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DOI: https://doi.org/10.1111/1748-8583.12551

Publisher: Wiley

Version: Published Version

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Additional Information: This is an open access article which originally appeared in Human Resource Management Journal, published by Wiley

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Check for updates

Received: 4 April 2023 | Revised: 21 March 2024 | Accepted: 23 March 2024

DOI: 10.1111/1748-8583.12551

RESEARCH ARTICLE

Human Resource Management Journal WILEY

The impact of ability-, motivation- and opportunity-enhancing HR sub-bundles on employee wellbeing: An examination of nonlinearities and occupational differences in skill levels

Yanqing Lai[1] | Cai-Hui (Vernoica) Lin[2†] | George Saridakis[3] | Yannis Georgellis[4]

[1]Business School, Manchester Metropolitan University, Manchester, UK

[2]Formerly The University of Queensland, Brisbane, Queensland, Australia

[3]Business School, The University of Kent, Canterbury, UK

[4]SP Jain London School of Management, London, UK

Correspondence
George Saridakis.
Email: G.Saridakis@kent.ac.uk

Abstract

Existing research examines the impact of human resource (HR) practices on employee wellbeing by considering each practice in isolation or multiple practices as a bundle, focusing on linear associations. Drawing on the too-much-of-a-good-thing (TMGT) meta-theory, we examine possible nonlinear effects of Ability-Motivation-Opportunity (AMO) sub-bundles on job satisfaction and job stress. We, also, examine boundary conditions on whether and how the nature of the identified curvilinear associations varies across employees in high-, medium-, and low-skilled occupations. Using data from the Workplace Employment Relations Study (WERS2011), we uncover an inverse U-shaped association between motivation-enhancing (ME) practices and job satisfaction and a U-shaped association between opportunity-enhancing (OE) practices and job

Abbreviations: AE, ability-enhancing; AMO, ability-motivation-opportunity; EQ, employee questionnaire; HI, high-intensity; HR, human resource; ICC, intra-class correlation; KSA, knowledge, skills and abilities; LI, low-intensity; ME, motivation-enhancing; MI, medium-intensity; MQ, management questionnaire; OE, opportunity-enhancing; SHRM, strategic human resource management; TMGT, too-much-of-a-good-thing; WERS, workplace employment relations study.

†Cai-Hui (Vernoica) Lin passed away in October 13, 2021.

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stress. No evidence of a curvilinear ability-enhancing (AE) practices-wellbeing association emerges. Additionally, occupational differences in skills levels moderate the curvilinear ME practices-stress association. Likewise, occupational skills differences moderate the associations between OE practices and job satisfaction, and work stress. There is no suggestion that occupational differences moderate the AE practices-wellbeing association. These findings underline the contingent nature of the TMGT effect and call for a more nuanced investigation of the HR-wellbeing association.

KEYWORDS
HRM, wellbeing

1 | INTRODUCTION

Employee wellbeing, defined as the overall quality of an individual's experience and functioning at work (Warr, 1987), has become a main priority of business leaders and organizations (Inceoglu et al., 2018). According to the HR-Wellbeing-Performance paradigm, HR practices are associated with positive outcomes via their influence on employee wellbeing (Elorza et al., 2022; Jiang, Lepak, Hu, & Baer, 2012; Peccei & Van De Voorde, 2019). This has led many scholars to support the view that employee wellbeing can be the sole purpose of the HR function. The main premise underpinning such a viewpoint is that a strong, verifiable link between a happy workforce and superior organizational performance exists. A growing volume of research supports this premise by showing that happy employees exert more effort, are more committed and achieve better results (Bellet et al., 2023; Bryson et al., 2017). Yet, questions remain whether HR initiatives can effectively boost employee happiness and wellbeing. Existing findings on the HR-wellbeing link are inconclusive, not always supporting a strong and statistically significant association (see systematic reviews by Peccei & Van De Voorde, 2019; Van der Voorde et al., 2012).

Two lacunae in the literature explain such diffused results. First, most prior research considers the effect of HR practices on employee wellbeing in isolation. However, this approach overlooks that employees respond to multiple practices simultaneously rather than individual practices (Jiang, Lepak, Han, et al., 2012). An alternative approach examines multiple HR practices as a system, or a bundle, based on the presumption they can reinforce each other's effectiveness. But a systems approach is also problematic as it does not identify the specific practices in a bundle driving any observable workplace behaviors (Van der Voorde et al., 2012). Second, where empirical HR-wellbeing studies exist, they usually ignore possible non-linearities. Influential strategic human resource management (SHRM) theories, including the AMO theory (Appelbaum et al., 2000), typically propose a linear process linking HR to various performance results (Shin & Konrad, 2017). The underpinning argument is that AMO-improving HR schemes develop and empower employees, boosting their wellbeing and performance in a linear, monotonic fashion. However, presuming the existence of a linear association does not reconcile seemingly mixed and paradoxical findings. Few studies present mixed findings depending on context and boundary conditions. For example, some limited evidence supports the contextual efficacy of HR practices that accounts for occupational differences (Chadwick, 2010).

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This article contributes to the HR-wellbeing literature by addressing these gaps. Specifically, instead of considering practices alone or as a system, this study adopts a "middle-ground" approach to examine sub-bundles consisting of complementary and mutually reinforcing practices. Drawing on the AMO model, we group practices into ability-, motivation- and opportunity-enhancing (AE, ME, OE) sub-bundles. AE sub-bundles, often including training and selection, are designed to maximize workforce knowledge, skill, and abilities (KSAs) (Lepak et al., 2006). ME sub-bundles improve employee motivation (Jiang, Lepak, Han, et al., 2012). Typical practices include performance management, incentives and rewards, and internal promotions. OE sub-bundles offer employees knowledge sharing opportunities. They are commonly embedded in practices such as job design, employee involvement, work teams and effective communication (Ogbonnaya & Messersmith, 2019).

This article also delves into the possibility that the HR-wellbeing association is not necessarily monotonic, in that a threshold level of HR interventions exists beyond which any favorable effects dissipate or even reverse. This viewpoint is consistent with the too-much-of-a-good-thing (TMGT) effect that "*ordinarily beneficial antecedents reach inflection points after which their relations with desired outcomes cease to be linear and positive, yielding an overall curvilinear pattern*" (Pierce & Aguinis, 2013, p. 316). Building on the TMGT framework, we examine possible curvilinear associations of AMO sub-systems with two commonly used wellbeing measures: job satisfaction and job stress (see Grant et al., 2007; Guest, 2017). In addition, Pierce and Aguinis (2013) urge management researchers utilizing the TMGT effect to reconsider and expand the role of moderating effects that affect the nature of curvilinear relations for future theory development. We therefore account for context-specific conditions in HR-employee wellbeing associations to present a more nuanced approach to uncovering how HR practices impact on wellbeing.

