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RESEARCH ARTICLE

Untangling human resource management and employee wellbeing relationships: Differentiating job resource HR practices from challenge demand HR practices

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Abstract

In the strategic HR literature, current empirical results on the relationship between HR practices and employee wellbeing are mixed and contradictory. Based on the job resources and demands model and the fine-tuned challenge-hindrance demands framework, we propose that an important reason lies in the lack of attention paid to the different characteristics of HR practices. HR practices can serve as either job resources or challenge demands to employees, thereby having differential effects on the psychological, physical, and social dimensions of wellbeing. We integrate a measure of challenge demand (including time pressure and workload) as a mediator to further reveal how these different categories of HR practices influence employee wellbeing. Using structural equation modeling in a dataset of 4823 individual workers from a National Workplace Survey of Employees conducted in Ireland, we find that job resource HR practices are positively associated with all three dimensions of wellbeing both directly and indirectly, while challenge demand HR practices are positively associated with psychological

Abbreviations: A-M-O, ability-motivation-opportunity enhancing HRM; CATI, computer-assisted telephone interviewing; CFA, confirmatory factor analysis; CFI, comparative fit index; CSO, Central Statistics Office; HR, human resource; JD-R, job demands-resources; NIPO, NIPO company; QNHS, Quarterly National Household Survey; RMSEA, Root mean square error of approximation; SEM, structural equation modeling; SHRM, strategic HRM; SRMR, standardized root mean square residual; TLI, Tucker-Lewis index; WERS, Workplace Employment Relations Study.

wellbeing but negatively associated with physical wellbeing and social wellbeing primarily through the mediating effect of time pressure and workload. These findings point to important variable relationships, reinforcing the need to untangle the HRM employee wellbeing relationship beyond aggregated and uniform HRM-wellbeing assertions.

KEYWORDS
challenge stressor, HRM, job demand, job resource, wellbeing

Practitioner notes

What is currently known?

- Mutual gains perspective is the mainstream perspective to explain the relationship between HR practices and employee wellbeing.
- The empirical evidence on the relationship between HR practices and wellbeing is inconsistent.
- Job resources increase wellbeing, but different job demands vary in the influence on different dimensions of wellbeing.

What this paper adds?

- A more holistic understanding underpinned by the job resources and demands model and finetuned challenge-hindrance demands framework.
- Job resource HR practices are positively associated with all three dimensions of wellbeing.
- Challenge demand HR practices are positively associated with psychological wellbeing but negatively associated with physical wellbeing and social wellbeing.
- Challenge demand HR practices negatively relate to wellbeing primarily by stimulating time pressure and high workload.

The implications for practitioners

- Increased employee effectiveness achieved through HR practices may be at a cost of some dimensions of employee wellbeing.
- Employers can choose among different HR practices with similar aims that can lessen negative effects on employee wellbeing by not increasing time pressure and workload.
- Providing flexible deadlines and reducing workload can be an effective way to mitigate the negative impact of challenge demand HR practices.

1 | INTRODUCTION

Strategic HRM (SHRM) scholarship is interested in studying the organizational implications of a bundle of HR practices or systems (e.g., "high performance work practices") that enhance employees' knowledge, skills, and abilities, motivation, and opportunities to contribute (Posthuma et al., 2013). The enormous literature documenting links between HR systems and organizational performance has spawned a number of offshoots. One critical offshoot is a research stream evaluating SHRM's effects on outcomes on the individual worker level, most notably via "employee wellbeing". While employee wellbeing is a multidimensional construct comprised of psychological, physical, and social dimensions (Grant et al., 2007; Warr, 1987), it has largely been explored in HRM in a narrow or limited fashion. We

address recent calls to untangle the HRM-wellbeing relationship (e.g., Elorza et al., 2022) by disaggregating the impact of HR practices via a more holistic view of wellbeing. Specifically, following Van de Voorde et al. (2012), we consider commitment, exhaustion, and workplace relations as indicators of the three components of wellbeing.

The original SHRM wellbeing argument was that SHRM benefits both employee wellbeing and firm performance, leading to "mutual gains" for both parties (Kochan & Osterman, 1994). This perspective remains the dominant point of view amongst SHRM researchers aligned with the belief in "best practices" (Peccei & Van De Voorde, 2019). Alternatively, a "conflicting outcomes" (or "labor process") perspective views HR practices as a means to leverage employees to increase firm efficiency and/or reduce costs, but which can also harm employees due to increased workload and requirements (Ramsay et al., 2000). Both positive and negative relationships between HR practices and employee wellbeing are documented in the literature (e.g., Guerci et al., 2019; Ogbonnaya & Messersmith, 2019; Ramsay et al., 2000), supporting either perspective. While traditional SHRM theories such as A-M-O theory (Jiang & Messersmith, 2018) provide a strong rationale to understand the organizational implications of HR functions on firm performance, they do not explain the inconsistent and contradictory wellbeing findings at the individual level that are frequently evidenced in the literature.

Drawing on the job demands-resources model (JD-R, Demerouti et al., 2001) and the extended challenge-hindrance demands framework (LePine et al., 2005), we argue that an important theoretical reason for the inconsistent results is that different HR practices in strategic HRM bundles may vary in how strongly they serve as job resources or challenge demands to employees. Specifically, HR practices that function as job resources can help employees achieve work goals, reduce job demands, or stimulate personal growth and development (Bakker et al., 2023). While HR practices that serve as challenge demands also stimulate employees to develop and grow, they may impose physiological costs on employees by requiring sustained physical or mental effort (LePine et al., 2005). For example, performance management and pay for individual performance require employees to exert more effort at work, which are found to decrease the physical dimension of employee wellbeing, suggesting that they primarily serve as challenge demands (Conway et al., 2016; Guerci et al., 2019).

Job resources and challenge demands influence the three dimensions of wellbeing differently. By definition, job resources are viewed positively by individuals, which thus enhance all three dimensions of wellbeing. Despite the negative repercussion of energy depletion (harming physical wellbeing), challenge demands are still positively valued by employees as they are associated with potential gains by strengthening employee positive attitudes and motivation (a form of psychological wellbeing) as well as increasing job performance (Crawford et al., 2010; LePine et al., 2005; Podsakoff et al., 2007). Accordingly, we posit that while some HR practices serve as job resources that enhance wellbeing, others serve as challenge demands likely to create wellbeing tradeoffs (cf. Guerci et al., 2019).

Accordingly, utilizing a unique dataset of 4823 individual workers, we employ some of the most commonly studied HR practices in the SHRM literature (i.e., participation, autonomy, training, and pay for performance; Boon et al., 2019) and examine how they serve as job resources or challenge demands by modeling the impacts of these HR practices on all three wellbeing dimensions. To further reveal the mechanisms driving the effects of these different HR practices, we employ another challenge demand, consisting of time pressure and workload (Crawford et al., 2010; LePine et al., 2005; Podsakoff et al., 2007), as a mediator in these relationships. The mediated path through wellbeing is a route for much of the negative influence of this study's HR practices on wellbeing.

