understanding of skills-related pathways in the ‘black box’ between HRM and employee outcomes is clearly important for organizational performance (Bryson, Forth, & Stokes, 2017). When organizations take recessionary action affecting their HR strategy, these pathways take on additional significance given the potential threats for the employment relationship and wellbeing (Guest, 2017).

Our second aim considers skills-oriented HRM alongside arguments for HR systems differentiation (Lepak & Snell, 2002; Lepak, Taylor, Tekleab, Marrone, & Cohen, 2007).

Resource-based theory holds that organizations will invest according to the value and uniqueness of their workers' knowledge, skills and abilities (Becker & Huselid, 2010) with differential HRM practices according to the strategic value of a worker's skills. Such differentiation is likely to become a more salient driver for employers during an economic crisis (Datta, Guthrie, Basuil, & Pandey, 2010); for example, investment in non-core staff may be a target of cost-cutting. In such conditions, questions arise about 'best practice' or universalistic notions of HRM (Pfeffer, 1994) which argue for consistent positive effects of HRM practice across organizational contexts.

Our approach integrates several strands of literature within HRM concerned with skill utilization – notably, strategic HRM concerns about the role of human capital, both individual and collective (Boon, Eckardt, Lepak, & Boselie, 2018) and interest in how to stimulate employer demand for skills; e.g., through work organization or upskilling (Ashton, Lloyd, & Warhurst, 2017). We chose skill utilization as the integrative concept through which to explore the effects of HRM practices on employee wellbeing during a recession as this is recognized as a dimension of intrinsic job quality, which increases with progressive approaches to HRM (Felstead, Gallie, Green, & Henseke, 2016).

By bridging strategic HRM, skill utilization and job quality literatures, the article makes several noteworthy contributions. We develop and test a multilevel model considering the impact of employer-side skills-oriented HRM interventions on individual-level reports of skill utilization and wellbeing. Such multilevel data that also controls for competing explanations of the efficacy of HRM on employee outcomes, such as the reverse causation hypothesis (Katou & Budhwar, 2010) and the conflicting outcomes argument (Wood, Van Veldhoven, Croon, & de Menezes, 2012), is rare in the skill utilization literature. Conceptually, in examining investment in skill utilization at workplace level, we inform debates about whether, during recession, organizations

can actively sustain policy visions of a ‘high skills, high wages’ economy, built on human capital perspectives to improving competitiveness (Hanushek, 2013). Our individual-level conceptualization of skill utilization also goes beyond the more commonly studied measure of perceived skills mismatch at work and has implications for managerial interventions. Furthermore, the study’s focus on employee wellbeing as an outcome in its own right, rather than as a vehicle for increasing organizational performance, responds to calls from HRM scholars for renewed focus on the quality of working lives (Grote & Guest, 2017).

We also inform debates concerning ‘best-practice’ versus context-specific perspectives of HRM adoption and its outcomes, while taking into account the effects of recession. The Great Recession has caused most employers to retreat from investment in HRM which develops or empowers their employees and to adopt more short-termist coping strategies to deal with economic and financial uncertainties (OECD, 2012). Empirical research shows the detrimental effects of such strategies on employee outcomes (Wood & Ogbonnaya, 2016). Our study provides evidence for the sustainability of ‘best practice’ skills-oriented HRM, its effects on employee wellbeing for different workforces, and its potential role in building resilient workforces within recessionary contexts.

The article begins by considering the contribution of HRM practices to skill utilization and introducing our conceptualization of employee perceived skill utilization as the explanatory focus for understanding the effects of HRM on wellbeing. The argument for skills-based contingencies is then introduced establishing a rationale for examining our model across different workforces in the context of recession. The study is based on a nationally representative survey of UK workplaces (Workplace Employment Relations Survey 2011) which provides matched management and employee data. We draw conclusions about the efficacy of skills-

oriented ‘best practice’ HRM in the face of recession, and its sustainability across varying organizational contexts of workforce skills.

HRM and skill utilization

‘Progressive’ HRM approaches are generally based on the principles that people perform well when they have the abilities to do the job; they are motivated to do so; and their work provides support and opportunities for performance (Appelbaum, Bailey, & Berg, 2000). Combinations of managerial and work practices, appropriately ‘bundled’ together, are thought to provide mutual gains for both employees (e.g., greater job satisfaction and organizational commitment) and employers (e.g., organizational performance). Overall, empirical evidence across diverse contexts shows a positive impact of progressive HRM on both employee and organizational outcomes (e.g., Fu et al., 2017; Katou, Budhwar, & Patel, 2014; Shen, Benson, & Huang, 2014). Although skill utilization is assumed to play a considerable role in the ‘black box’ of how HRM influences outcomes (Payne, 2013), this assumption is seldom explicitly tested (see Boxall, Hutchison, & Wassenaar, 2015 for an exception).

We focus on HRM practices which can be strategically targeted to improve skill development and deployment. Skill development focuses on skill formation and acquisition, while skill deployment is concerned with opportunities to fully utilize skills at work (James, Warhurst, Tholen, & Commander, 2013). At the organizational level, both strategies can be realized by investments in employee human capital and empowerment that enable agency for skill utilization. In fact, human capital and psychological empowerment are key mediators of the relationship between High Performance Work Systems and organizational performance (e.g.,

Liao, Toya, Lepak, & Hong, 2009; Takeuchi, Lepak, Wang, & Takeuchi, 2007). Grote and Guest's (2017) recent call to revive interest in quality of working life also identified the development of human capacities and proactivity through jobs which promote decision latitude as core to this movement.

Consistent with this vision, we examine two aspects of HRM which focus on skill development and deployment: human capital enhancing (HCE) HRM and enriched job design (EJD). First, HCE HRM (also referred to as skill-/knowledge-based HRM (Lepak & Snell, 2002)) is a distinctive approach to skill acquisition and development linked to employee motivation and organizational adaptability (Youndt, Snell, Dean, & Lepak, 1996). Organizations adopting a HCE HRM approach generally display a commitment to the internal development of staff; for example, they emphasize learning during developmental performance appraisals and invest heavily in training and development tailored to the needs of employees (Lepak & Snell, 2002). Such horizontal integration of skill-based investments has long been argued to play a strategic role in facilitating formation and development of an organization's core competencies (Lawler & Ledford, 1992) and therefore help gain competitive advantage. There are some notable contemporary efforts to demonstrate HCE HRM's multilevel effects (Boxall & Purcell, 2015), with implications for individual, team and organizational learning, innovation and knowledge acquisition (Hu, Wu, & Shi, 2016; Lin & Sanders, 2017; Lopez-Cabrales, Pérez-Luño, & Cabrera, 2009).

The second HRM approach with implications for skill utilization is enriched job design (EJD). Job design, generally, has been identified as crucial in shaping the skill requirements of jobs and developing skills (Lloyd & Payne, 2016) as well as its more widely known implications for employee attitudes, motivation and behavior (Oldham & Hackman, 2010; Yan, Peng, &

Francesco, 2011). A systematic review of 33 intervention studies involving job design also showed positive effects on a number of wellbeing outcomes when job design was implemented alongside complementary employment practices (e.g., worker training to utilize skills) (Daniels, Gedikli, Watson, Semkina, & Vaughn, 2017), suggesting that high quality job design is an integral component of an HRM system.

In this article, we follow Wood and colleagues' use of the term EJD (Wood & de Menezes, 2011; Wood & Ogbonnaya, 2016) to emphasise job role characteristics. Enriched job design refers "to an approach to the design of high-quality jobs that allows employees an element of discretion and flexibility over how they execute and manage their primary tasks" (Wood et al., 2012, p. 421). By this definition, EJD improves skill utilization by affording its recipients task variety, agency to control how and when they execute their tasks, and involvement in decision making relevant for their work. Such job control has been shown to be higher among workers who feel their skills match the demands of the jobs in comparison to those who perceive skills mismatches (Holmes & Mayhew, 2015). Job control is, therefore, a key concern for the experience of underemployment (Weststar, 2009) and argued to be important in the process of reversing skill underutilization (Boxall, 2014).