Specifically, we address the existence of boundary conditions under which inflection points in the association between HR practices and wellbeing emerge. We contend that employees in occupations with different skill levels have distinct needs, values, and expectations. Therefore, they are expected to interpret and react to HR initiatives differently (Boxall et al., 2011; Cafferkey et al., 2020). For example, high-skilled employees (e.g., directors, senior managers, and professionals) are often driven by non-monetary job attributes such as job autonomy and skill improvement. In contrast, lower-skilled employees (e.g., retail sales, manual labor) place a greater value on pay and other extrinsic motivators (Asad & Dainty, 2005; Boxall et al., 2015). Only a few prior studies consider such occupational differences, with mixed results. For example, Cafferkey et al. (2020) highlight how employees across different occupational classes react to HR practices using data from a single organization. Okay-Somerville and Scholarios (2019), instead, use a large sample of employees across multiple UK establishments drawn from the Workplace Employment Relations Study (WERS) and find that a mediated, linear relationship between skill-oriented HR practices and work-related wellbeing does not vary by workforce skill composition.

2 | THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

2.1 | A non-linear association between AMO sub-bundles with employee wellbeing

The TMGT effect challenges the "more is better" assumption and accounts for a wide range of inconsistent findings in the literature, concerned with micro (e.g., HRM), meso (e.g., entrepreneurship) and macro (e.g., strategy) levels of analysis (Aguinis et al., 2011). The effect occurs when antecedents widely accepted as beneficial reach inflection points after which their association with desirable outcomes stops to be linear and positive (Pierce & Aguinis, 2013). In fact, exceeding these context-specific inflection points yields often negative curvilinear patterns. Guided by TMGT meta-theory, we argue that a moderate level of interconnected HR interventions creates a resourceful work environment that boosts employee wellbeing. However, as adoption of such interventions increases further, the work environment turns more challenging, eventually eroding wellbeing.

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AE sub-bundles equip employees with essential competencies to manage job demands, perform tasks, and reach work goals (Jiang, Lepak, Han, et al., 2012). This viewpoint suggests that AE sub-bundles offer development opportunities to stimulate personal growth and learning that improve wellbeing (Bozionelos et al., 2020). However, the TMGT framework implies that this motivational effect appears only at low to intermediate adoption levels of selective hiring and training practices. On the contrary, HR initiatives to provide excessive development opportunities and meticulous personnel selection risk eroding employee wellbeing. Admittedly, rigorous selection and training create feelings of compatibility and competence that improve job contentment. But they also demand employees to exhaust their energy to carry out complex, demanding work and take on personal responsibility for challenging tasks that intensify job stress (Grant et al., 2007). Introducing such initiatives push employees into working much harder to meet supervisors' and co-workers' expectations about achieving productivity goals and performing more demanding tasks (Topcic et al., 2016).

By design, ME sub-bundles set agreed individual objectives linked to extrinsic rewards (e.g., pay and promotion) to motivate employees (Warr, 2017). Providing regular feedback usually complements performance- and merit-based rewards by spurring employees into action and exerting extra work effort. However, employees often feel undervalued when the provision of ME practices is deemed inadequate. An intermediate level of ME provision encourages employees to perform and to experience higher levels of wellbeing. In contrast, a high-level of ME provision increases job demands at the detriment of wellbeing. Too many externally generated goals can be internally contradictory beyond one's ability to cope (Warr, 2007). In short, moderate levels of ME practices provision are most favorable for promoting wellbeing.

OE practices capture positive job features including self-control, task variety, information sharing and participation in decision-making can be internally rewarding (Jiang, Lepak, Hu, & Baer, 2012). These organizational features are valuable. At moderate levels of implementation they can satisfy employees' needs for autonomy, competence, and relatedness, thus boosting their wellbeing (Deci & Ryan, 2012). Nevertheless, excessive OE levels are harmful because they create extra demands and burdening work responsibilities (Desombre et al., 2006). Contradictory work behaviors, performance targets, time conflict, and competition for scarce resources are all symptomatic of such work challenges. High "doses" of OE practices therefore aggravate feelings of difficulty in fulfilling role duties, impacting negatively on wellbeing.

In summary, AMO-enhancing HR sub-bundles at first exert a positive wellbeing effect, whereas their absence causes wellbeing harm. However, a plateau is reached with more intensive implementation whereby wellbeing does not improve further or even worsens. Thus, an ideal level exists whereby any deviations, below or above, are damaging for workplace wellbeing. We hypothesize:

H1a *There is an inverted U-shaped association of AE practices with job satisfaction, and a U-shaped association with job stress.*

H1b *There is an inverted U-shaped association of ME practices with job satisfaction, and a U-shaped association with job stress.*

H1c *There is an inverted U-shaped association of OE practices with job satisfaction, and a U-shaped association with job stress.*

2.2 | Occupational differences moderating the curvilinear association of AMO sub-bundles with employee wellbeing

The appeal of the TMGT meta-theory is that it can reconcile seemingly conflicting scenarios whereby HR interventions exert both a positive and a negative impact on wellbeing. The model can be expanded further by

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exploring and identifying boundary conditions specify the location of inflection point of an asymptotic relation (Aguinis, 2004; Pierce & Aguinis, 2013). To theorize about such specificity, we here start with the premise that HR practices are not applied, nor they affect, equally all employees (Boxall et al., 2011). Employees in different occupations have different needs, wants, values, goals, interests, and expectations (Stiglbauer & Kovacs, 2018). As the configurational view of SHRM highlights, HR interventions need to be conditional on occupational and organizational contexts (Chadwick, 2010). Previous studies that examine the moderating role of occupational differences in the assumed linear HR-wellbeing association focus on a few job groups in a homogenous industry (e.g., Cafferkey et al., 2020; Kinnie et al., 2005). This approach mitigates heterogeneity across sectors but limits the findings from generalizing to a larger population. We extend this line of research by examining whether occupational differences in KSAs moderate the curvilinear association of AMO sub-bundles with wellbeing (see Figure 1). In the course of our analysis, we use variations in KSAs to distinguish between higher-skilled and lower-skilled workers across various sectors and industries. The measure reflects the nature of work and competencies needed for a competent job performance (ILO, 2012). Workers often develop a unique system of work values and expectations matching their defined job nature and characteristics. For example, high-skilled employees place greater importance on intrinsic rewards, including interesting and challenging work, self-direction, and employee voice. Lower-skilled workers, in contrast, value economic and extrinsic rewards such as pay, fringe benefits and promotion more significantly (Asad & Dainty, 2005).

