

High performance work practices and their associations with health, happiness and relational well-being: Are there any tradeoffs?

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ABSTRACT

Employee well-being is a multidimensional construct, hence high performance work practices (HPWPs) may have diverse effects on its various dimensions. At present, we cannot draw any compelling conclusion regarding the possibility of such tradeoff effects since researchers have usually focused on single well-being dimensions while using diverse research designs (e.g. samples from different countries, different conceptualizations and measures of HPWPs). In this paper we address this research gap by exploring the relationship between employees' perception of HPWPs and three well-being dimensions (health, happiness, and relational well-being) using a probabilistic sample (n=1,364 employees) from a single country (i.e. Germany) and a set of uniform HPWPs measures. The findings show that some HPWPs indeed present tradeoff effects on different dimensions of employee well-being. Therefore, we argue that it is necessary to adopt an analytic view on the relationships between HPWPs and employee well-being.

Keywords: high performance work practices, AMO framework, health well-being, happiness well-being, relational well-being

INTRODUCTION

Employee well-being is today considered a key outcome by both policy-makers and human resource (HR) practitioners. The increased interest of HR practitioners (e.g. SHRM Foundation, 2011) can be attributed to the expected positive impact of employee well-being on a large number of individual-level outcomes, such as increased individual job performance, and organizational-level outcomes, such as increased employee retention (for a review, see Wright & Huang, 2012).

A significant amount of attention has been paid to investigating the antecedents of employee well-being. In the HRM literature, many contributions focus on the question of how high performance work practices (HPWPs) – i.e. HR practices that are supposed to increase organizational performance – impact on employee well-being (for a review, see van de Voorde, Paauwe, & van Veldhoven, 2012). The respective evidence appears contradictory: some studies have shown that HPWPs not only benefit the employer by increasing organizational performance, but also benefit the employee by increasing employee well-being; other studies have shown that HPWPs benefit the employer by increasing organizational performance, but they decrease employee well-being. Recent theoretical contributions have put forward the idea that the contradictory findings on the relationships between HPWPs and employee well-being may be due to the dimension of employee well-being that was studied (van de Voorde et al., 2012). For example, some analyses only considered job attitudes (e.g. job satisfaction) and found that HPWPs have positive impacts on performance *and* well-being (e.g. Riordan, Vandenberg, & Richardson, 2005). Others only investigated health well-being (e.g. psycho-somatic symptoms) and found that HPWPs have positive impacts on performance but negative impacts on well-being (e.g. Truss, 2001).

In fact, employee well-being is a multi-dimensional concept which includes aspects like physical health, mental health, and job satisfaction (for a review, see Fisher, 2014). Therefore, it is possible that a specific HPWP presents *convergent associations* (i.e. only positive or only negative with more than one dimension) or *divergent associations* (i.e. positive with some dimensions, negative with others) with different dimensions of employee well-being. The latter refers to the idea of *tradeoff effects* of HPWPs, which has also been addressed in other contexts. HRM research has, for example, highlighted tradeoff effects of HPWPs on near-versus long-term performance (e.g. Krausert, 2018), on employee performance versus labor costs (e.g. Chadwick, Way, Kerr, & Thacker, 2013), and on organizational performance versus employee well-being (e.g. Boxall, Guthrie, & Paauwe, 2016).

The idea that HRM activities may lead to tradeoffs between the different dimensions of employee well-being has been put forward by various scholars (e.g. Peccei, 2004; Grant, Christianson, & Price, 2007; Ogbonnaya & Messersmith, 2018). For example, Grant et al. (2007, p. 52) state that “managerial practices often result in employee well-being tradeoffs, improving one dimension of employee well-being while undermining another”. However, until now, the possible existence of tradeoff effects in the relationships between HPWPs and the different dimensions of employee well-being have not been extensively empirically analyzed. Indeed, previous research verified the effects of HPWPs on specific dimensions of employee well-being in separate studies, so that the results are not easily combinable (e.g. van de Voorde et al., 2012; Clinton & van Veldhoven, 2013; Peccei, van de Voorde, & van Veldhoven, 2013). In fact, those studies are often based on non-probabilistic samples, stem from different national contexts, and employ different conceptualizations and measures of HPWPs. Therefore, it is problematic to draw conclusions on the concrete possibility of tradeoff effects in the relationship between HPWPs and the different dimensions of employee well-being.