This study contributes to the SHRM literature in several ways. In contrast to the dominant, aggregated HR systems perspective, we separate HR practices based on their resources/demands nature, providing additional insights to consider SHRM-wellbeing relationships. SHRM literature has been dominated by theories (AMO theories, social exchange theory, etc.) interpreting how HR practices influence individual and collective attitudes and performance, which do not provide enough nuance to understand individual wellbeing. We integrate the JD-R model (Demerouti et al., 2001) along with the fine-tuned extension of the challenge-hindrance demands framework (LePine et al., 2005) to enrich the SHRM literature by providing theoretical reasoning for the psychological and physiological influence of HR practices on employee wellbeing. This moves us beyond the broad mutual gains or conflicting outcomes perspectives. While the JD-R model is widely used in the strain literature, management scholars have

only recently begun to recognize the potential of HR practices to function as both resources and stressors (cf. Kim et al., 2022). Connecting to the strain literature, in this study, not only do we discuss the varying resources/demands functions of HR practices, but we introduce a mediating mechanism via a common measure of challenge demand consisting of time pressure and workload, through which our proposed functions of different HR practices are further supported. Importantly, we estimate the impact of HR practices on all three wellbeing dimensions simultaneously to mitigate potential omitted variable biases to inference. This enables us to move beyond the "narrow and parsed" nature of existing HR-wellbeing explorations (Cafferkey et al., 2021, p. 832). By providing a pathway to explore wellbeing trade-offs, we address calls for more considered and holistic explorations of wellbeing (Elorza, et al., 2022). We begin by reviewing the results in the existing SHRM-employee wellbeing research stream before developing hypotheses based on the challenge-hindrance demands framework for testing in our analysis. Discussions based on our results follow in the final section of the paper.

2 | LITERATURE REVIEW AND HYPOTHESES

2.1 | SHRM and wellbeing: Overview and conflicting findings

Employee wellbeing is broadly defined as "the overall quality of an employee's experience and functioning at work" (Grant et al., 2007; Warr, 1987). Several approaches have been employed by researchers to explore this concept, including subjective (Diener, 1984) and psychological operationalizations (Ryff, 1989). For the purposes of this paper, we adopt Grant et al.'s (2007) multi-dimensional definition, which includes psychological, physical, and social dimensions of wellbeing. Specifically, in organizations, psychological wellbeing refers to the subjective experiences of individuals emphasizing the feeling of pleasure or the sense of fulfillment. It has been assessed by reference to subjective psychological outcomes including engagement, satisfaction, and commitment. For the current research, we draw on commitment, as it indicates employees' attitudes and subjective feelings toward the organization (Meyer & Maltin, 2010). Commitment has been frequently used in the literature as a form of psychological wellbeing (Ho & Kuvaas, 2019; Van De Voorde et al., 2012; Veld & Alfes, 2017). Notably, until recently, this form of psychological wellbeing has been the dominant, if not exclusive, emphasis in HRM studies exploring wellbeing, aligning as it does most directly with performance outcomes (Boccoli et al., 2023). In an effort to rebalance this focus, we also explore physical and social wellbeing.

Physical wellbeing is the objective physiological measures and/or the subjective experience of bodily health. Following the literature (Van De Voorde et al., 2012), we include exhaustion to reflect the subjective perspective of physical wellbeing. This reflects recent work which offers a more multifaceted view on wellbeing such as bridging happiness and health components (Elorza et al., 2022). Social (or relational) wellbeing refers to the quality of one's relationships with other people and communities. Specifically, there is a nuance in the relationships amongst employees on one hand and the relationships between employees and their supervisors or organization on the other (Van De Voorde et al., 2012). We consider both dimensions, labeled as workplace relations. This final dimension speaks to systematic reviews of wellbeing research, which highlight that it is rare to consider social wellbeing in tandem with psychological and health dimensions (Boccoli et al., 2023).

Consistent with the mainstream mutual gains perspective in SHRM-wellbeing studies (Peccei & Van De Voorde, 2019), HR practices have often been viewed by SHRM scholars as important job resources that organizations provide employees. With respect to psychological wellbeing, most studies report that HR practices both directly and indirectly increase individual level job satisfaction, commitment, and work engagement (e.g., Van De Voorde et al., 2016). Similarly, in the less common research on physical wellbeing, a number of studies (e.g., Butts et al., 2009; Macky & Boxall, 2008) report that HR practices increase employee physical wellbeing by mitigating job stress. For the social dimension of wellbeing, most studies show a positive association between HR practices and

perceived organizational support (Tang et al., 2017), employees' trust (Ogbonnaya et al., 2017), and relationships with management (Ho & Kuvaas, 2019).

However, the conflicting outcomes perspective in SHRM wellbeing studies (Peccei & Van De Voorde, 2019) suggests that HR practices may actually serve as job demands that mitigate employee wellbeing. For instance, results from Wood and Ogbonnaya (2018) indicate that HR practices focusing on organizational involvement have a negative relationship with individual level job satisfaction. Kroon et al. (2009) suggest that some HR practices tend to harm employee health by increasing employee exhaustion. Moreover, some individual level wellbeing studies report negative relationships with social wellbeing when considering the influence of motivation-oriented HR practices (Guerci et al., 2019; Ho & Kuvaas, 2019).

Yet drawing an inference of mixed effects based on the current evidence is premature, as existing studies rarely evaluate HR practices' relationships with all three wellbeing dimensions at once, with the most attention paid to psychological wellbeing (De Cieri & Lazarova, 2021). Researchers (Elorza et al., 2022; Van De Voorde et al., 2012) have appealed for a more comprehensive examination on wellbeing by jointly considering all three dimensions of wellbeing in a single model. Notable also, and consistent with the SHRM tradition, a great number of empirical wellbeing studies have adopted an aggregated organizational level HR system approach (e.g., Ho & Kuvaas, 2019), assuming that all HR practices function jointly and similarly either as job resources (cf. mutual gain perspective; Peccei & Van De Voorde, 2019) or job demands (cf. the conflicting outcomes perspective; Peccei & Van De Voorde, 2019). Mixed findings to date suggest that a uniform treatment of all HR practices as similar may be insufficient to untangle the SHRM-wellbeing relationship at the individual level of analysis, making an investigation that differentiates between HR practices necessary. We next turn to JD-R model and the challenge-hindrance demands framework, which provide us with a theoretic rationale for making such a differentiation between HR practices with respect to wellbeing.

2.2 | JD-R model and wellbeing

Work-related factors influence individual wellbeing differently by functioning either as job resources or job demands. Job resources are aspects of the job that can provide employees means to complete their tasks, mitigate job demands, and/or nurture their personal growth, such as autonomy, participation, and feedback (Demerouti et al., 2001). Job resources are expected to increase job performance and all three dimensions of employee wellbeing. For example, the literature consistently suggests that job resources strengthen employee motivation and reduce job strain (Bakker & Demerouti, 2017). Accordingly, we expect that job resource HR practices are positively associated with the three components of wellbeing.

Traditional JD-R scholars frame job demands as factors in the working environment that lead to individual physiological and psychological costs (Demerouti et al., 2001). For instance, job demands are found to cause strain and burnout and impair individual health (Bakker & Demerouti, 2017). However, there is an extension of the JD-R model which posits that different types of job demands can influence individuals' motivation differently (LePine et al., 2005). Presumably, it can also influence the HRM implications for wellbeing. We discuss this theoretical extension of JD-R model in the following section.

2.3 | Challenge-hindrance demands framework and wellbeing

The challenge-hindrance demands framework suggests that there are both "good" stressors and "bad" stressors, which correspond to "challenge demands" and "hindrance demands" (Cavanaugh et al., 2000; LePine et al., 2005), respectively. Challenge demands such as high workload, time pressure, broad job scope, and high responsibility function as both stressors and opportunities for personal growth and achievement. This is because employees expect

their efforts spent on dealing with those stressors can lead to future desirable consequences and to a sense of personal accomplishment once those demands are met. Therefore, challenge demands are associated with increased employee motivation and job performance (LePine et al., 2005).