The TMGT effect implies that medium intensity (MI-level) implementation of AMO practices is the most favorable for wellbeing, as opposed to low- (LI-level) or high-intensity (HI-level) implementation. However, occupational skill levels determine to what extent employees experience higher wellbeing in response to an MI-level of a given bundle. Employees who believe that such practices align well with their needs, values, goals and expectations experience higher wellbeing (Stiglbauer & Kovacs, 2018). Conversely, when employees feel that interventions are not strongly aligned with what they wish, they report lower wellbeing. Such misalignment hampers the enhancement effect of MI-level AMOs.

Following Oppel et al. (2019), we argue that HR practices encompass messages about what employees in different occupations should expect of the organization and what is expected of them. Such messages act as signals that improve the fit between employees and their organizations (Bowen & Ostroff, 2004). We can then argue that AE and OE practices are more meaningful for higher-skilled workers (Donnelly & Hughes, 2023) because they entail intrinsic job features matching their needs and expectations, thus leading to better wellbeing at moderate implementation of HR initiatives compared with lower-skilled counterparts. On the contrary, ME practices are aligned

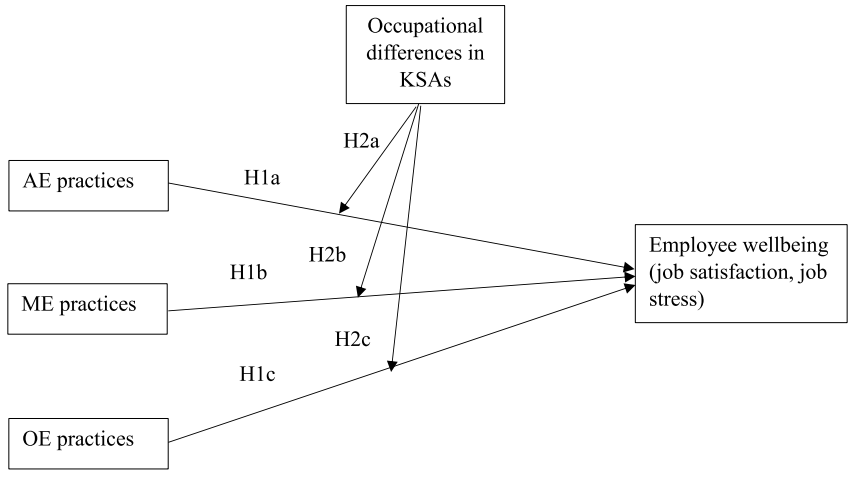

FIGURE 1 The proposed conceptual framework.

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more closely to the motivational norms of lower-skilled employees (Lepak et al., 2006). Based on these arguments, we hypothesize that:

H2a *Occupational differences moderate the curvilinear association of AE sub-bundles with wellbeing in such a way that high-skilled workers experience higher job satisfaction and lower stress at moderate levels of AE sub-bundles, compared to lower-skilled workers.*

H2b *Occupational differences moderate the curvilinear association of ME sub-bundles with wellbeing in such a way that low-skilled workers experience higher job satisfaction and lower stress at moderate levels of ME sub-bundles, compared to higher-skilled workers.*

H2c *Occupational differences moderate the curvilinear association of OE sub-bundles with wellbeing in such a way that high-skilled workers experience higher job satisfaction and lower stress at moderate levels of OE sub-bundles, compared to lower-skilled workers.*

3 | METHOD

3.1 | Dataset

The WERS2011 is the sixth of a series of national surveys to understand employment relations in British workplaces. The survey collected information from 21,981 employees in 2680 workplaces using a management questionnaire (MQ) and an employee questionnaire (EQ). The MQ targeted senior managers who oversaw industrial relations and employment relations or HR at each workplace. The EQ was self-completed by randomly selected employees. The response rate was 46% for the MQ and 50% for the EQ.

3.2 | Measures

AMO sub-bundles were measured using seven HR practices: three practices from the MQ (selective hiring, performance appraisal and performance-related pay) and four practices from the EQ (employee training, job autonomy, information sharing and employee voice). All practices were measured by multiple-item scales except training, which was a single-item variable (see Table A1 in the Appendix). Following Ogbonnaya et al. (2017), we aggregated the four practices from the EQ as the mean scores of employee responses within each establishment. We used the remaining three practices from the MQ as workplace-level measures. To ensure interrater reliability when aggregating employee-to workplace-level variables, we calculated three statistics: two inter-rater reliability indices (Intra-Class Correlation, ICC (1), ICC (2)) (Bliese, 2000) and one inter-rate agreement index (R_{wg}) (James, 1982). The ICCs tested interrater reliability among raters of observed items (LeBreton & Senter, 2008). ICC1 ranged from 0.11 to 0.30. ICC2 ranged from 0.57 to 0.76. We used interrater agreement—r_{wg} for single-item measures. We used $r_{wg(J)}$ for multi-item measures to examine the extent of consensus between ratings (LeBreton & Senter, 2008). The mean $r_{wg(J)}$ values ranged from 0.76 to 0.99. All three tests supported HR scores aggregation.

Our sub-bundles of HR practices were operationalized and statistically measured by latent variable analyses. Specifically, we built the HR sub-bundles using exploratory factor analysis (EFA). Two reasons informed this decision. First, in light of a great inconsistency in conceptualizing HR systems in the literature (Bos-Nehles et al., 2023), EFA helps to identify the empirical underpinning of management practices grouping. Second, this nonadditive approach considers individual weights of practices within each sub-bundle. This conforms with the view that HR practices vary in their importance in explaining outcomes depending on context (Boon et al., 2019).

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The pre-factor analysis results (Kaiser-Meyer-Olkin statistic = 0.57; Bartlett's test χ^2 = 38,080.64, $p < 0.001$) suggested that our data was appropriate and adequate for the factor analysis. Based on the Kaiser (1960) criterion, the outcome showed three factors derived from eight practices, explaining 66% of the variances (see Table 1): the first factor (AE sub-bundle) included training and selective hiring, the second factor (ME sub-bundle) included performance appraisal and incentive pay, and the remaining three items were included in the third factor (OE sub-bundle).

Employee wellbeing. Previous research conceptualizes wellbeing as a multidimensional construct (e.g., Li et al., 2023; Ogbonnaya et al., 2017). To partially capture such multidimensionality, we examine the implications HR practices on *job stress* and *job satisfaction* as two measures of workplace wellbeing (see Table A1). *Employee satisfaction* (α = 0.86) was assessed by means of six items (Saridakis et al., 2020). The scale was based on information about different job aspects, such as pay, training and development opportunities. Responses were measured on a five-Likert scale (1 = "*very dissatisfied*" to 5 = "*very satisfied*"). *Job stress* (α = 0.91) was measured by the mean of six items based on the question "*How much of the time has your job made you feel tense/depressed/worried/gloomy/uneasy/miserable?*" (1 = "*all the time*" to 5 = "*never*") (Lai et al., 2015).