In order to shed light on this issue, this study analyzes the convergent and divergent associations between HPWPs and the different dimensions of employee well-being. The study has four specific features, which will be fully explained and justified throughout the paper. First, it adopts the ability-motivation-opportunity (AMO) framework to define HPWPs, and to split them into its key AMO-based components (Appelbaum, Bailey, Berg, & Kalleberg, 2000). Second, it adopts a multidimensional view of employee well-being, which is seen as composed of *health*, i.e. being free from physiological and mental illnesses, *happiness*, i.e. the subjective experience of the individual worker, and *relational* well-being, i.e. the perceived quality of the worker's social interactions (Grant et al., 2007). Third, it develops hypotheses on the relationships among the AMO-based components of HPWPs and the three dimensions of well-being by drawing on conservation of resources (COR) theory (Hobfoll, 1989). Fourth, since HRM research recognizes that employees' perceptions of HPWPs are relevant for understanding their effects on employee well-being (e.g. Ogbonnaya & Messersmith, 2018), it tests hypotheses on employee-based ratings of HPWPs, using high-quality data (i.e., European Working Condition Survey) on a probabilistic sample of 1,364 employees in Germany.

Overall, the study contributes to the literature by exploring the convergent and divergent associations among the three AMO-based components of HPWPs and the three dimensions of employee well-being (health, happiness, relational). With this empirical analysis it addresses an important research gap identified in previous reviews (van de Voorde et al., 2012; Peccei et al., 2013), supporting the research community in incorporating the idea of tradeoff effects in the relationships between HPWPs and the different dimensions of employee well-being.

THEORETICAL BACKGROUND

Employee well-being: A multi-dimensional concept

Providing a definition of well-being has been a challenge for different social science disciplines. Indeed, well-being is a broad concept that refers to many aspects of human life (e.g. satisfaction, positive affect, happiness, distress, engagement, meaning, depression, and positive relationships). For a long time, different researchers assessed different single variables, and rarely considered well-being as a phenomenon that manifests itself in multiple forms (Diener & Seligman, 2004). Over the past years, many authors have converged on a multidimensional conceptualization of well-being (e.g. Sen, 1993; Grant et al., 2007; Huppert & So, 2013). Among the existing multidimensional models of employee well-being, we adopt here the three-dimensional conceptualization suggested by Grant and colleagues (2007). Indeed, since van de Voorde and colleagues (2012) highlighted that the dimensions included in this conceptualization are the core dimensions of employee well-being explored by previous HRM studies, the adoption of this conceptualization makes our results as comparable as possible with previous research.

Grant and colleagues (2007) identify three core dimensions of employee well-being. The first dimension concerns *health well-being* which, in accordance with Danna and Griffin (1999), encompasses freedom from physical (e.g. skin problems, backache, headaches, and stomach ache) and mental illnesses (e.g. depression or anxiety, overall fatigue, and insomnia or general sleep difficulties).

The second dimension of employee well-being is *happiness*. This refers to psychological well-being, and focuses on a worker's positive subjective experience concerning his/her job. For many years, studies on psychological well-being have been based on two approaches: hedonic and eudemonic. The hedonic approach defines well-being as the subjective feeling of

happiness about something. In the work domain, it has been mostly measured by employee job satisfaction and positive affect associated with a job. The eudemonic approach defines well-being as human fulfillment and the realization of valued human potential (Ryan & Deci, 2001). In the work domain, it has been mostly measured by work engagement and the feeling of doing a meaningful and worthwhile job. Following Ryan, Huta and Deci (2013), we include both the hedonic and eudemonic perspectives in the concept of happiness well-being, focusing on job satisfaction (defined as a “pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences”, Locke, 1976, p. 1304) as hedonic happiness well-being, and work engagement (defined as a “positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption”, Schaufeli & Bakker, 2004, p. 295) as eudemonic happiness well-being.

The third dimension of employee well-being is *relational well-being* (also called ‘social well-being’). This refers to the perceived quality of a worker’s relationships with other people and other communities. This dimension has been studied by means of a diverse range of constructs, such as social integration (e.g. a sense of belonging to a community) and perceived fairness.

Empirical evidence has confirmed that there are only small or moderate correlations among the above-presented dimensions (e.g. Keyes, 2007). From this, it follows that these dimensions should all be considered, because each of them captures a distinct feature of the overall concept of employee well-being.

The relationships between HPWPs and employee well-being

Traditionally, HRM research has devoted attention to the relationships between HPWPs and individual and organizational performance. More recently, a sub-set of studies has explored the relationships between HPWPs and employee well-being. Thereby, two alternative views

have been put forward (Peccei et al., 2013). The first view – called *mutual gains* – posits that HPWPs have positive associations with both organizational performance and employee well-being, so that the relationship between HPWPs and employee well-being is significant and positive (e.g. Appelbaum et al., 2000). The alternative view – called *conflicting outcomes* – assumes that HPWPs positively affect organizational performance, but because they are associated with work intensification and worker exploitation, they have detrimental effects on employee well-being (e.g. Ehrnrooth & Björkman, 2012; Jensen, Patel, & Messersmith, 2013).