Research also indicates that challenge demands can lead to wellbeing tradeoffs. Previous meta-analyses have found that while challenge demands impair physical wellbeing by increasing burnout and stress, they are associated with improved psychological wellbeing, such as job satisfaction and organizational commitment (Crawford et al., 2010; LePine et al., 2005; Podsakoff et al., 2007). Although less studied, challenge demands were found to negatively correlate with management relations (Ho & Kuvaas, 2019) and positively correlate with work-life imbalance (Boxall & Macky, 2014; Macky & Boxall, 2008), indicating an association with reduced social wellbeing.

On the other hand, workers appraise hindrance demands such as role ambiguity, role conflict, and organizational politics as harmful to their personal development and work-related accomplishments. In this case, employees would not experience any motivation elevation associated with this type of demand, but experience a higher level of strain and a lower level of social engagement and performance (LePine et al., 2005), reducing all three dimensions of wellbeing.

Research suggests that work context characteristics hold a fairly consistent meaning across individuals. Some job demands are more likely to be appraised as challenges across individuals generally, while other job demands are more likely to be appraised as hindrances (Brief & George, 1995; Crawford et al., 2010). In a work setting, the implementation of HR practices connotes the efforts of employers to clarify employee roles and develop individuals' human capital to fill organizational needs (Posthuma et al., 2013). Thus, HR practices are less likely to be appraised as hindrance demands that have solely negative effects on workers' perceptions of their wellbeing. However, it is possible that workers may experience different HR practices as either job resources or challenge demands. For example, HR practices like job autonomy may be regarded as a job resource that caters to individuals' needs (Hobfoll, 2011), whereas HR practices such as extensive training can be perceived as a challenge demand that tends to increase employee workload and beget burnout, reducing physical wellbeing, but increase affective commitment, a form of psychological wellbeing, as employees feel they are recipients of an investment.

2.4 | Direct relationships between HR practices and employee wellbeing

While researchers vary in the HR practices that they include in different studies, compensation and benefits, job and work design, and training and development are the three most explored HR practice domains in the HRM literature, according to a widely referred literature review by Posthuma et al. (2013). These also come through in Boon's et al. (2019) more recent review on HR systems (p. 2507). Accordingly, we consider pay for performance, participation, autonomy, and training in developing our hypotheses. Building upon the above discussion, when considering their relationships with the three different types of employee wellbeing, we separate these four HR practices into two categories based on their function as primarily job resources or challenge demands for individuals.

2.4.1 | HR practices as resources

Employee participation and job autonomy are two classic examples of opportunity-enhancing HR practices in SHRM (Posthuma et al., 2013) and they are also viewed as common types of job resources by JD-R researchers (cf. Bakker & Demerouti, 2017; Demerouti et al., 2001). As discussed, job resources are expected to enhance all three components of wellbeing because they are purely functional.

In this study, we focus on a type of employee participation wherein firms share information with employees and consult with them on organizational decision-making. When employees perceive that firms consult with them, they are likely to feel more valued and involved in organizational activities, increasing their commitment. In addition,

when employees are notified before organizational changes are made and have a voice in the way those changes are implemented, they tend to feel less stressed about environmental uncertainty (Brown & Cregan, 2008). Exchanging opinions and thoughts with other organizational members also helps build trust and social ties within organizations. Empirically, Harney et al. (2018) found that consultation promotes psychological wellbeing and physical wellbeing by increasing job satisfaction and reducing employee exhaustion. Cox et al. (2006) also reported that employee involvement and participation increase job commitment and job satisfaction.

Another job resource type of HR practice is job autonomy, which is an important dimension of job design. Autonomy determines the extent to which employees are provided with freedom, independence, and discretion to decide the ways they want to complete their tasks. Research has indicated that having autonomy is one of individuals' basic psychological needs (Ryan & Deci, 2000). When such basic needs are satisfied, individuals are intrinsically motivated, whereas when deficient individuals can experience health problems and ill-being (Ryan & Deci, 2000).[1] Accordingly, we posit that job autonomy can be a key resource that employees use to fulfill their basic needs through work and enhance their motivation and health. Our proposition echoes a longstanding meta-analysis from Spector (1986). Privileging an employee perspective to explore job resource HR practices as related to a multifaceted appreciation of wellbeing, we therefore hypothesize:

Hypothesis 1. Job resource HR practices (e.g., participation and autonomy) have positive relationships with psychological (1a), physical (1b), and social (1c) wellbeing.

2.4.2 | HR practices as demands

While less abundant, studies frequently report non-significant or negative associations of training and pay for performance with employee wellbeing, particularly physical wellbeing (e.g., Boxall & Macky, 2014; Guerci et al., 2019; Ogbonnaya & Messersmith, 2019). We postulate it may be because these two HR practices are challenge demand HR practices. Training and pay for performance belong to the ability-enhancing HR bundle and motivation-enhancing HR bundle, respectively. Both HR practices have the potential to develop and enrich employees, while simultaneously being demanding. According to challenge-hindrance demand framework (LePine et al., 2005), such challenge demands can stimulate psychological wellbeing but are associated with reduced physical wellbeing and social wellbeing.

Existing research demonstrates that when being enriched with job-related information and trained on tasks, employees expect to be more capable at completing work goals. Thus, they are more satisfied and committed to their institutions for making these investments in them (Gould-Williams, 2004), suggesting that training leads to higher psychological wellbeing. Indeed, SHRM scholars also suggest that HR practices such as training (whereby employers invest in employees) engender feelings of reciprocal commitment from employees (Kehoe & Wright, 2010).

However, it is likely that training can also deplete employee resources at work, leading to burnout and other physical and social wellbeing problems. Training is intentionally designed to facilitate employees' ability to take on more responsibilities. While we can expect that employees who participate in training may eventually be more competent over the long term, in the short term during and after the training, employees still need to put a significant amount of their time and effort into the work in order to digest additional work-related information and cultivate new skills and capabilities. There is also a learning curve that would increase individual psychological and physiological costs in the short term. In fact, in our literature review, most empirical studies do not find a significant effect of training on wellbeing, particularly physical wellbeing (e.g., Boxall & Macky, 2014; Guerci et al., 2019; Ogbonnaya & Messersmith, 2019). Given our interest in the short-term training effect in this paper, we believe training is more likely to be a challenge demand over that time period; that is, one that both stresses and develops individuals.

While a number of researchers fail to find a significant relationship between training and physical wellbeing (e.g., Boxall & Macky, 2014; Guerci et al., 2019), Avgoustaki and Frankort (2019) reported that on-the-job training and

employer-provided training can increase fatigue and stress, suggesting that training could indeed trade off reduced physical wellbeing for increased psychological wellbeing in the short term. In addition, from a job resource and demand perspective (Demerouti et al., 2001), investment in training may deprive individuals of personal resources in the short term that could have been used to develop social relationships in organizations. For employees who have high learning workloads, it can be hard for them to further extend time and attention outside of training to personal contacts after those training sessions, which is more important to develop relationships. Thus, we expect that training will be associated with a lower level of physical and social wellbeing, in the short term.