Occupational differences. We grouped employees into high -, intermediate - and low -skilled. Employee participants were asked "*what is the full title of your main job?*" The responses were matched with the SOC2010 skill-level descriptions. High-skilled occupations included major occupational Categories 1 (managers, directors & senior officials), Category 2 (professional occupations). Intermediate-skill occupations included major occupation Category 3 (associate professional & technical occupations), Category 5 (skilled trades). Low-skilled occupations included Categories 4, 6, 7, 8 and 9. We used high-skilled and low-skilled occupations as the reference category in the analyses for testing H2a/H2c and H2b, respectively.

Control variables. We controlled for workplace size, workplace age, industry, sector, impact of the recession and subjective firm performance. We also controlled for employee characteristics including gender, age, work contract, job tenure, union membership and education (see Table A2 in Appendix).

3.3 | Analytical strategy

Because of the matched employee-employer nature of the data, we tested hypotheses using multilevel analysis (random effects models). The ICC (1) index of the dependent variables were 0.14 for job satisfaction and 0.08 for

TABLE 1 Factor analysis, three-factor outcome.

Variable	AE sub-bundle	ME sub-bundle	OE sub-bundle
Training	0.73		
Selective hiring	0.66		
Performance appraisal		0.48	
Performance related pay		0.91	
Job autonomy			0.61
Information sharing			0.91
Employee voice			0.94
Eigenvalue[a]	2.21	1.36	1.10

Note: All variables were standardized before performing factor analyses.

[a]The eigenvalue, scree plot and maximum likelihood estimation results (available upon request) all supported a three-factor model.

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job stress, meaning that workplace factors explained 14% and 8% of the variance, respectively. This suggested a medium to large workplace effect (LeBreton & Senter, 2008), which warranted using multilevel analysis. The multilevel analysis first introduced explanatory and moderator variables. Next, it tested the curvilinear relationships (H1) by creating the quadratic terms of the three HR sub-systems. The final step was to introduce occupational group dummies to create first- and second-order interaction terms of occupation groups with three respective sub-systems to test H2. The continuous explanatory variables were grandmean centered to avoid possible multicollinearity.

4 | RESULTS

Tables 2 and 3 reported results for the hypothesised relationships for job satisfaction and job stress, respectively. Specifically, they summarized estimated coefficient results for five random-effect models, along with standard errors, significance levels, chi-square estimates and number of observations. Model 1 assessed the baseline model, model 2 tested the curvilinear relationship between AMO-enhancing sub-bundles and wellbeing, and models 3–5 examined the moderating effect of occupational difference on the curvilinear relationships.

H1a proposed an inverted U-shaped relationship of AE practices with job satisfaction, and a U-shaped relationship with work stress. Although there was a significant linear relationship between AE practices and job satisfaction, no evidence of a non-linear association was found. There was an insignificant association between AE practices and job stress. Hence, H1a was not supported.

H1b hypothesised an inverted U-shaped relationship between ME practices and job satisfaction. The predicted relationship with employee stress was U-shaped. The estimated coefficient for the squared ME was significant and negative for job satisfaction ($\beta = -0.01$, $p < 0.05$, see Figure 2), but not for job stress. Hence, H1b was partially supported.

H1c proposed an inverted U-shaped association of OE practices with job satisfaction, and a U-shaped association with employee stress. The quadratic OE coefficient was positive for job stress ($\beta = 0.01$, $p < 0.05$), indicating lower stress at MI-levels of OE practices implementation (see Figure 3). Nevertheless, the squared OE term for job satisfaction was not significant. Hence, H1c was partially supported.

According to H2a, occupational differences in skill requirements moderated the curvilinear AE practices-wellbeing relationship. High-skilled workers were expected to experience higher wellbeing in response to MI-level of AE practices than lower-skilled workers. In model 3, the interaction coefficients of quadratic AE with low-skilled and intermediate-skilled workers were nonsignificant for both wellbeing measures. Thus, the results did not support H2a.

Hypothesis H2b stated that occupational differences moderated the curvilinear ME-wellbeing association. Compared to higher-skilled workers, low-skilled workers were expected to experience better wellbeing in response to MI-levels of ME practices application. The estimated interaction coefficients (model 4) did not support the moderating effect of occupational difference on the relationship between ME practices and job satisfaction. Furthermore, the interaction term between quadratic ME and intermediate-skilled occupations ($\beta = 0.02$, $p < 0.10$) was significant for job stress.

To explore further this significant quadratic-by-linear interaction effect, we tested simple slopes of the regression curves (see Aiken & West, 1990). In the case of intermediate-skilled workers, the simple slope of the regression line had a negative value ($b = -0.20$, $p < 0.05$) at LI-levels of ME practices, and a positive value at both MI-levels ($b = 0.05$, $p < 0.05$) and HI-levels ($b = 0.21$, $p < 0.01$). As for low-skilled workers, the simple regression slopes did not significantly differ from zero at LI-, MI- and HI-levels of ME practices. An inspection of interaction plots facilitated the interpretation of the interaction effects. Figure 4 illustrated how the ME practices-job satisfaction association did fit a U-shaped pattern for intermediate-skilled workers, whereas this curvilinearity did not

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TABLE 2 Results of multilevel analyses predicting job satisfaction.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Step 1: Controls only	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Step 2: Add independent and moderator variables					
AE sub-bundle	0.03***(0.01)	0.04***(0.01)	0.01 (0.02)	0.04***(0.01)	0.04***(0.01)
ME sub-bundle	−0.04*** (0.01)	−0.03*** (0.01)	−0.03*** (0.01)	−0.03*** (0.01)	−0.03*** (0.01)
OE sub-bundle	0.24***(0.01)	0.24*** (0.01)	0.24*** (0.01)	0.24*** (0.01)	0.24*** (0.01)
High-skilled				0.18***(0.02)	
Intermediate-skilled	−0.12***(0.02)	−0.12***(0.02)	−0.12***(0.02)	0.07**(0.02)	−0.13***(0.02)
Low-skilled	−0.17***(0.01)	−0.17***(0.01)	−0.18***(0.02)		−0.19***(0.02)
Step 3: Add IV squared					
AE sub-bundle^2		0.01 (0.004)	0.01 (0.01)	0.01 (0.004)	0.01 (0.004)
ME sub-bundle^2		−0.01**(0.004)	−0.01**(0.004)	−0.004 (0.01)	−0.01**(0.004)
OE sub-bundle^2		−0.002 (0.004)	−0.002 (0.004)	−0.002 (0.004)	−0.01*(0.01)
Step 4: Add interaction terms					
AE sub-bundle × intermediate-skilled			0.04*(0.02)		
AE sub-bundle × low-skilled			0.02 (0.02)		
AE sub-bundle^2 × intermediate-skilled			−0.002 (0.01)		
AE sub-bundle^2 × low-skilled			0.001 (0.01)		
ME sub-bundle × high-skilled				−0.005 (0.01)	
ME sub-bundle × intermediate-skilled				0.01 (0.01)	
ME sub-bundle^2 × high-skilled				−0.01 (0.01)	
ME sub-bundle^2 × intermediate-skilled				−0.01 (0.01)	
OE sub-bundle × intermediate-skilled					−0.02 (0.02)
OE sub-bundle × low-skilled					0.003 (0.01)
OE sub-bundle^2 × intermediate-skilled					0.02*(0.01)
OE sub-bundle^2 × low-skilled					0.02*(0.01)
Chi^2 (degrees of freedom)	−16,907.10 [27]	−16,904.13 [30]	−16,901.42 [34]	−16,902.95 [34]	−16,901.37 [34]
Observation	$N_{employees}$ = 16,295; $N_{workplaces}$ = 1589				

Note: Values in brackets after coefficients are standard errors.