To assess which of these two competing views is more appropriate, van de Voorde and colleagues (2012) reviewed 36 quantitative studies published on the topic between 1995 and 2010. Their review, in accordance with the above-presented multi-dimensional nature of employee well-being, shows that HPWPs have divergent associations with the three dimensions of employee well-being. In particular, the authors found that most of the reviewed studies indicated a positive association between HPWPs and happiness and relational well-being. Conflicting results were found in relation to health well-being: five studies found a negative association between HPWPs and employee health (i.e., HPWPs were found to be associated with more strain), one study found a positive association (i.e., HPWPs were found associated with less stress), and two studies found no significant associations.

Taken together, the results of the review support the possibility that HPWPs may exhibit convergent and divergent associations with the three dimensions of employee well-being. However, to date this issue has not been fully addressed by empirical research. In fact, van de Voorde and colleagues (2012) found that only 7 (out of 36 studies) considered the associations between HPWPs and more than one well-being dimension, and only one study included all three dimensions of employee well-being. Therefore, the authors called for more research exploring the associations between HPWPs and the three well-being dimensions.

But, how are HPWPs related to the three dimensions of employee well-being? In the following sections, we deal with this question by presenting and discussing theoretical perspectives supporting either convergent and divergent associations between HPWPs and the three dimensions of employee well-being.

HYPOTHESIS DEVELOPMENT

We developed our hypotheses on the relationships between HPWPs and the three dimensions of employee well-being using COR theory (Hobfoll, 1989), a pivotal theory for the exploration of employee well-being (Gorgievski, Halbesleben, & Bakker, 2011). COR theory, like any resource-based theory on employee well-being such as Job Demands-Resources theory (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), is characterized by the assumption of the central role of personal resources to predict employee well-being. We chose to develop our hypotheses based on COR theory because this theory is relevant for understanding the processes leading to different employee well-being dimensions. It does so by underscoring the critical role of resource loss and gain (Chen, Westman, & Hobfoll, 2015). According to the COR theory, human beings are motivated to obtain, retain, foster and protect their personal resources in order to cope with the challenges and the stressors potentially present in their life domains. Resources are defined as “objects, personal characteristics, conditions, or energies that are valued by the individual” (Hobfoll, 1989, p. 516). Resources take on value because they help a person to achieve his/her goals, and to maximize his/her fit with the environment, and to make that person able to ensure physical, psychological and social survival (Ten Brummelhuis, Ter Hoeven, Bakker, & Peper, 2011; Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014). It is possible to identify three types of primary resources: physical resources (e.g. mental and physical energy, vitality), psychological resources (e.g. self-esteem; self-efficacy; positive sense of an effective self; sense of control)

and social resources (e.g. supportive social ties). Each dimension of well-being (health, happiness, relational) is increased as long as employees possess the corresponding type of primary resources. Those resources are not stable because they change in response to environmental events. Therefore, since those resources are predictors of employee well-being, it is possible that environmental conditions (e.g. working conditions) may foster/reduce an individual's primary resources, with positive/negative effects on the respective well-being dimensions (Hobfoll, 2002). Indeed, COR theory states that when employees lose primary resources, or when they fail to gain resources after a significant resource investment, they experience a reduction of their well-being. On the contrary, high levels of well-being are the result of resource gain and the possession of reliable resource reservoirs (Gorgievski & Hobfoll, 2008).

In this framework, the role of the environment is crucial because it can provide opportunities to nurture and protect an individual's primary resources, but it can also trigger a resource loss cycle that leads to resource depletion (Gorgievski & Hobfoll, 2008). Hobfoll (2002) states that some environmental conditions may enhance specific primary resources and, at the same time reduce other resources; this would induce differentiated effects on different well-being dimensions. For example, tasks with high level of autonomy requires employees to self-regulate their behaviors (e.g. making choices, initiating action, self-control). This task can nurture psychological resources (e.g. sense of mastery, self-efficacy, sense of being effective) with positive effects on the psychological dimension of well-being (e.g. work engagement). At the same time, making choices is an effortful activity because it requires the deployment of sophisticated cognitive abilities (e.g. to search proactively for information, manage uncertainty, evaluate options) with large use of energy resources because of the high neurophysiological arousal. On the basis of experimental studies, Hobfoll (2002) states that energy and cognitive resources diminish with use because they are limited. Therefore, if the use of these resources persists for a long time, without possibilities to recover, the energetic

resource reservoir will be impoverished, with a negative impact on the physical/mental dimension of well-being (e.g. headaches, sleep disorders, exhaustion).