Pay for performance is another challenge demand HR practice. On the one hand, pay for performance practice potentially enhances psychological wellbeing. Pay for individual performance can enhance employees' satisfaction by promoting a sense of fairness and control over outcomes. Collective pay for performance stimulates employees to be more committed by offering additional earning opportunities outside of individual tasks and responsibilities. Research has found that both types of pay for performance enhance job satisfaction and commitment (Boxall & Macky, 2014; Macky & Boxall, 2008).

On the other hand, pay for performance engenders a risk of reducing employees' physical wellbeing. Under a pay for performance scheme, employees do not have completely guaranteed pay (i.e., a portion of their pay is "at risk"). Guerci et al. (2019) found that both contingent pay based on individual performance and contingent pay based on collective performance decrease employees' physical wellbeing by increasing employee physical health problems or reducing mental health. The implications of pay for performance for social wellbeing can be contingent on the type of pay for performance. Guerci et al. (2019) found that pay for individual performance is negatively related to interpersonal relations, while pay for collective performance did not have such a significant relationship. Consequently, we hypothesize:

Hypothesis 2. Challenge demand HR practices (e.g., training and pay for performance) have a positive relationship with psychological (2a) wellbeing, but have negative relationships with physical (2b) and social (2c) wellbeing.

2.5 | The mediating effect of time pressure and workload as a challenge demand

Conservation of resources theory (Hobfoll, 2011) indicates that there is a resource spiral in individuals such that resource losses (gains) in one aspect of the job would lead to future resource losses (gains) in another aspect of the job. Studies also suggest that HR practices not only influence wellbeing directly, but also influence wellbeing indirectly by shaping/creating employee perceptions of other job resources or demands (Van De Voorde et al., 2016). Accordingly, to further uncover the varying effects of job resource HR practices and challenge demand HR practices on wellbeing, we utilize another common challenge demand, consisting of time pressure and workload (Crawford et al., 2010; LePine et al., 2005; Podsakoff et al., 2007), as a key mediator in the HRM/wellbeing relationships. These two indicators are jointly considered by researchers to function as a challenge demand in the strain literature (Bennett et al., 2018). While time pressure and high workload cause strain, meta-analysis results suggest that employees also experience positive emotions and attitudes due to potential gains associated with such stressors (Bennett et al., 2018; LePine et al., 2005).

Thus, we expect that this challenge demand (time pressure and workload) serves as an important mechanism associated with HR practices which can indirectly add to or detract from the direct resources/demands effects of different HR practices. We suggest that job resource HR practices such as participation and autonomy should lessen the negative wellbeing repercussions by reducing the time pressure and workload that workers experience. This is consistent with the arguments and findings in the job demand-resource literature that job resources reduce job demands that cause physiological and psychological costs (Demerouti et al., 2001). For example, consultation based participation gives employees a voice in how they want to adapt on the job to relieve workload, while autonomy allows employees to take actions to make such adaptions to reduce time pressure. Thus, we expect participation

and autonomy to mitigate the negative effects of this challenge demand by reducing experienced time pressure and workload.

In contrast, we expect that challenge demand HR practices can engender the negative implications of challenge demands both by generating their own direct challenge demand effects on wellbeing and, in at least some cases, *indirectly* by increasing workers' experienced time pressure and workload, leading to augmented overall challenge demand effects on employee wellbeing. In order to meet high expectations associated with training and pay for performance, for example, employees tend to spend additional effort during work and take extra hours to meet work goals. In fact, previous research has demonstrated that HR systems can influence workers' experienced time pressure and workload (Ogbonnaya & Messersmith, 2019), though the extant research has not distinguished between these two categories of HR practices with particular significance for employee wellbeing. To the extent that these two types of HR practices covary with time pressure and workload, this indirect path will either mitigate or augment their direct effects. This leads to our following hypothesis:

Hypothesis 3. Time pressure and workload mediates the relationship between job resource HR practices with wellbeing, such that job resource HR practices have a negative relationship with this challenge demand that, in turn, has a positive relationship with psychological wellbeing (3a) but has negative relationships with physical (3b) and social wellbeing (3c).

Hypothesis 4. Time pressure and workload mediates the relationship between challenge demand HR practices with wellbeing, such that challenge demand HR practices have a positive relationship with this challenge demand that, in turn, has a positive relationship with psychological wellbeing (4a) but has negative relationships with physical (4b) and social wellbeing (4c).

3 | RESEARCH METHODOLOGY

3.1 | Sample and procedure

This study is based on a large database of 5110 employee responses drawn from a National Workplace Survey of Employees conducted in Ireland in 2009. After listwise deletion, 4823 employees were in our final sample. The National Workplace Survey of employees is a telephone survey targeting employees aged 15 and over in the public and private sectors (excluding agriculture). Following a pilot, the survey was administered by a third party agency (NIPO) utilizing questionnaire scripted software. NIPO provided capabilities in the following areas: managing CATI (Computer Assisted Telephone Interviewing), entering data, managing the telephone sample numbers, managing appointments with respondents, and monitoring sample quotas and overall targets in order to track progress. Importantly, it also afforded a real time monitoring system to ensure quality of interviewing was maintained. This ensured a systematic, independent, and transparent means of data collection.

The sample was generated on a stratified random basis with quota control. Allowing for ineligibility and invalid telephone numbers, the survey yielded a 50% response rate. Each interview lasted an average time of 35 min (for further technical details see O'Connell et al., 2010). Prior to analysis, the sample was re-weighted using information from the Quarterly National Household Survey (*QNHS*) from the first quarter of 2009 to ensure that it was fully representative of the full population of employees in Ireland.[2] The sample purposefully focused on workers who were employees (i.e., excluding the self-employed) and, with this caveat, is representative of labor market trends.

3.2 | Measures

3.2.1 | HR practices

For participation, four questions were used, based on a measure adapted from the Workplace Employment Relations Study (WERS) 1997 survey (Ho & Kuvaas, 2019; Kilroy et al., 2017). A sample question was "How often are you and your colleagues consulted before decisions are taken that affect your work". For autonomy, five questions were asked to respondents about their perceived influence over their work (Kilroy et al., 2017; Ogbonnaya & Messersmith, 2019). An example item included: "You decide how much work you do or how fast you work during the day". Both measures used a five-point Likert scale for responses ranging from 1 (rarely) to 5 (almost always).

Two questions were asked about training. One was a dichotomous question asking respondents if they had received any education or training paid for or provided by their present employer over the last 2 years (Ho & Kuvaas, 2019). The second was a continuous question on the length of training (0 = no training, 1 = up to 1 day, 2 = 2 days–1 week, 3 = over 1 week = 4 weeks, and 4 = over 4 weeks–6 months, Guerci et al., 2019). One dichotomous item representing the presence of merit/performance-related pay was used to measure the pay for performance (Guerci et al., 2019).

Based on the theoretical analysis of the job resource HR practices (participation and autonomy) and challenge demand HR practices (training and pay for performance), we conducted a second order confirmatory factor analysis (CFA). Given the measurements were based on different scales, all items were standardized in the analysis. In the CFA, all items loaded on the relevant HR practices and HR practices were loaded on the theoretical resource or demand category. The CFA results provide good model fit (χ^2 [43] = 375.76, $p < 0.001$, CFI = 0.98, TLI = 0.97, RMSEA = 0.04, and SRMR = 0.03). Thus, we used the job resource and challenge demand category of HR practices in the following analysis with four specific HR practices as their indicators.