In summary, evidence suggests that HCE HRM and EJD impact skill development and deployment, respectively. Through HCE HRM, employees may be better matched in their work and receive training and development opportunities. EJD affords employees job control which facilitates agency to apply skills to tasks and for overcoming skill underutilization. We therefore expect both approaches to predict employee skill utilization.

Perceived skill utilization and employee wellbeing during recession

Our concern in this paper is to understand HRM's role in improving employee skill utilization, and, in turn, wellbeing in a recessionary climate. HRM's positive employee outcomes, such as job satisfaction and organizational commitment, have largely been explained from a social exchange perspective (Blau, 1964) based on the notion that employees reciprocate the positive treatment they receive from their organization (Takeuchi et al., 2007). There is no theoretical reason, however, to expect HRM targeting skills to result automatically in a more positive work environment for employees (Boxall, 2014). For instance, practices which encourage skill utilization may simultaneously lead to work intensification, role overload, or burnout as well as greater satisfaction (Ogbonnaya, Daniels, Connolly, & van Veldhoven, 2017; Ramsay, Scholarios, & Harley, 2000). Employees evaluate signals regarding employer intentions as either wellbeing-enhancing or performance-driven, and these attributions determine outcomes such as commitment and job strain, respectively (Van de Voorde & Beijer, 2015).

It is also likely that the impact of HRM is context-specific, with the needs and interests of employees important in determining employee outcomes (Colakoglu, Lepak, & Hong, 2006). In a recessionary context, we expect organizational investment in skill development and deployment to be particularly welcome by employees, assuming such investment is accompanied by regard for employee welfare. Organizations focused on building trust and maintaining morale during recessionary times have been shown to reap both wellbeing and performance-related benefits through progressive HRM (Holland, Cooper, & Sheehan, 2012; Iverson & Zatzick, 2011). For instance, practices that invoke high levels of trust, such as non-financial rewards and consultation, have been shown to improve organizational performance (Prouska, Psychogios, & Rexhepi, 2016) and buffer the effects of work intensification resulting from restructuring

(Harney, Fu, & Freeney, 2018). Pessimistic accounts of employer strategy post-recession, however, indicate such approaches may be the exception and that action aimed at cutting labor costs is associated with negative physical and mental health for ‘survivors’ (Kondilis et al., 2013).

Although less well studied, organizational investment in skill development and deployment may also improve wellbeing when workers are experiencing heightened job insecurity and work pressures (Chung & Van Oorschot, 2011; Prouska & Psychogios, 2016). Loss of identity-relevant resources, such as control or need satisfaction (e.g., autonomy and belongingness), is often anticipated by those experiencing job insecurity, and will therefore heighten its negative impact on wellbeing (Schaufeli, 2016). Skill utilization is central to the enhancement of work-related self-esteem, self-realization, fulfilment, identity-making at work and work engagement (Felstead et al., 2016; Oldham & Hackman, 2010) and is identified as a precursor of work-related wellbeing (Boxall et al., 2015; Cullinane, Bosak, Flood, & Demerouti, 2014; Fujishiro & Heaney, 2017). Thus, investing in employee skills in a recessionary climate helps fulfil needs for autonomy, support and self-efficacy and maintain employee trust.

Taking into account the need to understand employee perceptions of skill utilization in context, our analysis focuses on both the organizational level, examining HRM practices relevant for skills development and deployment (i.e., HCE HRM and EJD, respectively), and individual level. We propose employees' perceived skill utilization as the explanatory vehicle through which skills-oriented HRM leads to positive employee outcomes, as follows:

Hypothesis 1: For organizations undertaking recessionary action, progressive HRM approaches to (a) skill development (HCE HRM) and (b) skill deployment (EJD) will

indirectly influence **employee job satisfaction** through their effect on employee skill utilization at work.

Hypothesis 2: For organizations undertaking recessionary action, progressive HRM approaches to (a) skill development (HCE HRM) and (b) skill deployment (EJD) will indirectly influence **employee work-related affective wellbeing** through their effect on employee skill utilization at work.

Workforce skill differentiation, HRM and wellbeing

Although there is considerable evidence that progressive HRM improves employee and organizational outcomes, the question of whether these effects are sustained across work settings remains unanswered. Set against the best-practice versus best-fit debates distinguishing, respectively, universal effects from contingency-based views of the appropriate form of HRM adoption (Schuler & Jackson, 1995), there is an increasingly more vocal call for understanding the boundary conditions of HRM's efficacy (e.g., Hong, Jiang, Liao, & Sturman, 2017; Snape & Redman, 2010). Evidence shows that HRM adoption does indeed differ by contingencies; e.g., product/service segment (Batt, 2000) or sector (Pina & Tether, 2016). Others, however, question skill utilization and employee outcomes even at higher ends of markets where adoption of progressive HRM is more likely (Ashton et al., 2017).

Relevant for our discussion of skill in a recessionary climate is the argument that investment in employee capabilities will vary for different types of human capital (based on value and uniqueness) in the organization (Lepak & Snell, 2002). Employers will disproportionately invest more in HRM practices directed at strategic/core groups of workers (De

Vos & Dries, 2013). In fact, such findings may explain employer reluctance to invest in progressive HRM practices in the UK where the problem of skill underutilization has been attributed to short-termist models of competitive advantage relying on low-skilled workers (Keep, 2016). Organizations that rely heavily on high-skilled workers may be more motivated to adopt skills-oriented HRM. We examine this possibility through the following hypothesis:

Hypothesis 3: Organizations with high-skilled workforce composition will be more likely to adopt progressive HRM approaches to (a) skill development (HCE HRM) and (b) skill deployment (EJD) in comparison to those with intermediate-, low- and elementary-skilled workforces.

For understanding the impact of HRM on employee skill utilization and thereby wellbeing, a workforce differentiation argument would suggest that adoption of skills-oriented HRM for non-core employees is inappropriate as they will not reap the benefits of such investment. Contrary to this, there are a number of studies in lower-skilled job contexts indicating that progressive HRM and effective skill utilization are related to employee outcomes (e.g., Guthrie, 2001; Teo, Le Clerc, & Galang, 2011). Hence, evidence that HRM investments in lower-skilled contexts is futile is, at best, mixed. As we have argued above, maintaining employee trust and morale is critical for effective HRM implementation in recessionary contexts. As such, these latter studies raise the possibility that employees in lower-skilled occupations may benefit just as much from HRM investments as those in higher-skilled occupations.

Our final hypotheses are framed as a test of the workforce differentiation argument. This proposes that there will be a moderating effect of workforce skill composition on the relationship between organizations' HRM practice and perceived skill utilization, such that the relationship will be stronger for high-skilled workforces (Figure 1). Overall, we test the moderated mediation

effect of HRM on employee job satisfaction and work-related affective wellbeing through perceived skill utilization as conditional on workforce skill composition, favoring high-skilled workers. These hypotheses are stated as follows.

Hypothesis 4: The indirect effect of progressive HRM approaches to (a) skill development (HCE HRM) and (b) skill deployment (EJD) on **employee job satisfaction** through employee skill utilization will be stronger in organizations with high-skilled, in comparison to intermediate-, low- or elementary-skilled, workforce composition.

Hypothesis 5: The indirect effect of progressive HRM approaches to (a) skill development (HCE HRM) and (b) skill deployment (EJD) on **employee work-related affective wellbeing** through employee skill utilization will be stronger in organizations with high-skilled, in comparison to intermediate-, low- or elementary-skilled, workforce composition.

INSERT FIGURE 1 ABOUT HERE

Method

Data and Sample

Data were drawn from the 2011 Workplace Employment Relations Survey (WERS6). This was the sixth in a series of national surveys on employment relations in the UK. WERS6 consists of multilevel data from 2680 managers responsible for employment relations (organizational-level data, 46 percent response rate) and 21,981 employees in these organizations (employee-level data; 54 percent response rate) (see Department for Business Innovation and Skills (2013) for instrument design and sampling). Due to the timing of data collection (2011), WERS6 provides an invaluable resource for researchers focusing on the effects of and recovery from the 2008-09

recession (e.g., Bryson & White, 2018). It is therefore suitable for examining the efficacy of HRM on employee outcomes in recessionary climates. For organizations operating in the current (non-recessionary) environment, our analysis is expected to have implications for building resilience towards further financial and economic shocks.