Drawing on this view, we argue that HPWPs are environmental aspects which can have differential associations with the three dimensions of employee well-being because they differently nurture or protect the three types of primary resources. On the one hand, a HPWP may activate a resource loss for one type of resource (for example, physical) with a negative impact on the corresponding dimension of well-being (i.e. health), while, on the other hand, it may assist a person in acquiring, maintaining or developing another type of resource (for example, social) with a positive impact on the corresponding well-being dimension (i.e. relational). In this way, a HPWP may exhibit divergent associations with the three dimensions of employee well-being. Another HPWP may instead show convergent associations (i.e. only positive or only negative associations with all the three dimensions) because they nurture, or drain, all types of primary resources.

In the next section, we develop a set of hypotheses about the convergent and divergent associations between HPWPs and the three dimensions of employee well-being. Before moving into the development of our hypotheses, we make here clear two points about our conceptualization and measurement of HPWPs.

First, a major shortcoming of the strategic HRM literature is that there is still no agreement on which HRM practices should be included as HPWPs (see e.g. Posthuma, Campion, Masimova, & Campion, 2013). Here, we refer to the ability-motivation-opportunity (AMO) framework, which is increasingly used to classify HPWPs (Lepak, Liao, Chung, & Harden, 2006). According to this framework, the performance of each employee depends on his/her abilities, motivation and opportunity to perform (Appelbaum et al., 2000). Thus, companies should implement HRM practices to ensure that employees have the necessary abilities, high motivation, and multiple opportunities for participation (see e.g. Lepak et al., 2006; Jiang, Lepak, Hu, & Baer, 2012). HPWPs are therefore classified according to their aims, i.e. in

ability-, motivation-, and opportunity-enhancing HPWPs. In current literature several classifications are proposed, and here we adopt one of the most influential (Lepak et al., 2006; Jiang, Lepak, Hu et al., 2012; Jiang, Lepak, Han et al., 2012), in which recruitment, selection, and training practices are classified as ability-enhancing HPWPs; performance management, compensation, and incentive practices are classified as motivation-enhancing HPWPs, and job design, teamwork, and involvement practices are classified as opportunity-enhancing HPWPs.

A second ongoing debate in current HRM literature regards the source of data to be used for HPWPs. A recent review on that issue has shown that in last 20 years HRM studies have increasingly made use of employees (rather than managers) as respondents (Beijer, Peccei, van Veldhoven, & Paauwe, 2019). The use of employee (rather than managers) data is considered more suitable for studying the effects of HPWPs on employee attitudes and behaviors, as employees' perceptions of HPWPs are "temporally closer to, and consequently like to be more predictive of, their attitudinal and behavioral outcomes" (Kehoe & Wright, 2013, p. 369). Furthermore, the use of employee (rather than managers) data is consistent with the ethical call to make employees at the center of HRM research (Guest, 1999). For these reasons, we develop our hypotheses focusing on HPWPs as perceived by the individual employee and use employee data for our empirical analysis.

Ability-enhancing HPWPs and the three dimensions of employee well-being

Ability-enhancing HPWPs (here operationalized as quantity of training received by an employee) aim at promoting the development of new competencies. We argue that employees' perception of these practices are positively associated with each dimension of employee well-being because they nurture and protect all types of primary resources.

First, ability-enhancing HPWPs are positively associated with health well-being because they protect the individual's mental and physiological energy resource reservoir. The rationale is that, in a working environment, employees have to manage work-related tasks that require the

use of physical, cognitive and emotional capabilities. According to Hobfoll (2002), when skills and abilities are not congruent with the job demand, individuals must make greater use of their physical, cognitive and emotional resources to meet work challenges, with high mental and physiological costs. The cognitive and emotional overload results in an energy resource deterioration that leads to headaches, ill-health symptoms such as insomnia, anxiety and depression (i.e., less health well-being). Ability-enhancing HPWPs can prevent this energy resource depletion because they enrich the skills and abilities that employees possess to handle job demands. They thus make the effort levels tolerable, improving employees' health well-being.

Second, ability-enhancing HPWPs can be associated with happiness well-being because they cultivate a sense of being effective (i.e. a psychological resource which typically leads to higher happiness well-being). When employees develop the abilities to manage their job demands effectively, their personal perceptions of self-efficacy increase, as well as their sense of competence and of successfully controlling the environment. Moreover, they are likely to be more aware of the strategic value of their contribution, so that they are likely to experience a sense of meaningfulness. In line with current empirical evidence, these primary resources are expected to enhance happiness well-being, increasing both job satisfaction and work engagement (e.g. Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009; Deci, Olafsen, & Ryan, 2017).