3.2.2 | Time pressure and workload

This variable was measured by four items closely following Karasek's et al. (1985) Job Content Questionnaire, which describes the nature, speed, and occurrence of a demanding job (Harney et al., 2018). The sample items were "My job requires that I work very hard" and "I work under a great deal of pressure". A four-point Likert scale was used. Cronbach's alpha for the scale was 0.74.

3.2.3 | Employee psychological well-being

Following previous research (Ho & Kuvaas, 2019; Van De Voorde et al., 2012; Veld & Alfes, 2017), employee commitment was used to operationalize employee psychological wellbeing, measured by six items adapted from Meyer et al. (1993) on a four-point Likert scale. A sample item was "I am proud to be working in this organisation". Cronbach's alpha for this scale was 0.73.

3.2.4 | Employee physical well-being

Employee physical wellbeing was operationalized by exhaustion (reverse coded), measured by five items (Kilroy et al., 2017) on a five-point Likert scale. For instance, participants were asked to indicate how often they involve in activities: "find your work stressful", "come home from work exhausted", and "feel too tired after work to enjoy the things you would like to do at home". Cronbach's alpha for this five-item scale was 0.83.

3.2.5 | Employee social well-being

Employee social wellbeing was measured by two items (Ho & Kuvaas, 2019) on a five-point Likert scale. Respondents were asked to describe the relationships between staff and management at their workplace as well as their relationships in general between different staff members. Cronbach's alpha for this scale was 0.67, deemed acceptable (Nunnally, 1978).

3.2.6 | Control variables

We controlled for individual characteristics that may have an impact on employee wellbeing (Ogbonnaya & Messersmith, 2019; Ramsay et al., 2000). Specifically, gender, employment type, union membership, and education were included as dummy variables (detailed notation can be found in Table 1). Individual organizational tenure was also controlled using the years working in the present workplace. In addition, one item of job security was included. To reflect the influence of HR practices on employee short-term physical wellbeing, we further controlled general health, wherein respondents were asked to rate their own health using a five-point Likert scale. In addition, we included sector and firm size.

3.3 | Analyses

To test the hypotheses, we conducted structural equation modeling (SEM) in Mplus 8.3 (Muthén & Muthén, 2012). CFA was first conducted to confirm the discriminant validity of the multi-item measurement constructs and rule out the common method variance concerns. Results are presented in Table 1. The CFA results provided a good model fit for a six-factor structure where the two types of HR practices, challenge demand (time pressure and workload), and the three types of employee wellbeing were specified as separate measures (χ^2 [164] = 1814.61, $p < 0.001$, CFI = 0.94, TLI = 0.93, RMSEA = 0.04, and SRMR = 0.04). We also conducted CFAs for other potential measurement models and compared them to our theoretically preferred model. For instance, challenge demand HR practices and challenge demand (time pressure and workload) were combined in Model A, and three wellbeing dimensions were combined into one factor in Model D. The results of all these alternative models confirmed that the full measurement

TABLE 1 Fit statistics from measurement model comparison.

Models	χ^2/df	CFI	TLI	RMSEA	SRMR	$\Delta\chi^2$	Δdf
Full measurement model	1814.61/164	0.94	0.93	0.04	0.04		
Model A[a]	2060.17/169	0.94	0.92	0.05	0.05	245.56***	5
Model B[b]	4873.82/169	0.84	0.80	0.07	0.07	3059.21***	5
Model C[c]	3765.07/169	0.88	0.85	0.07	0.06	1950.46***	5
Model D[d]	8357.12/173	0.72	0.66	0.10	0.11	6542.51***	9
Model E[e] (Harman's single factor test)	11,349.27/179	0.60	0.55	0.11	0.13	9534.66***	15

Note: $N = 4823$.

[a]Challenge demand HRM and challenge demand (time pressure and workload) combined into a single factor.

[b]Physical and social wellbeing combined into a single factor.

[c]Psychological and social wellbeing combined into one factor.

[d]Psychological, physical and social wellbeing combined into a single factor.

[e]All factors combined into a single factor.

***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

model in this study had the best model fit among all model specifications, supporting the discriminant validity of the studied constructs.

Furthermore, to examine our common method variance problem, we combined all factors into a single factor (Harman's single factor test) in Model E. This model had the worst fit to our data (χ^2 [179] = 11,349.27, $p < 0.001$, CFI = 0.60, TLI = 0.55, RMSEA = 0.11, and SRMR = 0.13), indicating meaningful differences among these variables.

4 | RESULTS

Table 2 reports descriptive statistics, including the means, standard deviations, and correlations.

4.1 | Model test

Figures 1 and 2 present the findings for SEMs based on our best fitting CFA, with paths between construct measures drawn per our hypotheses.

Hypothesis 1 proposed that there would be positive direct links between the job resource HR practices with psychological (1a), physical (1b), and social (1c) wellbeing. As shown in Figure 1, job resource HR practices were positively associated with psychological ($\beta = 0.37$, $p < 0.001$), physical ($\beta = 0.36$, $p < 0.001$), and social wellbeing ($\beta = 0.58$, $p < 0.001$). Thus, Hypothesis 1 was supported.

Hypothesis 2 proposed that there would be negative links between challenge demand HR practices and physical (2b) wellbeing and social (2c) wellbeing, but a positive link with psychological (2a) wellbeing. As shown in Figure 1, challenge demand HR practices were negatively associated with physical wellbeing ($\beta = -0.19$, $p < 0.001$) but not significantly associated with psychological ($\beta = -0.07$, *n.s.*) or social ($\beta = -0.03$, *n.s.*) wellbeing. Thus Hypothesis 2 was partially supported.

Hypothesis 3 proposed that job resource HR practices would be negatively associated with time pressure and workload, which would in turn has a positive relationship with psychological (3a) wellbeing but a negative relationship with physical (3b) and social (3c) wellbeing. Referring to Figure 2, job resource HR practices were, indeed, negatively associated with time pressure and workload ($\beta = -0.18$, $p < 0.001$), and time pressure and workload were found to be negatively related to physical ($\beta = -0.63$, $p < 0.001$) and social wellbeing ($\beta = -0.07$, $p < 0.001$) but positively related to the psychological wellbeing ($\beta = 0.11$, $p < 0.001$). Indirect effects for the two types of HR practices through this challenge demand on wellbeing were reported in Table 3. As reported in that table, the indirect relationships for job resource HR practices with all three types of wellbeing were all significant. Thus, the predictions in Hypothesis 3 were supported.

It is important to contrast the coefficients for the direct and indirect effects as well as their signs and significance. For job resource HR practices, the indirect relationships with psychological and social wellbeing were significant but of trivial magnitude ($z = -0.01$ with 95% CI [−0.014, −0.004] for psychological wellbeing and $z = 0.02$ with 95% CI [0.008, 0.026] for social wellbeing) compared to these HR practices' direct effects ($\beta = 0.40$, $p < 0.001$ for psychological wellbeing and $\beta = 0.57$, $p < 0.001$ for social wellbeing). However, the indirect relationship coefficient ($z = 0.16$ with 95% CI [0.102, 0.213]) for physical wellbeing through challenge demand (time pressure and workload) appeared to explain a meaningful proportion of the direct relationship of job resource HR practices with physical wellbeing (β was reduced from 0.36 to 0.20).