We applied a number of restrictions to the sample in order to increase the validity of conclusions. First, as explained in detail below, the majority of management questionnaire items relevant for this analysis enquire about HRM practices as they are applied to the largest occupational group (LOG) within an organization. In order to more accurately test the relationship between HRM and employee outcomes, we restricted the sample so that only employees who were employed in the LOG were included. In other words, employee occupational group was matched onto the LOG in an organization (both based on standard occupational classification (SOC2010; ONS, 2010)). Second, we selected employees with more than five years organizational tenure. This was to ensure that the employees were employed in the organization at the time of the 2008-09 economic recession and to eliminate possible employee biases in reporting of skill utilization and outcomes due to socialization effects (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007). Third, we restricted the sample to those organizations that adopted at least one recessionary action (70 percent of organizations in the overall sample). Finally, from the remaining sample, only organizations with more than five employee responses were included in further analyses.

The final sample consisted of 2735 employees across 333 organizations. Employee responses from each organization ranged between six and 18 (mean=8, SD=2.38; mode=6). The majority of organizations was small (less than 50 employees, 20 percent) and medium-size enterprises (between 50 and 249 employees, 42 percent). Seventy-six percent were in the public

sector. Fifty-five percent of organizations were operating in community services (e.g., education and health), followed by interactive (33 percent) and knowledge-intensive (22 percent) services. The mean number of recessionary actions was 4.05 (SD=2.15). Across all organizations, the proportion of (i) part-time workers was 26 percent; (ii) employees on temporary contracts was six percent; and (iii) employees on low pay (less than £7.50/hour) was 13 percent.

The employee sample was 50.2 percent female; 90 percent were aged 30-64; 27 percent were university graduates; 30 percent had supervisory responsibility; 98 percent were on a permanent contract; and 61 percent had more than 10 years organizational tenure. Over 50 percent were working in low- skilled occupations (46.1 percent in SOC Level 2 and 13.3 percent in SOC Level 1). (See also Table 1 for descriptive statistics.)

WERS6 uses a multi-stage sampling strategy where employees in smaller organizations are oversampled. Moreover, lower response rates were recorded from smaller organizations. To account for such known sampling-related biases in the employee survey, weights equal to $1/(\text{probability of selection and response})$ were applied (see Department for Business Innovation and Skills (2013) for more information on weights).

INSERT TABLE 1 ABOUT HERE

Measures

Organization-level variables (i.e., HCE HRM, EJD and largest occupational group (LOG)) were drawn from interviews with the most senior manager in the workplace responsible for employment relations. Employee-level variables (i.e., perceived skill utilization and wellbeing) were drawn from self-completed employee surveys distributed in the organization where a manager was interviewed.

Human capital enhancing HRM Following previous work on HRM systems (Combs, Liu, Hall, & Ketchen, 2006) and HCE HRM (Youndt et al., 1996) we measured HCE HRM by an additive index. The index was composed of three main HCE items: selective staffing, comprehensive training and developmental performance appraisal. *Selective staffing* was reflected in whether (i) skills are important in recruiting new employees (ii) use of personality/attitude tests and (iii) performance/competency tests in selection of non-managerial employees; and (iv) availability of induction programs for the largest occupational group (e.g., Stirpe & Zarraga-Oberty, 2017; all binary, 1=yes, 0=no). An overall sum of selective staffing was calculated. *Comprehensive training* reflected the extent to which the LOG received ‘employability skills’ training over the past 12 months. These skills included: computing, teamworking, communication, leadership, and problem solving (e.g., Forth & Millward, 2004; each binary, 1=yes, 0=no). *Developmental performance appraisal* was measured as the sum of the existence of formal performance appraisals for non-managerial employees and the outcomes of the performance appraisal being used for identification of training needs and pay increases (e.g., Addison & Belfield, 2008; each binary, 1=yes, 0=no).

Enriched job design was measured as the average of four items that ask respondents to rate the extent to which the employees in the largest occupational group have: (1) variety in their work; (2) discretion over how they do their work; (3) control over the pace at which they do their work; and (4) involvement in decision-making concerning their work organization (Wood et al, 2012; 4-point scale, 1=none, 4=a lot, $\alpha=.76$).

Largest occupational group was recorded by SOC2010 (ONS, 2010) major occupational categories (ranging from 1=Managers, Directors and Senior Officials to 9=Elementary Occupations). In differentiating between high-, intermediate-, low- and elementary-skilled

occupations, we relied on SOC2010 skill level prescriptions. According to this, major occupation categories 1 (Managers, Directors and Senior Officials) and 2 (Professional Occupations) constitute high-skilled work (“Occupations at this level normally require a degree or equivalent period of relevant work experience” (ONS, 2010, p., 2); categories 3 (Associate Professional and Technical Occupations) and 5 (Skilled Trades) constitute intermediate-skilled work (“normally require a body of knowledge associated with a period of post-compulsory education but not normally to degree level”) and the remaining categories constitute low- (categories 4, 6, 7 and 8) and elementary-skilled (category 9) work. Dummy variables were created to reflect high-, intermediate-, low- and elementary-skilled work. High-skilled occupation was used as the comparison category in all analyses. Considering rapid technological/economic change, SOC2010 may not necessarily be up-to-date for reflecting the skill requirements of jobs; however, it enables replicability and as it is based on the International Standard Classification of Occupations (ISCO-88: ILO, 1990) is comparable to other occupational classifications in Europe (e.g., PCS in France, KldB 75 in Germany, CNO-94 in Spain) and in the US (2010 SOC). It is therefore a relatively valid measure of objective skill requirements of jobs.

Perceived skill utilization was measured as an additive index, composed of intrinsic aspects of work relevant for skill utilization: perceived skill match with the job requirements (e.g., Sutherland, 2009; 1=*employee skills are higher/much higher than the skills needed in present job*, 0=*employee skills are about the same, lower, or much lower than the skills needed in present job*); training (e.g., Jones, Jones, Latreille, & Sloane, 2009; number of training days in the last 12 months apart from health and safety training), task discretion (adapted from Jackson, Wall, Martin, and Davids (1993); five items, e.g., ‘in general how much influence do you have over the tasks you do?’; four-point scale, 1= *none*, 4=*a lot*) and managerial support for skill

development (single item, ‘managers here encourage people to develop their skills’, five-point scale, 1=*strongly disagree*, 5=*strongly agree*). The median cut-off point was used to dichotomize training, task discretion and managerial support for skill development. An overall skill use index (ranging between 0 and 4) was computed. Our index improves on single-item measures (e.g., Fujishiro & Heaney, 2017) and is consistent with other studies focused on intrinsic job quality or job design (e.g., Boxall et al., 2015; Felstead et al., 2016). In addition, it approximates how employees perceive key workplace elements of HCE HRM and EJD to be implemented at the organizational level, and so captures the concept of visibility of practices within an HRM system (Nishii & Wright, 2007). It is, therefore, well suited to our matched multilevel data.

Employee wellbeing: Job satisfaction was measured as the mean of eight items representing different job facets (Rose, 2007; five-point scale, 1=*very dissatisfied*, 5=*very satisfied*; e.g., ‘How satisfied are you with the scope for using your own initiative’; $\alpha=.86$). *Work-related affective wellbeing* was measured as the mean of six items responding to the statement: ‘How much of the time your job has made you feel ... tense, depressed, worried, gloomy, uneasy and miserable?’; five-point scale, 1= *all the time*, 5 = *never*; $\alpha=.92$). These items were a subset of Warr’s (1990) anxiety-contentment scale (three items) and depression-enthusiasm scale (three items), respectively. Based on the circumplex model of affect (Russell, 1980), these scales were designed to position job-related core affect along two orthogonal dimensions of pleasure and arousal; for example, high anxiety represents unpleasant high arousal and high contentment represents pleasant low arousal. Thus, a high score in this study represents the relative absence of anxiety or depression (i.e., higher contentment or enthusiasm).