Third, ability-enhancing HPWPs can be associated with relational well-being because they nurture network ties (i.e. primary social resources that typically lead to higher relational well-being). Indeed, on-the-job training is a social practice that can promote interactions among co-workers, and between workers and supervisors. Similarly, formal training programs – when targeting formal and informal teams rather than single individuals – can stimulate the perception of being involved in a supportive social network because they promote social interactions and the emergence of a common understanding of the job context (goals, tasks,

roles, values, norms, individual needs). This shared understanding enables team members to anticipate and predict each other's needs, communicate better, and cooperate. Empirical evidence has highlighted that promoting a shared understanding of the job context increases trust and mutual obligation (Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000). Moreover, studies have shown that informal relationships with other insiders who act as mentors promote stronger informal networks within the organization (e.g. Fang, Duffy, & Shaw, 2011). Thus, ability-enhancing HPWPs should be positively associated with relational well-being through the cultivation of the corresponding primary social resources.

Therefore, on this reasoning, we hypothesize the following convergent associations:

Hypothesis 1: Ability-enhancing HPWPs are positively associated with health (1a) happiness (1b), and relational well-being (1c).

Motivation-enhancing HPWPs and the three dimensions of employee well-being

This domain of HPWPs is assumed to include both practices based on employee evaluation (e.g. incentive pay based on performance evaluation) and practices based on employment security (e.g. job security). In studies which explore the relationships between employees' perception of those practices and performance, evaluation-based and security-based practices are not distinct, since both are expected to activate a motivational process that leads to higher performance. In contrast, we argue that they do not have a similar association with employee well-being dimensions, because they differentially affect the mechanisms of resource change (Levenson, 2003). Therefore, we developed hypotheses for motivation-enhancing HPWPs based on employee evaluation and for motivation-enhancing HPWPs based on employment security separately.

For employees' perception of motivation-enhancing HPWPs based on employee evaluation (here operationalized as the use of incentive compensation based on performance) we hypothesize a divergent association with the three dimensions of well-being (i.e. tradeoff

effects). In terms of health well-being, we argue that these practices are negatively associated with health because they can activate a loss cycle of primary physical resources. Indeed, previous studies have shown that performance evaluation practices combined with variable compensation based on performance intensify employees' workloads and increase the level of work demands (e.g. Godard, 2004; Franco-Santos & Doherty, 2017). For example, these practices require a stronger effort in self-control and self-regulation and the management of negative feelings, such as anxiety and fear of failing. Moreover, employees may feel the need to reciprocate the organization with an extra effort (Kroon, van de Voorde, & van Veldhoven, 2009). This work intensification can result in a cognitive and emotional overload. According to the COR theory (Hobfoll, 2002), this overload may cause an impoverishment of mental and physical primary resources that leads to several ill-health symptoms (e.g. Ganster, Kiersch, Marsh, & Bowen, 2013). This line of reasoning has been recently supported by a study which empirically demonstrated that employee experiences of performance management are positively related to emotional exhaustion (Conway, Fu, Monks, Alfes, & Bailey, 2016). Therefore, those practices, by activating a loss of physical primary resources, give rise to less health well-being.

Conversely, we expect the employees' perception of motivation-enhancing HPWPs based on employee evaluation to be positively associated with happiness well-being. Indeed, the use of incentive compensation based on performance can boost the employee's sense of self-esteem and pride because incentives can be perceived by an employee as signals of acknowledgment and appreciation of his/her contributions. Moreover, a sense of meaningfulness and competence may be nurtured because employees perceive that their personal behaviors and choices contribute to higher levels of organizational performance (Artz, 2008). Self-esteem and pride, and sense of meaningfulness and competence are primary psychological resources that (when increased) lead to higher happiness well-being.

Finally, motivation-enhancing HPWPs based on employee evaluation can negatively impact on relational well-being. In regard to incentive compensation based on individual performance, literature has shown that this HPWP can foster relations among organization members (and especially among peers) on the basis of competition rather than cooperation (e.g. Bloom, 1999; Gardner, 1999). In such a competitive context, employees may perceive that they cannot trust colleagues or supervisors, and the reduced trust can cause a loss of supportive network ties. Similarly, we argue that incentive compensation based on group/company performance has detrimental effects on relational well-being as it (i) might create conflict among organizational members on how to achieve collective results (which, being related to variable pay, become salient for actors); and (ii) it might create conflict in relation to (real or perceived) free-riding and opportunistic behaviors that organizational members might adopt (Conroy & Gupta, 2016). In sum, incentive compensation practices both based on individual and group/company performance activate a loss cycle of primary social resources such as trust or support from other organizational members, with negative effects on relational well-being (as confirmed in several professional contexts and for different levels of the organization, e.g. Munkes & Diehl, 2003).