***$p < 0.001$; **$p < 0.05$; *$p < 0.10$.

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TABLE 3 Results of multilevel analyses predicting job stress.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Step 1: Controls only					
Step 2: Add independent and moderator variables					
AE sub-bundle	0.02**(0.01)	0.02 (0.01)	0.01 (0.02)	0.02 (0.01)	0.02 (0.01)
ME sub-bundle	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.02 (0.01)	0.01 (0.01)
OE sub-bundle	−0.18***(0.01)	−0.17***(0.01)	−0.17***(0.01)	−0.17***(0.01)	−0.20***(0.02)
High-skilled				0.15***(0.02)	
Intermediate-skilled	−0.08***(0.02)	−0.08***(0.02)	−0.08***(0.02)	0.04**(0.02)	−0.07***(0.02)
Low-skilled	−0.14***(0.02)	−0.14***(0.02)	−0.14***(0.02)		−0.12***(0.02)
Step 3: Add IV squared					
AE sub-bundle^2		−0.003 (0.01)	0.01 (0.01)	−0.003 (0.01)	−0.003 (0.01)
ME sub-bundle^2		0.003 (0.01)	0.003 (0.01)	0.0002 (0.01)	0.003 (0.01)
OE sub-bundle^2		0.01**(0.004)	0.01**(0.005)	0.01**(0.005)	0.03***(0.01)
Step 4: Add interaction terms 1					
AE sub-bundle × intermediate-skilled			−0.01 (0.03)		
AE sub-bundle × low-skilled			0.01 (0.02)		
AE sub-bundle^2 × intermediate-skilled			−0.01 (0.02)		
AE sub-bundle^2 × low-skilled			−0.01 (0.01)		
ME sub-bundle × high-skilled				−0.02 (0.02)	
ME sub-bundle × intermediate-skilled				−0.01 (0.02)	
ME sub-bundle^2 × high-skilled				−0.01 (0.01)	
ME sub-bundle^2 × intermediate-skilled				0.02*(0.01)	
OE sub-bundle × intermediate-skilled					0.07***(0.02)
OE sub-bundle × low-skilled					0.02 (0.02)
OE sub-bundle^2 × intermediate-skilled					−0.03** (0.01)
OE sub-bundle^2 × low-skilled					−0.03***(0.01)
Chi^2 (degrees of freedom)	−20,556.87 [27]	−20,553.72 [30]	−20,550.79 [34]	−20,549.66 [34]	−20,544.77 [34]
Observation	$N_{employees}$ = 16,816; $N_{workplaces}$ = 1589				

Note: Values in brackets after coefficients are standard errors.

***$p < 0.001$; **$p < 0.05$; *$p < 0.10$.

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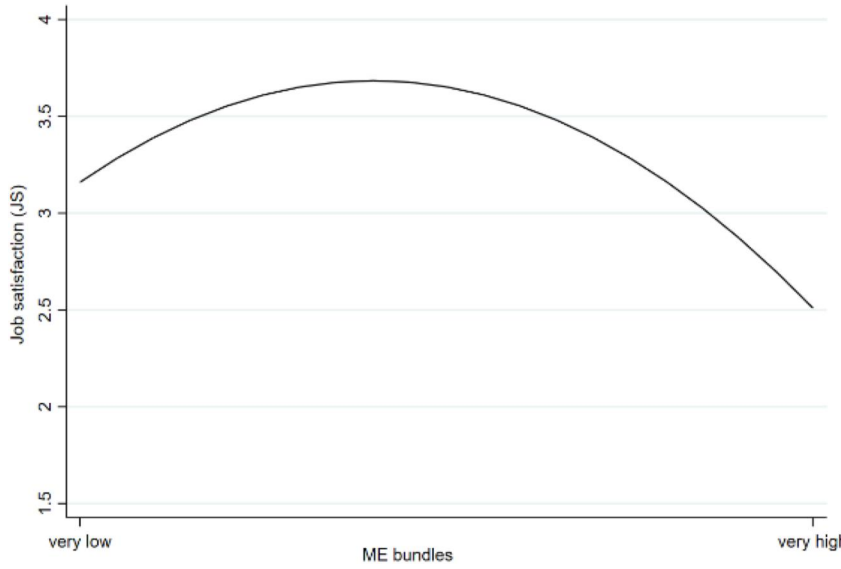

FIGURE 2 The curvilinear relationship between ME bundles and job satisfaction.

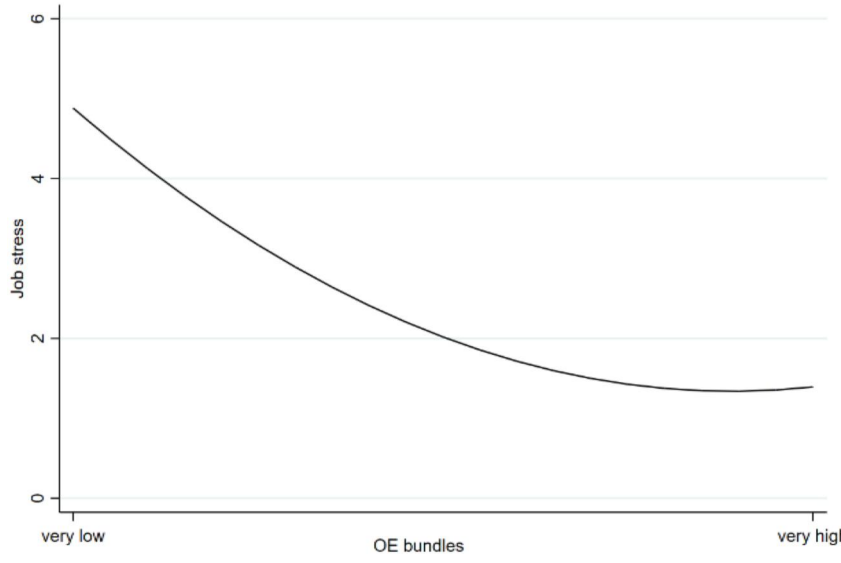

FIGURE 3 The curvilinear relationship between OE bundles and job stress.

emerge for low-skilled workers. At MI-levels of ME practices, low-skilled workers reported lower job stress than intermediate-skilled workers. These finding provided partial support for H2b.