We ran confirmatory factor analyses with the three employee-level variables (i.e., perceived skill utilization, job satisfaction and work-related affective wellbeing) to test for the

discriminant validity of the scales and potential common method bias. Compared to a single-factor model, the three-factor model fit the data better ($\Delta\chi^2(3, N=2735)=1005.19, p<.001$, GFI=.97, CFI=.98, RMSEA=.05, Pclose=.30). This indicated that common method bias was not a significant concern in the study.

Organizational-level control variables included recessionary action and organizational performance. The severity of recessionary action was controlled in the analysis as this may impact investment in HRM as well as employee outcomes (Wood & Ogbonnaya, 2016).

Recessionary action was measured as the sum of the number of actions taken by the organization in response to the 2008-09 recession. A reverse-causation explanation of the effect of HRM, that high performing organizations may be more willing/able to invest in progressive HRM (Katou & Budhwar, 2010), was accounted for by taking management perception of organizational performance into account in the analysis. *Organizational performance* was measured as a composite of management perception of labor productivity, financial performance and product/service quality (five-point scale, 1=*a lot below average*, 5=*a lot better than average*; $\alpha=.70$). Such subjective performance measures have been shown to have equivalence with objective measures of organizational performance both generally (Wall et al., 2004) and using the WERS dataset (Forth & McNabb, 2008).

Additional organizational control variables were included in tests of Hypothesis 3, which relies only on organizational data. These were: proportion of *part-time workers*, *temporary contracts*, *employees on low-pay* (<£7.50/hour), *unionized employees*; *sector* (1=private, 0=public/non-profit); *organizational ownership* (1=fully/predominantly UK-owned); *organizational size* (dummy variables for small, medium and large organizations; comparison category: small organizations); *industry* (dummy variables for interactive, community and

knowledge-based service sector and manufacturing; comparison category: manufacturing); *high quality strategy* (single item; ‘To what extent would you say that the demand for your [main] product or service depends upon you offering better quality than your competitors?’; five-point scale, 1=*demand does not depend on quality*, 5=*demand depends heavily on superior quality*); and *high innovation strategy* (single item ‘to what extent would you say this workplace leads the way in terms of developing new products, services or techniques?’; five-point scale, 1=*very rarely leads the way*, 5=*often leads the way*). These measures aim to control for some of the known correlates of HRM adoption, in order to strengthen the validity of prediction based on workplace skill differentiation.

Employee-level control variables included perceived job security, work intensity and supervisory responsibility. The first two of these variables account for the major effects of recessionary action on employee wellbeing (De Witte, Pienaar, & De Cuyper, 2016) and a conflicting outcomes perspective of HRM’s impact on employee outcomes (e.g., Wood et al., 2012). *Job security* was measured with a single item (‘I feel my job in this workplace is secure’; five-point scale, 1=*strongly disagree*, 5=*strongly agree*). *Work intensity*, following Felstead and Green (2017), was measured with three items (e.g., ‘My job requires that I work very hard’; five-point scale, 1=*strongly disagree*, 5=*strongly agree*; $\alpha=.72$). Supervisory responsibility, which may shield employees from the negative effects of recession (Greenglass, Marjanovic, & Fiksenbaum, 2013), was a binary measure (0=*no*, 1=*yes*).

Analytical strategy

Analysis of variance components showed that organization-level influences accounted for substantial variance in perceived skill utilization (ICC1=.19), job satisfaction (ICC1=.18) and work-related affective wellbeing (ICC1=.08). Based on this evidence and the matched multilevel

nature of our data, we ran multilevel analyses for testing Hypotheses 1, 2, 4 and 5. Hypothesis 3 was tested using hierarchical regression analyses using organization-level data.

Prior to hypothesis testing, tests of direct effects of skills-oriented HRM on skill utilization (path a (from the independent variable to mediator) of the indirect model (Hayes, 2012)) and of skill utilization (controlling for skills-oriented HRM) on job satisfaction and work-related affective wellbeing (path b (from the mediator to the dependent variable) of the indirect model (Hayes, 2012)) were conducted. Hypotheses 1, 2, 4 and 5 were tested using Rockwood's (2017) Multilevel Mediation (MLMed) macro in SPSS. Compared to other available software alternatives (e.g., MPlus and R) MLMed has been shown to obtain comparable results yet with greater parsimony in estimation of all parameters of the model, especially for models involving Level 2 moderators (i.e., largest occupational group in our study) (Rockwood, 2017). MLMed can accommodate up to three level 1 (employee level) and three level 2 (workplace level) covariates. This limits our ability to control for explanations based on other organizational (e.g., industry) and employee characteristics (e.g., gender). However, a review of these commonly used control variables in HRM/organizational behavior research that were omitted in this study recommends inclusion of control variables that are integral to the model tested (Bernierth & Aguinis, 2016). We therefore limited the covariates used in this analysis to those that theoretically impact (e.g., the 'reverse causation' hypothesis as reflected in organizational performance), and are impacted by, progressive HRM (e.g., a labor process perspective of HRM's effects as reflected in employee work intensity). This helps provide a parsimonious model which accounts for competing theoretical perspectives in its prediction. MLMed allows one level 2 moderator between the predictor and the mediator, and between the mediator and the dependent variable. MLMed is therefore a suitable macro to test our 2-1-1 (workplace-level

predictor – employee-level mediator – employee-level outcome) multilevel model. Hypothesis 3 concerning adoption of HRM based on occupational categories is tested using hierarchical regression analyses, using only the sample of organizations. Free from the constraints of MLMed, this analysis included a wider range of control variables that literature has shown to account for adoption of HRM, e.g., proportion of employees on low-pay, organizational size.

Following Snijder and Bosker's (1999) recommendations for multilevel models, model fit to data was determined by observing the reduction in model deviance from data (-2LL) at each step and by examining *Pseudo-R*² at employee and workplace levels, as reflected in the proportional reduction of error in prediction, in comparison to a previous model. For hierarchical regression analyses, changes to adjusted *R*² were observed in determining effect size. Significant relationships between predictor and outcome variables were then examined.

Findings

Tables 2-4 present analyses testing the direct and indirect effects of HCE HRM and EJD on job satisfaction (Hypothesis 1) and affective wellbeing (Hypothesis 2). EJD ($B=.07$, $SE=.03$, $p<.05$) and skill utilization ($B=.32$, $SE=.01$, $p<.001$) were positively associated with job satisfaction, and HCE HRM ($B=-.03$, $SE=.01$, $p<.05$) was negatively associated with job satisfaction (Table 2). Similarly, EJD ($B=.10$, $SE=.04$, $p<.05$) and skill utilization ($B=.20$, $SE=.02$, $p<.001$) were positively associated with affective wellbeing, and HCE HRM ($B=-.03$, $SE=.01$, $p<.05$) was negatively associated with affective wellbeing. Skill utilization accounted for 23 and five per cent reduction in the prediction error (*Pseudo-R*²) for the dependent variables job satisfaction and work-related affective wellbeing, respectively.

Both HCE HRM and EJD were positively associated with skill utilization ($B=.05$, $SE=.01$ and $B=.11$, $SE=.05$, respectively, $p<.05$) (Table 3, Model 2), although incremental *Pseudo-R*² was not different from Model 1 (control variables). The top half of Table 4, in turn, shows that HCE HRM indirectly impacts job satisfaction ($B=.02$, $SE=.01$, 95% $CI= [.01-.03]$) and affective wellbeing ($B=.01$, $SE=.01$, 95% $CI= [.01-.02]$) due to its positive effect on skill utilization. Similarly, EJD had a positive indirect effect on job satisfaction ($B=.05$, $SE=.02$, 95% $CI= [.01-.09]$) and affective wellbeing ($B=.03$, $SE=.01$, 95% $CI= [.01-.06]$) through skill utilization. Thus, both Hypotheses 1 and 2 are supported.