Therefore, we hypothesize the following divergent associations (i.e. tradeoff effects):

Hypothesis 2: Motivation-enhancing HPWPs based on employee evaluation are negatively associated with health well-being (2a), positively associated with happiness well-being (2b), and negatively associated with relational well-being (2c).

Regarding employees' perception of motivation-enhancing HPWPs based on employment security (here operationalized as career advancement prospects and job security perceived by an employee), we hypothesize that these practices have convergent and positive associations with all dimensions of well-being. Indeed, the continuity of experience within the same organization can protect all types of employees' primary resources, thus leading to higher

well-being. First, these practices can protect against energy depletion due to negative feelings such as uncertainty. The expectation of the occurrence of unwanted events can lead to anxiety that overworks the cardiovascular and nervous systems and weakens the immune system; the reduction of those resources leads to lower health well-being. Evidence shows that job insecurity is associated with psychosomatic complaints (e.g. muscle tension, stomach problems) (Sverke, Hellgren, & Näswall, 2002; De Witte, Pienaar, & De Cuyper, 2016). Conversely, the anticipation of desirable events (e.g. job security, career advancement) can increase primary physiological resources that lead to higher health well-being.

Second, those practices increase happiness well-being because job security and career opportunity can help employees achieve their goals, thereby nurturing their self-esteem (a key primary psychological resource that typically leads to higher happiness well-being). Empirical findings sustain this prediction. In their review, De Vitte et al. (2016) highlighted that job insecurity reduces self-esteem over time, and the reduced self-esteem further increases insecurity, creating a resource loss cycle which leads to less well-being.

Third, motivation-enhancing HPWPs based on employment security can foster a sense of being in a supportive environment (a primary social resource that typically leads to higher relational well-being). Indeed, the continuity of the relations among organizational members enabled by permanent contracts allows employees to develop a sense of relatedness with co-workers, which results in more relational well-being (Grant et al., 2007).

In sum, we hypothesize the following convergent associations:

Hypothesis 3: Motivation-enhancing HPWPs based on employment security are positively associated with health (3a), happiness (3b), and relational well-being (3c).

Opportunity-enhancing HPWPs and the three dimensions of employee well-being

Opportunity-enhancing HPWPs (here operationalized as perceived job autonomy, self-directed teamwork, and opportunities for participation in organizational decision-making

processes) include practices which foster the involvement of employees by improving their possibilities to make decisions about their work, and by giving them ‘voice’. We argue that employees’ perception of practices of this type can trigger both cycles of resource gain and cycles of resource loss.

First, opportunity-enhancing HPWPs can activate a psychophysical-related resource depletion with negative effects on health well-being, because they require an intensification of effort (Thompson & Harley, 2007). In effect, these practices entail an increase in work-related demands due to the organizational expectation that employees should work without direct supervision and should expose themselves through the communication of their personal opinions and ideas. Job autonomy can intensify their fear of failing or apprehension about being left alone to cope with risks and complexities, with a consequent drain of mental and physical resources. Although job autonomy was traditionally considered as a factor positively affecting health well-being (e.g. Theorell & Karasek, 1996), recent empirical evidence supports this reasoning on the negative relation between job autonomy and health wellbeing (e.g. Kroon et al., 2009; Nixon, Mazzola, Bauer, Krueger, & Spector, 2011; Ogbonnaya, Daniels, Connolly, & van Veldhoven, 2017). For example, Nixon and colleagues (2011) have demonstrated that job autonomy increases physical symptoms (e.g. headaches, gastrointestinal problems). Managing the relations associated with teamwork and organizational participation can require a high use of cognitive processes (e.g. negotiating agreements among different points of view and interests). If there is an overload of cognitive demands, the mental and physical energy resource reservoir can be impoverished, and this leads to lower health well-being. In line with this reasoning, some studies have reported greater stress in self-managing teams (e.g. Kalleberg, Nesheim, & Olsen, 2009).

Second, opportunity-enhancing HPWPs can activate a cycle of primary psychological resource gain, which may increase happiness well-being. Indeed, these practices allow employees to experience the responsibility for the outcomes of their work, and a sense of

choice because they are stimulated to contribute to organizational decision-making processes (Fernet, Austin, Trépanier, & Dussault, 2013). People feel worthwhile, useful, and valuable. Evidence has shown that nurturing these psychological resources can lead to higher job satisfaction and work engagement (Hackman & Oldham, 1980). This suggests that those practices should be positively related to happiness well-being.