Hypothesis 4 proposed that challenge demand HR practices would be positively associated with time pressure and workload, which would, in turn, be positively related to psychological (4a) wellbeing but be negatively related to physical (4b) and social (4c) wellbeing. As shown above as well as in Figure 2, challenge demand HR practices were positively associated with time pressure and workload ($\beta = 0.21$, $p < 0.001$), while time pressure and workload were found to be negatively related to physical ($\beta = -0.63$, $p < 0.001$) and social wellbeing ($\beta = -0.07$, $p < 0.001$) but

TABLE 2 Descriptive statistics.

Variable		Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1	Psychological wellbeing (commitment)	2.93	0.46										
2	Physical wellbeing (exhaustion-reversed)	3.36	0.90	0.19**									
3	Social wellbeing (workplace relations)	4.11	0.75	0.39**	0.27**								
4	Challenge demand (time pressure and workload)	2.75	0.55	0.06**	−0.54**	−0.12**							
5	Job resource HRM	0.00	0.56	0.32**	0.24**	0.38**	−0.03						
6	Participation	3.78	0.99	0.36**	0.24**	0.47**	−0.06**	0.84**					
7	Autonomy	2.63	0.78	0.12**	0.12**	0.10**	0.02	0.74**	0.25**				
8	Challenge demand HRM	0.01	0.74	0.06**	−0.05**	0.04**	0.09**	0.18**	0.17**	0.12**			
9	Training	0.00	0.96	0.05**	−0.05**	0.02	0.10**	0.11**	0.12**	0.05**	0.74**		
10	Pay for performance	0.82	0.38	0.05**	−0.03*	0.05**	0.04**	0.16**	0.13**	0.13**	0.77**	0.13**	
11	Gender[a]	0.52	0.50	0.07**	0.00	0.06**	0.05**	−0.07**	−0.03*	−0.09**	−0.11**	−0.03	−0.13**
12	Education dummy 1[b]	0.40	0.49	0.01	0.12**	0.05**	−0.20**	−0.14**	−0.06**	−0.17**	−0.16**	−0.14**	−0.10**
13	Education dummy 2[c]	0.22	0.41	0.01	−0.02	−0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.01
14	Education dummy 3[d]	0.38	0.49	−0.02	−0.11**	−0.04**	0.18**	0.12**	0.05**	0.15**	0.15**	0.14**	0.10**
15	Employment type[e]	0.85	0.36	0.01	−0.05**	−0.10**	0.10**	0.10**	0.04**	0.12**	0.16**	0.11**	0.13**
16	Union membership[f]	0.44	0.50	−0.07**	−0.08**	−0.19**	0.09**	−0.17**	−0.12**	−0.17**	−0.03*	0.12**	−0.16**
17	Tenure	11.56	1.06	0.03*	−0.02	−0.10**	0.07**	0.08**	0.02	0.12**	0.02	0.04**	−0.02
18	Job security	2.86	0.79	0.26**	0.09**	0.12**	0.02	0.16**	0.16**	0.08**	0.06**	0.09**	0.00
19	Health	4.03	0.91	0.10**	0.12**	0.15**	−0.02	0.09**	0.09**	0.04*	0.05**	0.05**	0.02
20	Sector dummy 1[g]	0.58	0.49	−0.02	0.03*	0.09**	−0.12**	0.08**	0.05**	0.08**	0.10**	−0.10**	0.24**
21	Sector dummy 2[h]	0.36	0.48	0.01	−0.04**	−0.09**	0.15**	−0.07**	−0.05**	−0.07**	−0.10**	0.09**	−0.24**
22	Sector dummy 3[i]	0.05	0.22	0.01	0.02	0.00	−0.04**	−0.01	0.00	−0.03	0.01	0.02	−0.01
23	Firm size dummy 1[j]	0.33	0.47	0.07**	0.10**	0.15**	−0.07**	0.08**	0.05**	0.08**	−0.15**	−0.12**	−0.10**
24	Firm size dummy 2[k]	0.33	0.47	0.01	−0.03	0.01	0.03*	−0.05**	−0.02	−0.06**	−0.05**	−0.03*	−0.05**
25	Firm size dummy 3[l]	0.35	0.48	−0.08**	−0.07**	−0.16**	0.04*	−0.03*	−0.02	−0.02	0.20**	0.15**	0.15**

TABLE 2 (Continued)

	Variable	11	12	13	14	15	16	17	18	19	20	21	22	23	24
12	Education dummy 1[b]	−0.07**													
13	Education dummy 2[c]	0.08**	−0.43**												
14	Education dummy 3[d]	0	−0.65**	−0.41**											
15	Employment type[e]	−0.09**	0.00	0.03*	−0.03										
16	Union membership[f]	0.06**	0.00	−0.03*	0.03*	0.15**									
17	Tenure	−0.11**	0.09**	−0.04**	−0.05**	0.29**	0.36**								
18	Job security	0.02	0.01	−0.03*	0.02	0.28**	0.16**	0.19**							
19	Health	0.09**	−0.11**	0.02	0.09**	−0.03*	−0.04**	−0.09**	0.08**						
20	Sector dummy 1[g]	−0.17**	0.11**	0.03*	−0.14**	0.02	−0.46**	−0.23**	−0.18**	0.00					
21	Sector dummy 2[h]	0.21**	−0.14**	−0.03*	0.17**	−0.03	0.43**	0.20**	0.16**	0.01	−0.90**				
22	Sector dummy 3[i]	−0.08**	0.06**	0.00	−0.06**	0.02	0.11**	0.08**	0.06**	−0.02	−0.28**	−0.18**			
23	Firm size dummy 1[j]	0.07**	0.09**	0.02	−0.10**	−0.06**	−0.21**	−0.10**	−0.05**	0.00	0.13**	−0.11**	−0.04*		
24	Firm size dummy 2[k]	0.03*	−0.01	−0.03	0.03*	−0.06**	0.02	−0.02	−0.01	0.01	−0.06**	0.06**	0.00	−0.49**	
25	Firm size dummy 3[l]	−0.10**	−0.08**	0.01	0.07**	0.12**	0.18**	0.11**	0.05**	−0.01	−0.07**	0.05**	0.04**	−0.51**	−0.51**

Note: $N = 4823$. The mean and SD for participation, autonomy, and pay for performance were based on the original scale which used the same responses. The mean and SD for training, job resource HRM and challenge demand HRM were based on the standardized scale where different responses were involved.

Abbreviation: S.D., standard deviation.

[a]1 = female, 0 = male.

[b]1 = leaving certificate and below, 0 = not.

[c]1 = bachelor's degree, 0 = not.

[d]1 = postgraduates, 0 = not (baseline).

[e]1 = permanent, 0 = contract.

[f]1 = yes, 0 = no.

[g]1 = private sector, 0 = not (baseline).

[h]1 = public sector, 0 = not.

[i]1 = semi-state, 0 = not.

[j]1 = small firm, 0 = not.

[k]1 = medium-sized firm, 0 = not.

[l]1 = large firm, 0 = not (baseline).