INSERT TABLE 2 ABOUT HERE

INSERT TABLE 3 ABOUT HERE

INSERT TABLE 4 ABOUT HERE

In hierarchical regression using only organization data (Table 5), organizations where the largest occupational group (LOG) was high-skilled were more likely to adopt HCE HRM and EJD in comparison to those where the LOG was intermediate-, low- and elementary-skilled. This supported Hypothesis 3. Addition of LOG into the equations estimating adoption of HCE HRM and EJD accounted for an additional four and seven percent, respectively, of total explained variance.

INSERT TABLE 5 ABOUT HERE

In the equations estimating skill utilization (Table 3), the direct effects of interaction terms between either HCE HRM or EJD and workforce skill composition were not significant (Models 3 and 4, respectively). Analyses of indirect effects of HCE HRM or EJD on job satisfaction and affective wellbeing through skill utilization, and conditional on workforce skill

composition, also were not significant (Table 4, bottom half). Thus, Hypotheses 4 and 5 were not supported.

Discussion

The study considered employee skill utilization as the driver of HRM's effects on wellbeing in a recessionary climate and the sustainability of such effects across workforce skill levels. Practices associated with skill development (HCE HRM) and deployment (EJD) were indirectly associated with positive wellbeing (job satisfaction and work-related affective wellbeing) via perceived skill utilization (Hypothesis 1 and 2). Organizations that primarily relied on high-skilled workforces were more likely to adopt these skills-oriented HRM practices (Hypothesis 3). Nevertheless, our expectation that the effects of HRM on wellbeing attributable to skill utilization would be strongest in high-skilled workforces (Hypotheses 4 and 5) was not supported. The effect applied across organizations regardless of workforce skill level and controlling for the degree of recessionary effect in these organizations. While the 2008-09 recession impacted employers' workforce strategies and HR investments, with inevitable consequences for job quality and employee wellbeing (Datta et al., 2010; Gallie, 2013), our findings suggest there are reasons to be positive about skills-oriented HRM even in recessionary climates and its potential effects for all levels of employee skill. Three original contributions relevant to understanding the efficacy and sustainability of HRM through attention to employee skills, and its importance for wellbeing, can be identified.

First, the findings build on the relatively small number of HRM studies linking skill utilization and wellbeing. Consistent with Boxall et al.'s (2015) evidence that skill utilization acts as a mediating pathway between high involvement practices and job satisfaction, and earlier studies linking job control, skill utilization and satisfaction (Morrison et al., 2005), we confirmed

the separate positive effects of both HCE HRM and EJD on skill utilization, and, in turn, the beneficial effects for multiple measures of wellbeing, namely, job satisfaction and work-related affective wellbeing.

The focus on employee wellbeing as an outcome is significant. Positive attitudes and employee welfare generally are treated as means to an end in HRM research (i.e., for improving performance or gaining competitive advantage) rather than worthwhile outcomes in themselves (Jiang et al., 2012). However, there has been renewed scholarly attention on the impact of HRM on employee wellbeing (Guest, 2017), especially given the intensified working environments brought on by recession. Growing evidence of HRM's potentially conflicting outcomes, for example, higher job satisfaction alongside poorer affective wellbeing (Boxall et al., 2015; Wood et al., 2012), suggests we cannot assume all HRM practices are perceived positively by employees (Schmidt, Pohler, & Willness, 2018).

The present study responds to these points by examining the organization- and employee-level antecedents of wellbeing, while controlling for organizational performance. Our data echoes concerns regarding the conflicting effects of HRM. HCE HRM showed negative direct effects on job satisfaction and affective wellbeing, suggesting that organizations' investment in human capital may have been concerned with improving performance rather than enhancing employee skills or wellbeing. Moreover, both measures of HRM used in this study were positively associated with work intensity as reported by the employee (Table 1). This is in line with research showing that skill-enhancing HRM (selective hiring and training) is associated with increased job demands and stress (Ogbonnaya & Messersmith, 2018), a situation which is likely to be heightened as a result of cost cutting. In the face of public sector austerity, for instance, Jewson, Felstead, and Green (2014)'s employer interviews described their approach as

‘training smarter’, e.g., prioritizing courses likely to have most impact, restricting eligibility. In our own data, such an employer strategy may be reflected by the more frequent adoption of HCE HRM in workplaces which had taken recessionary action (Table 5).

The findings related to conflicting outcomes confirm that HRM implementation is complex and may send ‘contradictory’ messages to employees (Boxall, Ang, & Bartram, 2011; Boxall et al., 2015; Ramsay et al., 2000). A positive implication of our findings is that HRM which clearly promotes employee skill use promotes wellbeing despite the existence of negative perceptions of performance-driven practices. Further research is necessary to understand the potential synergistic effects of different practices (Banks & Kepes, 2015).

A second study contribution is to provide empirical evidence that workplace action, through HRM, may address skill utilization. Empirically, we add to the skill utilization literature by presenting a rigorous multilevel study linking managers’ reports of relevant workplace HRM practices with employee perceptions of their skills use within these workplaces. The study also conceptually integrates two often non-communicating strands of research on strategic HRM and skill utilization each with distinct concerns about employee wellbeing.

A key aspect of our contribution is the conceptualization of skill utilization at the employee level in broad terms to reflect perceived skills match, training received, task discretion and perception of managerial support for skill development. This helps extend understanding of skill utilization beyond perceived skills mismatch with job requirements. Individual judgment of perceived skills match is related to a range of factors, including social comparison (e.g., Alfes, Shantz, & Baalen, 2016) and dispositional traits, such as narcissism (Maynard, Brondolo, Connelly & Sauer, 2015) and boredom proneness (Watt & Hargis, 2010). Not surprisingly, therefore, perceived overskilling/overqualification is rather common. For instance, although on

average up to a third of employees have been reported to be objectively overqualified/overskilled (ILO, 2014), larger percentages perceive themselves as overqualified (e.g., see Mavromaras, McGuinness, & Fok, 2009). Our more comprehensive approach to measuring perceived skill utilization enables us to narrow the focus of employee perceptions to work-related dimensions relevant for improving quality of working lives, such as task discretion (reflecting the opportunity to make use of skills) and to better understand how organizations could intervene through managerial approaches. Additionally, by aligning our measure of perceived skill utilization with specific workplace elements, and by narrowing the sample to employees likely to experience such workplaces, we better approximated an HRM systems approach (Nishii & Wright, 2007) linking intended HRM as reported by management with employees' perceptions of implementation.

Our third contribution emerges from the finding that the efficacy of skills-oriented HRM was sustained across workforces with different skill composition. The relationship between HRM, skill utilization and wellbeing was visible across organizations, even those reliant on elementary-skilled workers and despite a recessionary organizational climate. This was counter to our hypothesis based on resource-based HR investment strategies. Arguments for workplace differentiation (Becker & Huselid, 2010) recommend that human capital advantage requires HRM systems to be tailored for different employee groups. Investment in skill development or costly job redesign, for example, would be reserved for core or high value employees (Schmidt et al., 2018). Confirming human capital assumptions based on HRM's competitive advantage, the adoption of skills-oriented HRM was more prevalent among organizations relying on high-skilled workforces. However, we observed a sustained effect of HRM on wellbeing across skill levels, while controlling for the severity of organizations' recessionary action, levels of

organizational performance, and employees' perceived job security and work intensity. These controls allowed for contextual differentiation.

'Best-fit' perspectives suggest that HRM needs to be context-specific to have beneficial effects. There is evidence for different levels of adoption by workforce skill composition. In fact, our workplace data suggested various boundary conditions for adoption of skills-oriented HRM (e.g., based on organizational performance, proportion of low-paid employees in the organization, sector, industry, organizational size) (Table 5). Our results extend these findings from the surface (contextual) layer of HRM and question the validity of the rationale behind differences in adoption of HRM as it applies to employee outcomes. More specifically, the evidence favors a universalistic perspective (Huselid, 1995), where effective skill development and deployment are argued to be fundamental for enhancing intrinsic job quality, employee experience of work and wellbeing at all skill levels (Felstead et al., 2016; Grote & Guest, 2017).