Third, it is possible to presume that these practices create organizational settings where employees can nurture primary social resources (which typically lead to higher relational well-being) because they help employees develop interpersonal relationships. In this regard, research on social networking within organizations has shown that these opportunity-enhancing HPWPs play a key role in shaping the employee's professional and friendship networks, understood as constituting a key primary social resource that leads to higher relational well-being (Kilduff & Brass, 2010). It is indeed argued that job autonomy and teamwork stimulate workers to collaborate (formally or informally) on sharing ideas, and co-producing shared interpretations of jobs. These high levels of interrelation with others enhance the quality of the worker's social interactions, with a positive association with relational well-being.

In sum, we hypothesize the following divergent associations (i.e. tradeoff effects):

Hypothesis 4: Opportunity-enhancing HPWPs practices are negatively associated with health well-being (4a), and are positively associated with happiness (4b) and relational well-being (4c).

METHOD

Data

The following analyses are based on secondary data from the European Working Conditions Survey (EWCS) conducted in 2015. The EWCS provides representative data on working

conditions across Europe. The target population consists of people aged 15 and older who were in employment at the time of the survey. Data were gathered through face-to-face interviews using a multistage, stratified random sample. Post-stratification weighting procedures were carried out to account for unequal selection probabilities and differential non-response rates across the various socio-demographic segments (geographic regions, age, gender, economic sector, and occupation) (for detailed information see [Eurofound], 2015a; Eurofound, 2015b). Thus, the EWCS data can be viewed as being of high quality. Importantly, these data suit our purposes because they contain detailed information on HPWPs and all three dimensions of employee well-being.

For our analysis, we used data only from Germany in order to exclude potential moderating effects from institutional and cultural differences (Brewster & Mayrhofer, 2009; Hauff, Richter, & Tressin, 2015). Germany was chosen because it is a leading economy in Europe and is often seen as a role model in the comparative capitalism literature (Hall & Soskice, 2001). Furthermore, we limited our analysis to employees in the private manufacturing or service sectors. We did not consider the public and non-profit sectors because of their potentially different structural characteristics (e.g. Boyne, 2002). We excluded the primary sector (i.e. agricultural, forestry and fishery workers) because, given the overall low proportion of employees in this sector, there are very few employees ($n = 15$) represented in the data. We also excluded the activities of households since we do not consider the activities of households in terms of HRM. The final sample size was $n = 1,364$ employees.

Measures

Dependent variables

For *health well-being*, we constructed two composite indices: one measuring physical health problems (0 to 7; summing up the occurrence of hearing problems, skin problems, backache,

muscular pains in shoulders, neck and/or upper limbs, muscular pains in lower limbs, headaches/eyestrain, injuries) and one measuring mental health problems (0 to 5; summing up the occurrence of anxiety, overall fatigue, difficulty falling asleep, waking up repeatedly during sleep, waking up with a feeling of exhaustion and fatigue). The use of composite indices reflects the assumption that health problems are more serious if they involve more symptoms (e.g. Cottini, 2012). For *happiness well-being* we incorporated overall job satisfaction (1=not at all satisfied to 4=very satisfied), which is the most common measure of hedonic happiness (Grant et al., 2007). For eudamonic happiness we referred to work engagement. In the EWCS work engagement is defined in accordance with Schaufeli & Bakker (2004), and has been measured here by three items (answered on a five-point Likert scale from 1=never to 5=always): “At my work I feel full of energy” (for vigor); “I am enthusiastic about my job” (for dedication); “Time flies when I am working” (for absorption) (Cronbach’s Alpha=.690). For *relational well-being* we used two single items that referred to the question whether employees are treated fairly (1=never to 5=always) and get on well with their colleagues (1=strongly disagree to 5=strongly agree) (Grant et al., 2007).