Hypothesis H2c proposed that occupational differences moderated the curvilinear association of OE practices with employee wellbeing. It was hypothesised that high-skilled employees should experience higher levels of wellbeing in response to MI-level of OE practices than lower-skilled employees. The estimated interaction co-efficients between squared OE practices and lower-skilled occupations as well as intermediate-skilled occupations

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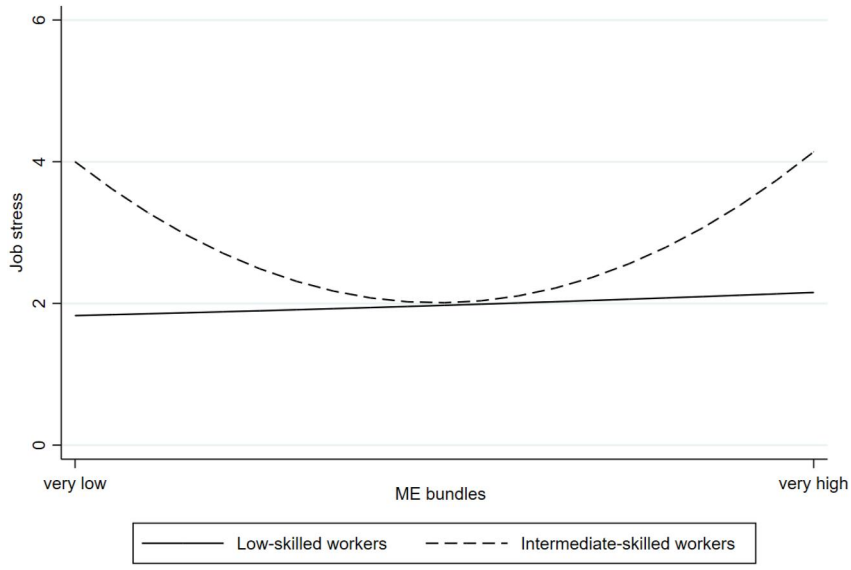

FIGURE 4 The relationship between ME bundles, occupational differences and job stress.

were all significant for job satisfaction ($\beta_{\text{intermediate-skilled workers}} = 0.02$, $p < 0.10$; $\beta_{\text{low-skilled workers}} = 0.02$, $p < 0.10$) and work-related stress ($\beta_{\text{intermediate-skilled workers}} = -0.03$, $p < 0.05$; $\beta_{\text{low-skilled workers}} = -0.03$, $p < 0.01$).

We, in addition, tested the simple slopes of the regression curves corresponding to all possible combinations of LI-, MI- and HI-levels of OE sub-bundles with job satisfaction and work stress. For high-skilled workers, the simple slope of the regression curve had a positive value at both LI- and MI-levels of OE practices for job satisfaction ($b_{\text{LI-levels}} = 0.41$, $p < 0.01$; $b_{\text{bMI-levels}} = 0.24$, $p < 0.01$), and a negative value for job stress ($b_{\text{LI-levels}} = -0.62$, $p < 0.01$; $b_{\text{MI-levels}} = -0.20$, $p < 0.01$). At HI-levels of OE practices, the simple slope did not significantly differ from zero for job satisfaction but had a positive value for job stress ($b_{\text{HI-levels}} = 0.21$, $p < 0.10$). In terms of intermediate-skilled workers, the simple slope was positive at all three levels of OE sub-bundles for job satisfaction ($b_{\text{LI-levels}} = 0.16$, $p < 0.05$; $b_{\text{MI-levels}} = 0.22$, $p < 0.01$; $b_{\text{HI-levels}} = 0.28$, $p < 0.01$), and negative at LI- and MI-levels of OE practices for job stress ($b_{\text{LI-levels}} = -0.20$, $p < 0.10$; $b_{\text{MI-levels}} = -0.14$, $p < 0.01$) but insignificant at HI-levels. As for low-skilled workers, the simple slope had a positive value at LI-, MI- and HI-levels of OE sub-bundles for job satisfaction ($b_{\text{LI-levels}} = 0.23$, $p < 0.05$; $b_{\text{bMI-levels}} = 0.24$, $p < 0.01$; $b_{\text{HI-levels}} = 0.26$, $p < 0.01$), and negative for job stress ($b_{\text{LI-levels}} = -0.22$, $p < 0.10$; $b_{\text{bMI-levels}} = -0.18$, $p < 0.01$; $b_{\text{HI-levels}} = -0.14$, $p < 0.01$).

As Figures 5 and 6 showed, relationships of OE sub-bundles with job satisfaction and work stress varied in form according to occupational differences. For high-skilled workers, the curvilinear relationship between OE practices and job satisfaction featured a positive and concave downward curve. But it turned asymptotic at HI-levels of OE sub-bundles. In contrast, the regression line was predominately positive and concave upwards for low- and intermediate-skilled occupations, indicating an increasing positive relationship between OE practices and job satisfaction at HI-levels. Furthermore, the OE practices-stress association followed a U-shaped pattern for high-skilled workers, with the lowest levels of work stress observed at MI-levels of OE practices. This curvilinearity also emerged with two lower-skilled occupational groups, but in a much more asymptotic way. The regression line was mostly negative and slightly concave downward, indicating a decreasing negative OE practices-stress association. Moreover, at MI-levels of OE practices, high-skilled workers were enjoying better wellbeing than lower-skilled counterparts. These findings supported H2c.

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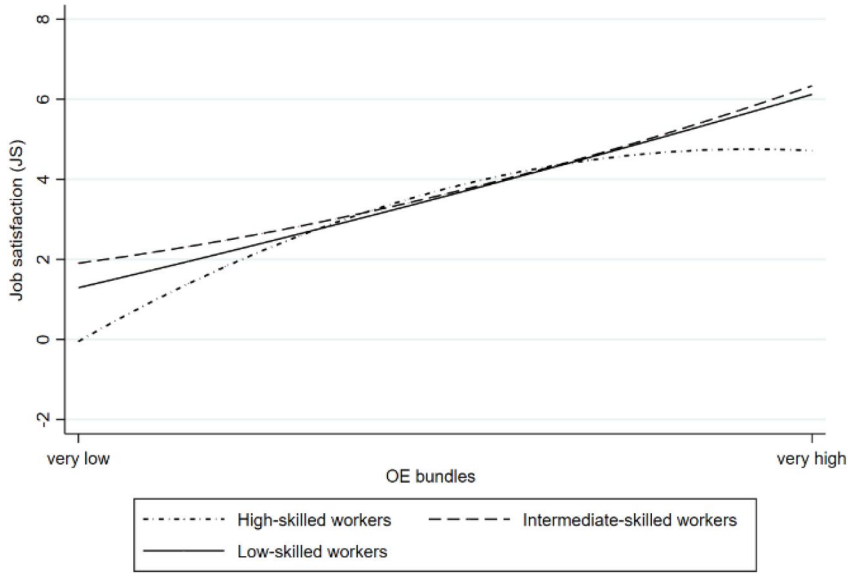

FIGURE 5 The relationship between OE bundles, occupational differences and job satisfaction.