It could be argued that although unique contexts may require customized HRM, for example, in order to motivate different groups of workers (Cogin & Williamson, 2014), the underlying principles of people management stay universal (Boxall & Purcell, 2015). Numerous theories of organizational behavior advocate skill utilization and thereby growth through work as one of the fundamental needs and interests of individuals at work; consider, for example, self-determination theory (Fujishiro & Heaney, 2017) and the job characteristics model (Oldham & Hackman, 2010). Within a recessionary context and a crucial boundary condition relevant for adoption of progressive HRM (workforce skill differentiation), our findings show universal impact of investment in skill development and deployment on employee wellbeing and the value of stimulating investment in skills for all workers.

Strengths, limitations and future research

The study has several strengths which provide theoretical and operational rigor. The possibility of reverse-causation, with high performing firms being more willing and able to invest in progressive HRM systems (Katou & Budhwar, 2010), was acknowledged by controlling for management reports of operational and financial performance at the time of data collection. In addition, the matched management–employee dataset and restrictions on the sample (e.g., including only employees belonging to the largest occupational group) increased the probability that the employees in our sample were in fact the intended recipients of the HRM practices as indicated by management reports. A limitation of much HRM systems research is that reported presence of practices does not mean that they are in fact used, nor that they are consistent with employees’ perceptions. Our multilevel design (matching managers and employees according to occupational group and workplace) along with our expanded index of employee perceived skill utilization enhances the alignment between measures at organization- and employee-level.

Despite these strengths, the study does have some shortcomings. The desire to match employee with management reports of skills-oriented HRM meant that we could not utilize the panel data offered by WERS which would have allowed longitudinal tracking of changes to organizational practices and outcomes. This is because different employees responded to different WERS time periods. As a result, analysis was confined to a cross-sectional design relying on cause (HRM practice) and effect (employee skill utilization and wellbeing) data collected concurrently, thus limiting the validity of cause-effect conclusions. A second associated shortcoming is the likelihood of common method bias associated with the employee-level variables. The results of the confirmatory factor analyses reassure us to some extent that findings are unlikely to be biased in this way.

A third shortcoming is concerned with our lack of control over how study variables are measured, as WERS was not originally designed for the purposes of our study. This is most clearly visible in our indexing of two key variables - HCE HRM and skill utilization. Nationally representative datasets allow access to a sample that is otherwise rather difficult to achieve. A trade-off, however, is the lack of control over measurement of constructs. Using proxy measures, such as indexes, as we did for HCE HRM and skill utilization, may limit our confidence in construct validity and therefore in observed statistical relationships between constructs. For instance, dichotomizing perceived skills match or task discretion variables to create a skill utilization index may allow a broader conception of the construct than solely focusing on perceived skills match but binary indicator variables also mean losing some of the meaningful variance in these original measures.

A final shortcoming concerns the relatively small effect sizes, especially those for HRM's effect on skill utilization. Such small effect sizes are common in studies using the WERS dataset (e.g., Ogonnaya et al., 2017; Wood et al., 2012) and may reflect absence of key predictors for the outcomes of interest. Our analyses was designed to capture alternative theoretical perspectives to HRM's influence on skill utilization; namely, the reverse causation hypothesis and workforce skill differentiation arguments, as well as strategically-targeted skills-oriented HRM. Future research may consider even broader perspectives in order to achieve better prediction models linking HRM and employee response; for example, Boxall and Purcell's (2015) expanded model of the black-box of HRM, which suggests a key role for management intentions (e.g., articulated vs espoused values, and strategic goals and investments), as well as management actions (e.g., budget allocation and line manager implementation of HRM).

Practical implications

Our findings show skill utilization to be a broader concept than skills mismatches and to be closely related to the adoption of progressive HRM practice within organizations and workplaces. There has been relatively little focus on the practices required to develop skills at the workplace level, particularly in more deregulated economies such as the UK and the US (Brinkley & Crowley, 2017; Cappelli, 2015). At policy level, interest has tended to focus on enhancing skill supply (e.g., from education) (Keep, 2016), but this risks exacerbating the current problem of overqualification, particularly at a time of talent surplus following a recession (McDonnell, 2011). It also fails to address practitioner reports that skills mismatches with job requirements are most often attributable to failures of internal management, such as a misalignment of workforce skills with strategy or a lack of commitment to training and development (ASTD, 2012). As such, our study reinforces the need for demand-side interventions in skills policy and practice. The findings, thus, have practical significance for managing human resources at both organizational and policy levels in uncertain economic climates.

At the organizational level, the findings show employers the benefits of investing in human capital during an economic downturn and for building resilience against future uncertainty. Similar arguments have linked such investment to firm productivity, innovation capacity and post-recession competitiveness (Keep, 2016). For example, Kim and Ployhart (2014) demonstrated that selective staffing allowed firms to generate ‘slack resources’ which enabled them to recover quickly from recession. Shin and Konrad (2017) also argued that reductions in HRM investment during a recession may lead to a downward spiral of decreasing performance and further decreasing investment in human resources.

Our findings from UK nationally representative data are aligned with German case study data showing the role of skills investment and talent retention, despite recession (Festing, 2011). The sample of organizations in our study had all indicated at least one recessionary action, the most common of which were recruitment freezes, freezes in wages, or work reorganization. These strategies are typical of organizations following a cost reduction or retrenchment strategy during recession (Latham & Braun, 2011). Nevertheless, our findings show positive impact on wellbeing of investing in skills, even after controlling for severity of recessionary action, and despite observing negative direct effects of some practices (HCE HRM) on job satisfaction and affective wellbeing.

We demonstrated the benefits of investing across the spectrum of high- and low-end skills, thus questioning assumptions that investing in skills will not be as effective for organizations that rely on low-skilled work. This finding is especially relevant for employers in the UK and other deregulated markets, where skill underutilization has been largely attributed to low-cost models of competitive advantage; i.e., a focus on short-term profitability, low adoption of progressive HRM, and a preference for work organization and job design which minimizes discretion and maximizes the ease with which workers can be replaced without initial training costs (Keep, 2016; Wright & Sisson, 2012). We expected and observed that adoption of HCE HRM and EJD was more likely in organizations with a higher proportion of high-skilled workers. Despite this, we found some merit to skills investment generally. Even though they were less likely to experience progressive HRM, the benefits for lower-skilled employees remained positive.

These findings provide a rationale for employers to consider increasing skill demand even for lower-skilled workers during recessionary periods; e.g., through training aimed at

upskilling or by encouraging employee creativity and hence incremental product or process innovation (Findlay, Warhurst, Keep, & Lloyd, 2017; OECD, 2010). Employers should also be aware, however, of the negative effects of HCE HRM practices, which may heighten work intensity and act as job stressors. Consistent with Wood et al. (2012), our study indicates that enriched job design is less prone to such perceived pressures.

At policy levels, the findings suggest stimulating wider employer engagement with the idea of a ‘skills-driven business model’ which includes lower-skilled workers. Policymakers have advocated investment in workforce skills as a route for building resilience against economic downturns (OECD, 2012) and promoted interventions which assist organizations in re-engineering workplaces to expand learning opportunities and deploy such learning (OECD, 2010). The study findings indicate relevant skill-enhancing HRM interventions and their likely efficacy. The question remains, however, how best to promote employer investment in such practices, especially for low-skilled workforces and given recessionary action such as cost-cutting. Nordic approaches to work organization and skill utilization, notably, have incorporated skills policies into wider economic and social development agendas with longer-term strategies and active partnerships between stakeholders, including, but not limited to, employers, employees, trade unions and sector or industry bodies (Kalmi & Kauhanen, 2008). Similarly, the OECD/ILO (2017) review of successful workplace and policy level strategies for promoting skills utilization recommended co-ordinated approaches, such as industry-led partnerships targeting specific needs (e.g., those of SMEs developing workforce innovation programs).