***$p < 0.001$, **$p < 0.01$, *$p < 0.05$ (two-tailed test).

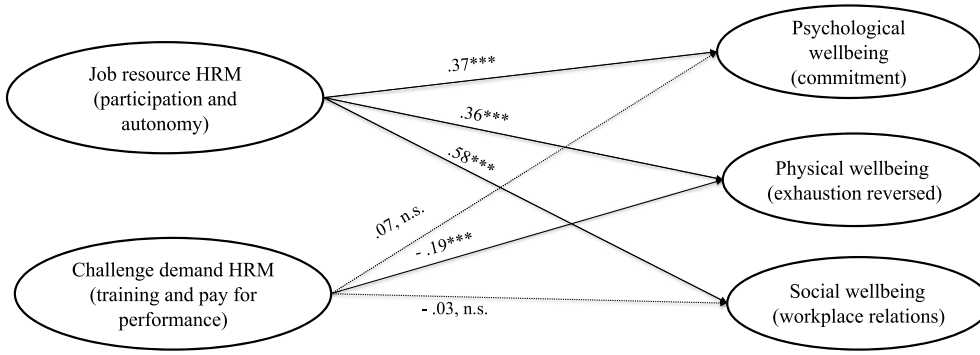

FIGURE 1 Structural equation modeling results of direct relationships. $N = 4823$. ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$. Standardized coefficients were reported.

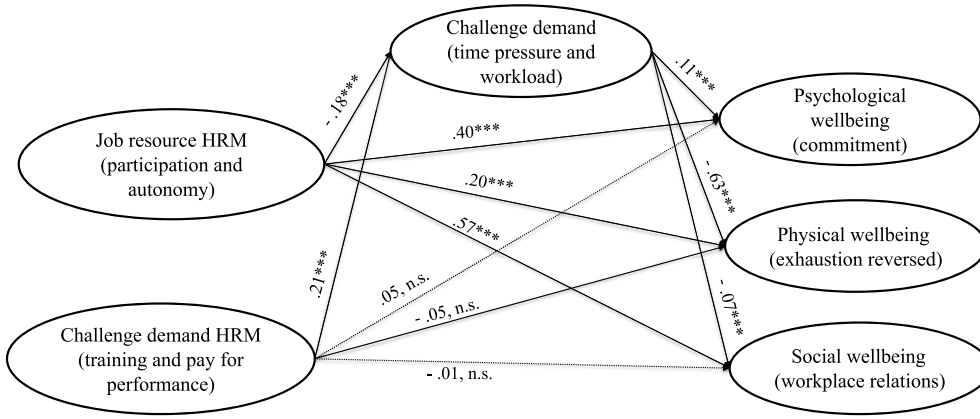

FIGURE 2 Structural equation modeling results of indirect relationships. $N = 4823$. ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$. Standardized coefficients were reported.

positively related to psychological wellbeing ($\beta = 0.11$, $p < 0.001$). Again, estimated coefficients for the indirect paths are shown in Table 3. Therefore, Hypothesis 4 was supported.

4.2 | Post-hoc analysis

The aim of this study was to untangle HRM practices and employee wellbeing relationships. In existing research, HRM-wellbeing research has mainly adopted the traditional HRM index approach whereby all HRM practices are aggregated to a single index or construct. For comparison with such research,[3] we conducted a post-hoc analysis where we ran an SEM with all four of the HR practices on a single latent construct—an overall HR index. Figure 3 presents the results for this model. Here, the HR index was negatively associated with time pressure and workload ($\beta = -0.09$, $p < 0.001$), while positively directly associated with all three types of wellbeing. The results in this paper's main model suggest that resource HRM and demand HRM influence time pressure and workload differently, where resource HRM is associated with more of this challenge demand, while demand HRM increases it. Moreover, analytically, the main model that differentiates between resource HRM and demand HRM practices had a significantly better model fit than the model with the overall HR index ($\Delta X^2 = 97.05$, $p < 0.001$). Thus, the post-hoc analysis

TABLE 3 Indirect effects.

Independent variables	Dependent variables	Indirect effect	95% CI
Job resource HRM	Psychological wellbeing	−0.01	(−0.014, −0.004)
	Physical wellbeing	0.16	(0.102, 0.213)
	Social wellbeing	0.02	(0.008, 0.026)
Challenge demand HRM	Psychological wellbeing	0.02	(0.009, 0.035)
	Physical wellbeing	−0.38	(−0.551, −0.201)
	Social wellbeing	−0.04	(−0.067, −0.013)

Note: 95% CI that did not include zero indicates significant indirect effects.

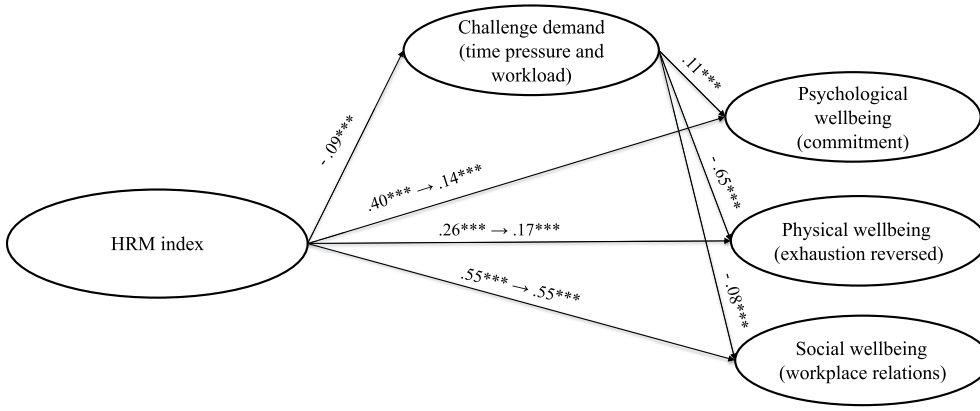

FIGURE 3 Structural equation modeling results of direct and indirect relationships for HRM index. $N = 4823$. ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$. Standardized coefficients were reported. Numbers before the arrows refer to effect sizes without challenge demand in the model, whereas numbers after the arrows refer to effect sizes with challenge demand in the model.

results provide further support for the necessity of untangling HRM in exploring the relationships between HRM and employee wellbeing.

5 | DISCUSSION

This study set out to untangle the relationships between HRM and different types of employee wellbeing. Drawing on the JD-R model and challenge-hindrance demands framework, this study proposed and found that resource and demand HRM practices differentially influence employee wellbeing across the psychological, physical, and social wellbeing dimensions. Specifically, job resource HRM (participation and autonomy) was positively associated with all three dimensions of wellbeing. Job resource HRM was also positively associated with physical and social wellbeing indirectly through its negative relationship with another challenge demand (time pressure and workload). By contrast, challenge demand HRM (training and pay for performance) was directly and negatively associated with physical wellbeing. Those effects were fully mediated by time pressure and workload. It was also indirectly and positively associated with psychological wellbeing through the time pressure and workload mediator, while indirectly and negatively associated with physical and social wellbeing through this mediator.

5.1 | Implications for theory and research

In the SHRM literature, current empirical findings regarding wellbeing have been described as "patchy" and "conflicting" (Cafferkey et al., 2021). We believe an important theoretical reason for these mixed results is that the conventional "HR systems" approach widely adopted in organizational level SHRM research (cf., Combs, et al., 2006) is not adequate for individual level wellbeing studies. Accordingly, we leverage the JD-R model (Demerouti et al., 2001) along with the extended challenge-hindrance demands framework (LePine et al., 2005) to categorize HR practices into job resource HR practices and challenge demand HR practices and observed their different effects on wellbeing. Our findings demonstrate that this categorization of HR practices is more directly pertinent to individuals' wellbeing experiences and adds greater explanatory nuance. This provides an important rejoinder to aggregated and uniform HRM-wellbeing assertions. Specifically, our results highlight the prospective value of further categorizing and exploring HR practices as either resources, challenges, or indeed hindrance demands. In this paper, we only considered job resource HR practices and challenge demand HR practices using the four most commonly adopted HR practices (cf. Posthuma et al., 2013) as exemplars. We suggest that a broader taxonomy of how other HR practices serve as either job resources or challenge demands would be an important next step in wellbeing research.