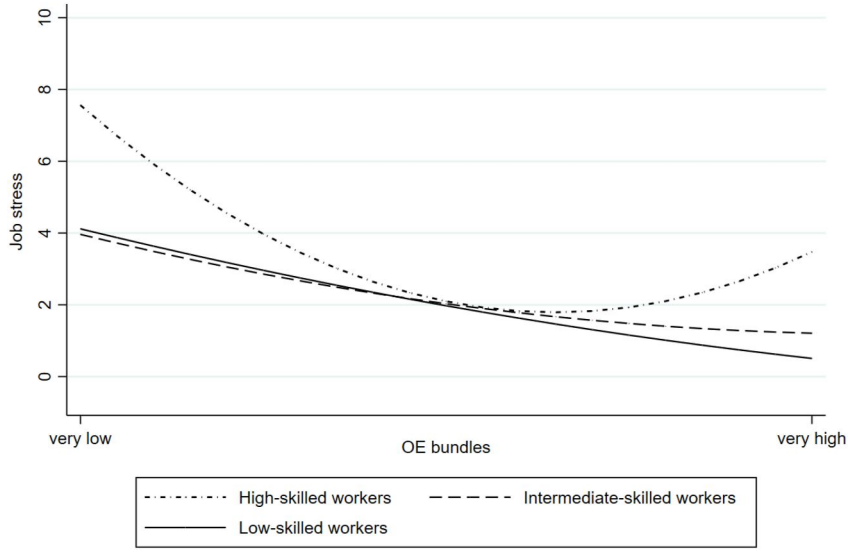

FIGURE 6 The relationship between OE bundles, occupational differences and job stress.

5 | DISCUSSION

Prior theoretical and empirical work has focused, almost exclusively, on linear, monotonic associations between HR practices and wellbeing (Peccei & Van De Voorde, 2019; Van der Voorde et al., 2012). Deviating from past research, this article examines nonlinear associations between AMO-enhancing HR sub-bundles and workplace wellbeing (i.e. job satisfaction and job stress), and context-specific conditions (i.e. occupational differences in KSAs) that shape the nature of nonlinearity. The findings, based on WERS2011 data, broadly support the main hypotheses of this study, suggesting the association between AMO sub-bundles and wellbeing is contextual and not necessarily linear. These

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findings underline the possibility that HR interventions can be damaging for employee wellbeing beyond an optimal implementation level, raising important implications for HRM research and practice.

5.1 | Contribution to research

This article makes important contribution to a body of research exploring how HR practices influence workplace-related wellbeing. First, the study investigates HR practices as sub-bundles under the premise that such practices complement and reinforce each other. This approach is consistent with the configurational view of SHRM (Chadwick, 2010; MacDuffie, 1995), which has been greatly sidelined in previous HR-wellbeing research. Prior research explores the impact of HR practices on wellbeing mostly in isolation or as a bundle. However, neither approach is optimal. Employees rarely evaluate each practice on its own (Jiang, Lepak, Han, et al., 2012). A system approach makes it difficult for managers to identify individual practices that drive observable workplace behaviors (Van der Voorde et al., 2012).

Second, using the TMGT model as the theoretical lens, the article breaks away from the dominant paradigm of linear HR-wellbeing associations (Shin & Konrad, 2017) that fails to explain inconsistent and anomalous findings in the HR-wellbeing relationship literature. The TMGT meta-theory, endorsing a reality based on curvilinear rather than linear and monotonic relations (Pierce & Aguinis, 2013), offers a more nuanced approach by examining context-specific inflection points in the HR-wellbeing association. Our results lend some support to this pattern of curvilinearity. For example, OE practices, which allow employees certain levels of discretion over their job and to take part in decision-making, mitigate job stress up to a certain implementation level. But beyond this threshold, OE practices increase job demands, role overload, ambiguity, and work pressure, all increasing job stress (Stiglbauer & Kovacs, 2018). A similar curvilinear pattern emerges also in the relationship between ME sub-bundles and job satisfaction. However, we find no evidence of curvilinearity between AE practices and wellbeing. Instead, AE practices are positively and linearly related to both job satisfaction and job stress (Guerci et al., 2019). Rigorous selection and training create feelings of compatibility and competence that improve job contentment. Meanwhile, they require employees to exhaust their energy to carry out complex, demanding work and take on personal responsibility for challenging tasks that intensify job stress (Grant et al., 2007). As the implementation level of AE practices increases, employees experience a high-quality person-job fit that improves job satisfaction (Chen et al., 2015). But they are not always offered sufficient upskilling opportunities to help them cope with unpredictable work situations as they progress. These findings are partially attributed to creating the AE sub-bundle to be skewed toward gauging selective hiring (i.e., three items) rather than training (i.e., one item). Past scholarly work considers the latter as an important component of constructing AE bundles (Boon et al., 2019).

A third contribution of our study concerns the degree of specificity associated with the TMGT effect (Edwards & Berry, 2010; Pierce & Aguinis, 2013), uncovering a contextual condition under which the nature of the nonlinear HR-wellbeing relation changes (eg the location of inflection points, the shape of curvilinearity). Such nonuniform curvilinearity patterns further underscore the contingent nature of AMO-enhancing HR practices and their limits as drivers of workplace wellbeing. Specifically, we extend prior HR-wellbeing research that used large employee occupational groupings by skill level (Okay-Somerville & Scholarios, 2019), to investigate how occupational skill levels moderate the strength of the TMGT effect. The underpinning argument is that the way employees with different occupational skill level respond to HR sub-bundles depends on how closely such practices align with their needs, values, and expectations. The findings suggest that the curvilinear association between ME practices and job stress varies across low- and intermediate-skilled occupations. For intermediate-skilled workers, the way in which ME practices relate to job stress is consistent with the TMGT effect: when implemented at extreme high levels, their beneficial effects on job stress lessens and turns negative. However, extreme high implementation intensity is seen as a challenge stressor that worsens wellbeing, as performance demands exceed the levels of KSAs they can supply (Warr, 2017). By contrast, these extrinsically rewarding practices do not affect job stress among

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low-skilled workers. Though such merit-based practices are designed centrally, they are carried out by lower-level managers (Chadwick et al., 2015). Consequently, implementation can vary from non-implementation to perfect implementation, often without effective communication and transparency. This can heighten feelings of procedural injustice, especially among low-skilled employees who are mostly decision-takers in organizations (Vossaert et al., 2022).