Finally, our study also has implications for the employability and quality of working life of low-skilled workers more generally. Job polarization has significant implications for job opportunities, job quality and wellbeing and is common in deregulated economies (Autor, 2010).

For the UK in particular, international comparisons show a relatively high proportion of low skilled jobs in the economy requiring little or no qualifications (OECD, 2013). Particularly for such nations, policy and organizational endorsement of our findings that workers of all skill levels benefit from skills-oriented HRM practices may sharpen interest in intrinsic aspects of job quality for the low-skills end of labor markets. This would promote more inclusive approaches to skill development and deployment and improve the quality of working life for those with fewer labor market opportunities.

Conclusion

Echoing much recent policy focus on a ‘high skills, high wages’ economy (Hanushek, 2013), our findings suggest that, amongst organizations affected by the Great Recession, investment in workforce skill development and deployment is beneficial for employees as it improves perceived skill utilization and wellbeing – both job satisfaction and work-related affective wellbeing. Such investment may be one of the key factors for building resilience against the adverse effects of economic downturns, not least, the demoralizing effects on employees. The study makes original contributions to strategic HRM research by explicitly demonstrating (i) employee skill utilization as a driver of HRM outcomes; (ii) the efficacy of strategically targeted bundles of HRM practices for skill development (HCE HRM) and deployment (EJD) for employee skill utilization; and (iii) sustainability of these effects across workforce skill levels in a recessionary context.

These findings support the fundamental ability-motivation-opportunity (AMO) explanation of the HRM–performance relationship (Appelbaum et al., 2000). The study extends application of this framework by providing empirical support for one of the focal - yet rarely

tested - assumptions of AMO and ‘black box’ research in strategic HRM; that employee skill utilization is an important driver of HRM outcomes. We also responded to the need to understand boundary conditions within which HRM impacts employee outcomes. Workforce skills composition showed evidence of being a boundary condition for adoption of HRM but not for its efficacy. This contradicts elitist approaches to skill utilization and talent management which advocate for investment primarily in ‘high value’ employees on the grounds that such investment would not work in the low-skilled end of the labor market. We conclude that skill utilization may be a proxy for fundamental needs such as autonomy and self-efficacy at work for all groups of workers. Satisfaction of these needs through strategically targeted HRM approaches improves crucial work-related employee outcomes, even during economic downturn.

Our findings encourage employers to invest in their workforce skills and policymakers to seek ways to influence organizational skills investment, even in the face of cost cutting pressures. Such investment, however, implies longer-term economic and social policies that involve numerous stakeholders in partnership. Moreover, how the concept of skill utilization can be applied within workplaces for leveraging human resource advantage needs to be better understood. Warhurst and Findlay (2012) describe the challenge as one of aligning employer and employee interests around skill utilization. This study has gone some way to demonstrating this alignment of interests.

Tables and Figures

Table 1 Means, standard deviations and intercorrelations between study variables

	M	SD	1	2	3	4	5	6
1 Recessionary action	4.05	2.15	—					
2 Organizational performance	3.70	.66	-.11**	(.70)				
3 HCE HRM	6.71	2.51	.11**	.16**	—			
4 EJD	2.92	.57	-.03	.16**	.21**	(.76)		
5 High-skilled LOG	.23	.42	.07**	.06**	.28**	.37**	—	
6 Intermediate-skilled LOG	.18	.38	.11**	.06**	-.04*	-.05*	-.25**	—
7 Low-skilled LOG	.59	.49	-.14**	-.10**	-.21**	-.28**	-.66**	-.56**
8 Elementary-skilled LOG	.13	.34	-.06**	-.12**	-.38**	-.12**	-.21**	-.18**
9 Work intensity	2.69	.71	-.01	.04*	.09**	.13**	.25**	-.04
10 Job security	2.71	1.13	-.09**	.02	.01	.00	.06**	-.02
11 Supervisory responsibility	.30	.46	.01	.03	.12**	.14**	.33**	.04
12 Perceived skill utilization	2.40	1.09	-.01	.05**	.19**	.15**	.22**	.05**
13 Job satisfaction	3.43	.73	-.09**	.08**	.06**	.16**	.20**	.01
14 Work-related affective wellbeing	3.87	.91	-.04*	.05*	-.02	.07**	.02	.01

Table 1 continued...

	7	8	9	10	11	12	13	14
1 Recessionary action								
2 Organizational performance								
3 HCE HRM								
4 EJD								
5 High-skilled LOG								
6 Intermediate-skilled LOG								
7 Low-skilled LOG	—							
8 Elementary-skilled LOG	.32**	—						
9 Work intensity	-.18**	-.06**	(.72)					
10 Job security	-.04	-.02	.08**	—				
11 Supervisory responsibility	-.31**	-.20**	.17**	.08**	—			
12 Perceived skill utilization	-.23**	-.29**	.03	.07**	.24**	—		
13 Job satisfaction	-.17**	-.15**	-.01	.16**	.22**	.52**	(.86)	
14 Work-related affective wellbeing	-.01	-.07**	-.27**	.02	.01	.22**	.51**	(0.92)

Note. HCE HRM: Human capital enhancing HRM; EJD: Enriched job design; LOG: Largest Occupational Group. Cronbach alpha reliability coefficients in parentheses where appropriate. Weights equal to 1/(probability of selection and response) were applied to account for known sampling-related biases; * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2 Multilevel hierarchical regression analyses predicting job satisfaction and work-related affective wellbeing

Parameter	Job satisfaction				Work-related affective wellbeing			
	B	s.e.	B	s.e.	B	s.e.	B	s.e.
Intercept	3.36***	.18	2.59***	.16	4.56***	.21	4.09***	.20
Work intensity	-.11***	.02	-.08***	.02	-.39***	.03	-.39***	.03
Supervisory responsibility	.25***	.03	.13***	.03	.04	.04	-.03	.04
Job security	.08***	.01	.07***	.01	.03	.02	.02	.02
Organizational performance	.05	.03	.06*	.02	.06*	.03	.06*	.03
Recessionary action	-.03**	.01	-.03*	.01	-.01	.01	-.01	.01
Elementary LOG ^a	-.46***	.07	-.17*	.06	-.34***	.08	-.17*	.08
Low-skilled LOG ^a	-.23***	.05	-.13**	.04	-.13*	.06	-.07*	.06
Intermediate-skilled LOG ^a	-.19**	.06	-.15**	.05	-.16*	.07	-.13*	.07
HCE HRM	-.03*	.01	-.03*	.01	-.03*	.01	-.03*	.01
EJD	.10**	.04	.07*	.03	.12**	.04	.10*	.04
Perceived skill utilization			.32***	.01			.20***	.02
-2LL	5196.71		4569.87		6401.85		6277.74	
σ_e	.42***	.01	.33***	.01	.72***	.02	.68***	.02
σ_w	.05***	.01	.03***	.01	.04***	.01	.04***	.01
<i>Pseudo-R_e²</i>	.13		.23		.08		.05	

Note. HCE HRM: Human capital enhancing HRM; EJD: Enriched job design; LOG: Largest Occupational Group. ^a reference category: high-skilled LOG; σ_e Employee-level variance, σ_w Workplace-level variance; and *Pseudo-R_e²* is the proportional reduction in prediction error in employee level (Level 1) compared to the previous model; for Step 1 comparison category is the null model (-2LL=5836.24, σ_e =.44, σ_w =.09 for job satisfaction, and (-2LL=7203.17, σ_e =.77, σ_w =.06 for work-related affective wellbeing); ICC1 for job satisfaction =.18 and for work-related affective wellbeing=.08; * p<.05, **p.01, ***p<.001.