Furthermore, we noted that wellbeing is a multidimensional construct including psychological, physical, and social dimensions (Guerci et al., 2019), which in our study were represented by commitment, exhaustion, and workplace relations, respectively. Most existing HRM-wellbeing studies only consider one or two dimensions of wellbeing at a time, with the focus most often narrowing on psychological wellbeing, which is the wellbeing dimension that is most proximal to the interests of employers (De Cieri & Lazarova, 2021). In this study, we found that each dimension of wellbeing only modestly correlates with each other (r = 0.19–0.39) and that job resource and challenge demand HR practices can influence these three dimensions of wellbeing differently and independently, implying that there are wellbeing tradeoffs (cf. Guerci et al., 2019). Specifically, challenge demand HR practices (training and pay for performance) has a negative relationship with physical wellbeing (exhaustion reversed), whereas job resource HR practices (participation and autonomy) are positively associated with all three dimensions of wellbeing. Hence, our study provides theoretical and empirical evidence that helps explain some of the mixed findings identified in the existing wellbeing literature.

To further uncover the varying nature of different HR practices as job resources and challenge demands, we introduced a more commonly studied challenge demand, time pressure and workload, as a mediator in the relationship between HR practices and wellbeing. Consistent with the argument that job resources can reduce job demands (Demerouti et al., 2001), we found that job resource HR practices (participation and autonomy) not only have a positive relationship with wellbeing directly but also indirectly by their negative association with this challenge demand mediator. However, it should be noted that in our study, the magnitude of the indirect effects through this challenge demand is smaller than the direct effects between job resource HR practices and wellbeing. Arguably a different mediator rather than time pressure and workload could provide an additional explanatory mechanism for the effects of job resource HR practices on wellbeing, which is a topic for further research. For instance, Van De Voorde et al. (2016) found that job variety, as a type of job resource, mediates the relationship between empowerment-focused HRM and work engagement.

On the other hand, our study's challenge demand (time pressure and workload) explains a great proportion of the negative influence of HR practices on wellbeing in the model. In our analysis, the detrimental influence of challenge demand HR practices (training and pay for performance) on physical wellbeing (exhaustion reversed) appears to be fully due to associated time pressure and workload. Furthermore, while the direct relationship between challenge demand HR practices (training and pay for performance) and psychological wellbeing (commitment) and between challenge demand HR practices (training and pay for performance) and social wellbeing (workplace relations) are not significant, their indirect relationships through this challenge demand are significant and appear to function in the expected directions. These findings underscore the important mediating role of this challenge demand (time pressure and workload) in explaining the connection between challenge demand HR practices and wellbeing.

The results imply that how individuals experience HR practices may be more important in influencing individual well-being outcomes than those HR practices' instrumental characteristics. It is for future research to explore whether individuals appraise all types of HR practices consistently as resources or demands and how that variance may shape the implications of HR practices on wellbeing.

5.2 | Practical implications

Our results suggest that the relationship between HRM and wellbeing is not simply mutual gains. There are nuanced trade-offs that need to be balanced on both the management side and on the employee wellbeing side. For example, a great number of contemporary organizations have implemented some degree of training and incentive plans to strengthen employee abilities and motivation. However, our findings suggest that the organizational benefits earned from these challenge demand HR practices may be at the expense of employee physical and social wellbeing in the short term, at least.

Moreover, we identified time pressure and workload as a key mediator in the relationships between challenge demand HR practices and wellbeing. For organizations that implement challenge demand HR practices like training and pay for performance, if they can mitigate the experience of time pressure and workload of employee jobs engendered by such HR practices, they may be able to protect employee wellbeing from wearing down. Thus, we suggest that managers provide necessary organizational support to reduce employee role demand, time pressure, and workload in order to maintain employee wellbeing. For instance, providing supervisor support and making deadlines flexible can be effective ways to reduce challenge demand.

5.3 | Limitations and future directions

Of course, due to the cross-sectional design of our study, our ability to determine causal directions in our model was constricted. We encourage future research to take a longitudinal research design to offer empirical evidence on the proposed causality. In addition, while our sample was somewhat dated (2009), and we believe that the key constructs examined in this research remain relatively time-invariant (cf. Ogbonnaya et al., 2022), we encourage future research to examine the same relationships using a more recent sample.

Second, our single source data cannot fully rule out the potential for common method variance. It is possible that some variables in the model can be measured from different sources in future research. For example, physical wellbeing can be measured through results of employee health reports or combined with other forms of objective data (ethics and access difficulties acknowledged).

Third, given the limitations of our dataset, we only considered two core HR practices in each HR bundle with other HR practices unexamined. It would be interesting to see if the relationships we found in these data are similar for other HR practices. For instance, while self-managed teams provide employees more discretion, they expand employees' responsibilities to the whole team and thus can serve as a challenge demand HR practice, leading to physical and social wellbeing depletion (cf. Guerci et al., 2019; Ramsay et al., 2000). Moreover, the alpha value of our measure of social wellbeing is relatively low due to only two items and different scales were used to measure these two HR practices. Future research could employ measures with more items and greater consistency. This could include drawing upon a greater variety of measures for each well-being dimension for example, commitment and job satisfaction for the psychological aspect (see Ho & Kuvaas, 2019).

Fourth, we focused on the perceived instrumental characteristics of HR practices without examining individual workers' direct perceptions of the resource and challenge dimensions of the HR practices, which is an additional point of which that future researchers could explore. It should be noted that while organizations rarely intend to design hindrance demand HR practices, it is still possible that individuals perceive challenge demand HR practices or

even job resource HR practices as hindrance demands. This part of variance would not be captured without directly measuring individuals' appraisal of HR practices. In addition, we only tested the mediating role of the demand side through time pressure and workload. It is likely that other potential mediators of HRM/wellbeing relationships exist, particularly for job resource HR practices.

6 | CONCLUSION

This research set out to untangle the HRM-wellbeing relationship, drawing on the job resources and demands model and the fine-tuned challenge-hindrance demands framework to explore multi-dimensional aspects (psychological, physical, social) of wellbeing. The results from a unique employee dataset highlight the empirical validity of this task. This supports a general movement in HRM away from aggregated, sweeping assertions toward employee-centric, nuanced understanding. Such efforts are especially important in the context of the significant and prominent topic of employee wellbeing.

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[Correction added on 8 July 2023, after first online publication: IReL funding statement has been added.]

CONFLICT OF INTEREST STATEMENT

There is no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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ENDNOTES

[1] Some studies (e.g., Guerci et al., 2019) found that autonomy increases health problems while it increases psychological and social wellbeing. The argument that these researchers use is that autonomy is associated with increased job demands (e.g., job complexity, time pressure, and workload). We incorporated some of the demands in our study and found that autonomy in fact reduces such demands, serving mainly as a job resource (consistent with the original argument from Demerouti et al., 2001). Potential boundary conditions may be explored in the future studies.

[2] This is a large sample survey of over 30,000 interviews per quarter. It is conducted by the Central Statistics Office (CSO) to provide definitive information on the Irish labor market.

[3] Thanks are given to one of the reviewers who raised this important point.

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