Occupational differences also moderate the nonlinear effect of OE practices on employee wellbeing. Although there is evidence of a curvilinearity between such practices and both wellbeing measures in our study, compared to high-skilled workers, the association takes a more asymptotic form for low- and intermediate-skilled workers in relation to job stress. Notably, such a pattern does not emerge for job satisfaction for lower-skilled workers, as the positive effect gets stronger when practices are carried out with more intensity. These seemingly anomalous findings further reinforce the view about the contextual nature of the HR-wellbeing association and the strength of any TMGT effects. The WERS was carried out at the time of a financial crisis, which had an impact on employee psychological distress and workplace behaviors (Montani et al., 2020). Such crises can explain why stress levels affect high-skilled employees, often the decision-makers, differently than low-skilled employees. During an economic downturn, intrinsic-focused HR interventions including efficient upwards and downward communication are necessary to lessen the deep sense of insecurity and uncertainty among lower-skilled employees.

5.2 | Practical implications

These findings carry important policy and practical implications. Employee wellbeing continues to be the focus of HR practices. In the UK, a survey of employees across private, public and non-profit organizations revealed that 76% of respondents reported stress-related absence and 78% of organizations are taking steps to identify and reduce workplace stress (CIPD, 2023). However, the report cites three main challenges to introduce successfully employee wellbeing initiatives: employees do not engage with such initiatives; managers do not have the necessary skills or training to implement them; and embedding such practices across different departments has been unsuccessful. Finding ways to tackle these challenges remains a subject of a continuing debate among HR managers. Our findings inform this debate by providing a new perspective on the HR-practices wellbeing association.

As our findings imply, instead of investing on a large-scale for universal systems of HR schemes, a more targeted investment strategy can be more effective in improving job satisfaction and reducing work stress. At the same time, it is important that HR managers reflect more critically on the conventional "more is better" wisdom. After all, there is evidence that devoting more than a critical threshold level of investment in HR initiatives can be less effective or even harmful to employee wellbeing. For instance, for employers who strive to create a happy and content workforce, a reasonable strategy would be to invest modestly on ME practices, such as performance appraisal and incentive pay, to maximize job satisfaction. Likewise, employers may develop and invest an intermediate level of intrinsic-oriented resources on improving job autonomy, information sharing and effective upwards or downwards communications, so they minimize work-related job stress.

Our study further highlights the importance of considering occupational skill differences when assessing the strength of HR-wellbeing curvilinear relationships. What emerges is that no "one-size fits all" practices exist when managing a workforce with different levels of KSAs across different workplace setting, even across departments within a single organization. For instance, to develop a happy and less stressful work environment for directors and senior managers, an intermediate level of OE initiatives can be more effective. For intermediate-skilled workers, organizations can consider investing moderately on ME schemes to reduce job stress. Alternatively, they could invest in intrinsic and intangible rewards to improve job satisfaction without heightening stress levels. These can be most effective for low-skilled workers. Nevertheless, it is important to be mindful of decreasing returns as more resources are devoted to such practices with the risk of job stress benefits disappearing (Zhou, 2020). Another important consideration is that role of middle managers is pivotal as they are responsible for carrying out any such

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wellbeing initiatives. Unfortunately, not all managers have the necessary training to do so (CIPD, 2023). In sum, the findings in this article provide a starting point for a reflection on the complexities of setting up employee wellbeing schemes and the need for shifting focus toward a new analytical framework (Guest, 2017). An essential element of such a framework is gaining a more nuanced appreciation of the needs of different occupational groups (Cafferkey et al., 2020). Our study goes some ways to providing such a nuanced insight on the HR-wellbeing association, which can improve the design and efficacy of wellbeing activities and their take up by employees across different departments with different occupational skills.

5.3 | Limitations and further research

This study is not without limitations. First, the correlational evidence is drawn on a cross-sectional dataset, relying only on self-reported measures. Therefore, it does not reflect a causal HR–wellbeing link (Salas-Vallina et al., 2021). Future work with a longitudinal data design could allow to investigate a possible reverse causality. Second, the findings do not support the moderating effect of occupational differences between AE and ME sub-bundles, and (some) wellbeing outcomes. This is partly attributed to data availability, which did not permit to capture certain dimensions of HR sub-systems. For example, training was measured by a single item in the AE sub-bundle and development performance was not included in ME sub-bundle. A related point is that unlike OE sub-bundles that were measured from an employees' perspective, some AE and ME practices were constructed based on managers' responses. A pitfall of this approach is that employees do not necessarily share an equal understanding of the meaning of these practices (Katou et al., 2013). An alternative approach is to integrate the content of HR practices into the process view (Bowen & Ostroff, 2004) to present a comprehensive view of HRM. Third, the findings on the curvilinear HR-wellbeing association identified a significant variation of such associations across different HR sub-bundles and wellbeing domains. Future research can provide a more granular exploration of different components of HR sub-systems, guided by current debates on the number and types of practices to be included in each sub-system. According to Bos-Nehles et al. (2023) there is little consensus across existing studies on what constitutes AMO variables. Equally, exploring different types of wellbeing domains could further enrich our understanding of the HR-wellbeing link.

ACKNOWLEDGMENTS

We extend our gratitude to the editor and the two anonymous reviewers for their insightful feedback and constructive suggestions that have significantly enhanced our paper. We would also like to express our appreciation to Professor Keith Townsend for his valuable comments on the early draft of the paper. This paper is dedicated to the memory of our esteemed co-author, Dr. Cai-Hui (Veronica) Lin, whose scholarly talents and exceptional character will always be remembered.

CONFLICT OF INTEREST STATEMENT

None of the authors have a conflict of interest to disclose.

DATA AVAILABILITY STATEMENT

The data are available via UK Data Archive (https://beta.ukdataservice.ac.uk/datacatalogue/studies/study?id=7226).

ORCID

George Saridakis https://orcid.org/0000-0002-1313-3836
Yannis Georgellis https://orcid.org/0000-0002-7866-8014

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How to cite this article: Lai, Y., Lin, C.-H., Saridakis, G., & Georgellis, Y. (2024). The impact of ability-, motivation- and opportunity-enhancing HR sub-bundles on employee wellbeing: An examination of nonlinearities and occupational differences in skill levels. *Human Resource Management Journal*, 1–19. https://doi.org/10.1111/1748-8583.12551

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