Table 3 Multilevel hierarchical regression analyses predicting perceived skill utilization

	Model 1		Model 2		Model 3		Model 4	
Parameter	B	s.e	B	s.e	B	s.e	B	s.e
Intercept	2.86***	.20	2.37***	.25	2.06***	.32	2.76***	.52
Work intensity	-.08**	.03	-.08**	.03	-.08**	.03	-.08**	.03
Supervisory responsibility	.35***	.05	.35***	.05	.35***	.05	.35***	.05
Job security	.05*	.02	.05*	.02	.05*	.02	.05*	.02
Organizational performance	-.02	.04	-.03	.04	-.03	.04	-.03	.04
Recessionary action	-.02	.01	-.02	.01	-.03	.01	-.02	.01
Elementary LOG ^a	-1.06***	.09	-.90***	.10	-.64*	.27	-.93	.61
Low-skilled LOG ^a	-.41***	.07	-.32***	.07	.11	.26	-.75	.51
Intermediate-skilled LOG ^a	-.23**	.08	-.14**	.09	.22	.28	-.70	.55
HCE HRM			.05*	.01	.07*	.03	.03*	.01
EJD			.11*	.05	.11*	.05	.11*	.04
Elementary LOG ^a *HCE HRM					-.03	.04		
Low-skilled LOG ^a *HCE HRM					-.06	.03		
Intermediate-skilled LOG ^a *HCE HRM					-.04	.04		
Elementary LOG ^a *EJD							-.01	.20
Low-skilled LOG ^a *EJD							.13	.16
Intermediate-skilled LOG ^a *EJD							.18	.17
-2LL	7099.44		7098.78		7110.80		7103.08	
σ_e	.92***	.03	.92***	.03	.92***	.03	.92***	.03
σ_w	.09***	.02	.09***	.02	.09***	.02	.09***	.02
<i>Pseudo-R_w²</i>	.02		.00		.00		.00	

Note. HCE HRM: Human capital enhancing HRM; EJD: Enriched job design. ^a reference category: high-skilled LOG; ICC1=.19; σ_e Employee-level variance, σ_w Workplace-level variance; and *Pseudo-R_w²* is the proportional reduction in prediction error in workplace

level (Level 2) compared to the previous model; for Model 1 comparison category is the null model ($-2LL=7988.16$, $\sigma_e=.95$, $\sigma_w=.23$) and for Models 3 and 4 comparison category is Model 2; * $p<.05$, ** $p<.01$, *** $p<.001$.

Table 4 Indirect and conditional indirect effects of human capital enhancing HRM and enriched job design on employee wellbeing

Indirect effects	B	SE	p	95% CI	Model -2LL
HCE HRM→skill utilization→job satisfaction	.02	.01	.00	.01 - .03	11722.9
HCE HRM→skill utilization→WRAWB	.01	.01	.00	.01 - .02	13622.4
EJD→skill utilization→job satisfaction	.05	.02	.01	.01 - .09	11735.2
EJD→skill utilization→WRAWB	.03	.01	.02	.01 - .06	13630.2
Conditional indirect effects					
HCE HRM*LOG→skill utilization→job satisfaction	-.02	.01		-.01 - .04	10977
HCE HRM*LOG→skill utilization→WRAWB	.01	.01		-.01 - .03	12773.5
EJD*LOG→skill utilization→job satisfaction	-.10	.01		-.16 - .06	10986.7
EJD*LOG→skill utilization→WRAWB	-.03	.01		-.11 - .04	12778.5

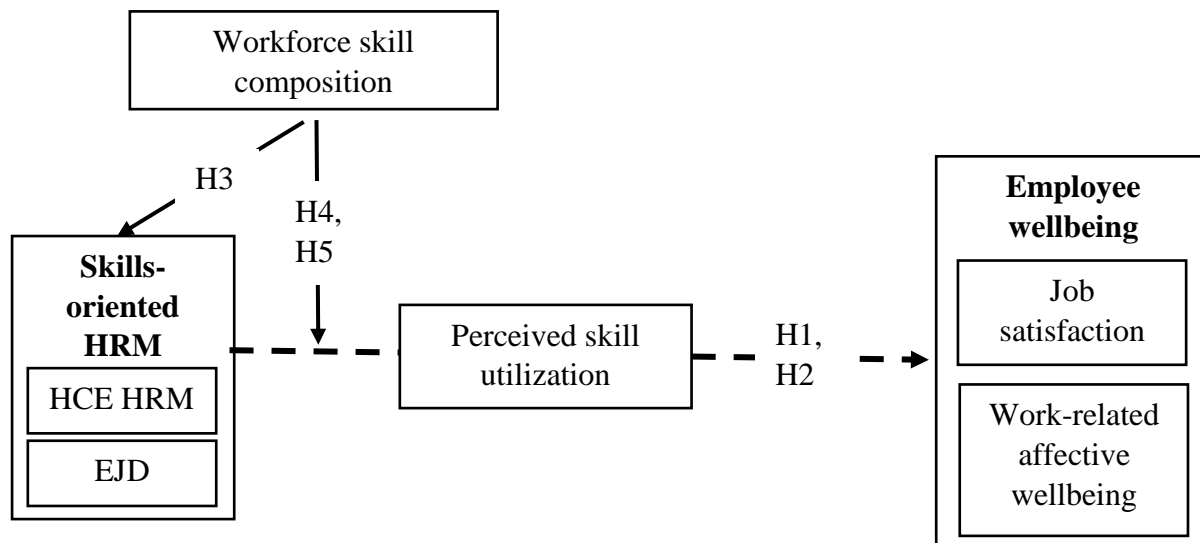
Note. HCE HRM: Human capital enhancing HRM; EJD: Enriched job design; LOG: Largest occupational group; WRAWB: Work-related affective wellbeing. Organizational control variables were recessionary action and organizational performance (and largest occupational group for indirect effects). Employee-level control variables were work intensity, job security and supervisory responsibility. ICC1 job satisfaction = .19. ICC1 work-related wellbeing = .08. Analyses were run using MLMed (Rockwood, 2017). Conditional indirect effect tests that moderated mediation effect of HRM on wellbeing through skill utilization, where the relationship between HRM and skill utilization is moderated by LOG.

Table 5 Hierarchical regression predicting organizational adoption of skills-oriented HRM using organizational data only (N=333)

	Human capital enhancing HRM		Enriched job design	
	β	β	β	β
Proportion of part-time workers	-.03	-.03	.01	.01
Proportion of temporary contracts	.03	.03	.03	.03
Proportion of Low Pay <7.50/hour	-.06**	-.01	-.17***	-.07**
Proportion of unionized employees	-.01	-.01	-.05*	-.03
Private sector	-.09**	-.08**	-.07**	-.06**
Fully/predominantly UK owned	-.07*	-.07*	.04	.04
No recent major structural change	-.02	-.02	-.01	.00
Recessionary action	.04*	.04*	.01	.00
Medium-size organization ^a	.18***	.18***	-.12***	-.12***
Large organization ^a	.26***	.23***	-.15***	-.19***
Interactive service ^b	.05	.07	-.02	.02
Community service ^b	.17***	.13***	.17***	.12***
Knowledge intensive service ^b	.08***	.08***	.07**	.07**
Organizational performance	.09***	.09***	.08***	.08***
High quality	.01	.01	.05*	.05*
High innovation	.14***	.14***	.10***	.10***
Intermediate-skilled LOG ^c		-.14***		-.14***
Low-skilled LOG ^c		-.15***		-.33***
Elementary-skilled LOG ^c		-.15***		-.10***
ΔF	38.97***	43.67***	21.89***	78.78***
R^2	.03	.07	.02	.09
ΔR^2	.03	.04	.02	.07

Note. LOG: Largest Occupational Group. ^a reference category: small organizations (<50 employees); ^b reference category: manufacturing; ^c reference category: high-skilled LOG; * p<.05, **p.01, ***p<.001. R^2 refers to adjusted R^2 .

Figure 1 Study hypotheses



Note. HCE HRM: Human capital enhancing HRM; EJD: Enriched job design. Skills-oriented HRM measured at organizational-level, workforce skill composition matched at organization- and employee-level, and perceived skill utilization and employee wellbeing measured at employee-level. Dotted line refers to indirect relationships (H1 & H2).

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