HPWPs

The independent variables were HPWPs identified and discussed during the hypothesis development. Since in HRM research different measurement strategies are available, we selected only measures regarding the perceived presence of a specific HRM practice, avoiding evaluative questions regarding employee satisfaction with these practices. Depending on the HPWPs, we used Likert-like and yes/no response formats, which is in line with Langevin-Heavey et al. (2013, p. 133), who highlighted the “need to incorporate different rating formats for different questions”. For *ability-enhancing* HPWPs, we referred to training activities, which we measured in terms of days an employee spends in total in training paid for or provided by employer (0=no training, 1=1 day or less, 2=2–3 days, 3=4–5 days, 4=6–9 days,

5=10 days or more). As *motivation-enhancing HPWPs based on employee evaluation* we referred to the use of incentive compensation based on individual performance (0=not used, 1=earnings include payments based on piece rate and/or individual performance) and incentive compensation based on group/company performance (0=not used, 1=earnings include payments based on the performance of team/working group/department/company). As *motivation-enhancing HPWPs based on employment security* we used two Likert-scale (1=strongly disagree to 5=strongly agree) items which referred to career advancement prospects and job security. Finally, as *opportunity-enhancing HPWPs*, we included autonomy, self-directed teamwork, and organizational participation. We measured autonomy by a composite index (0 to 3) based on the information concerning whether employees can change the order of tasks, methods of work, and/or speed or rate of work. For self-directed teamwork, we created a composite index that measured not only whether employees work in teams but also whether teams are self-directed (0 to 4; 0=no teamwork, 4=work in teams that can decide on the division of tasks, head of the team and timetable of the work; similar Appelbaum et al., 2000). Finally, following the extant literature (e.g. Wood, van Veldhoven, Croon, & de Menezes, 2012), we included organizational participation as a distinct form of employee involvement. We measured organizational participation through one factor based on five items (Cronbach's Alpha=.839) measuring the response (1=never to 5=always) to statements such as: "You are involved in improving the work organization or work processes of your department or organization". The correlations among our dependent and independent variables are presented in Table 1.

TABLE 1 ABOUT HERE

With the exception of work engagement and organizational participation, all variables are single items or indices. Thus an empirical assessment of internal consistency and indicator reliability (e.g. by Cronbach alpha) is not appropriate for these variables. Partially, it would have been preferable to have several items per construct, but such data are not available. This can be attributed to the broad scope of the EWCS questionnaire. However, the measures used have their foundations in the predecessor waves, and several steps (like expert reviews and real-life tests) are undertaken during the questionnaire development in order to have a reliable and valid instrument (Eurofound, 2015b). The validity of the measures is also reflected in the broad use of the EWCS data in different studies (e.g. Cottini, 2012; Green et al., 2013; Holman, 2013; Holman & Rafferty, 2018). The EWCS questionnaire is available online (Eurofound, 2015b) and the full list of selected items is available upon request from the authors.

Control variables

Our analyses included a number of additional variables that might affect the relationships hypothesized. In particular, we considered gender, age, and education as potential control variables, since these socio-demographic characteristics have been found to be connected to stress (e.g. Appelbaum et al., 2000), job satisfaction (e.g. Warr, 2007), meaning in work (Schnell, Höge, & Pollet, 2013), and engagement (Conway et al., 2016). In addition, we assumed that different employment characteristics such as occupation, contract type, form of employment, firm size, and sector may affect employee well-being (e.g. see Appelbaum et al., 2000 for occupation's effects on stress and job satisfaction; Warr, 2007 for the influences of contract type and form of employment on job satisfaction; Kalleberg et al., 2009 for the effects of firm size and sector on stress). Following Becker (2005) we checked if these variables are related to the dependent variables. The respective analysis revealed that with the exception of sector all these variables show a significant correlation with at least one well-

being outcome. Thus with the exception of sector, we integrated all mentioned variables as control variables.

Analytical strategy

We empirically analyzed the associations of different HPWPs with employee well-being dimensions. Following the central idea of strategic HRM that different HRM activities should be considered simultaneously (Jackson, Schuler, & Jiang, 2014), we always integrated the whole set of HPWPs in order to establish the association between each HPWP and all well-being dimensions while controlling for other HPWPs (see also Hauff, 2019). According to the measurement of the dependent variables, we used negative binomial regression for count variables (i.e. physical health problems, mental health problems), ordinal regression for ordinal variables (i.e. job satisfaction, fairness, interpersonal relationships), and OLS for scales (i.e. work engagement). All models were computed based on weighted data.

Prior to our analyses, we checked for missing values. This revealed that only 1.1 % of all considered values were missing. However, 25 % of the cases had at least one missing value in the dependent, independent or control variables. Conducting the analyses with list-wise deletion of cases with missing values would reduce the sample size, which could bias the parameter estimations. Thus, following Newman (2014), we used multiple imputation with 40 different data sets to treat missing data. The following estimates represent averaged estimates across the imputed data sets.

To test for multicollinearity, we referred to variance inflation factors (VIFs), which all remained below 3.3 and thus below the recommended threshold of 10. We also performed Harman's single-factor test, as well as marker variable analysis to test for common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The factor analysis revealed the presence of distinct factors rather than a single factor. Since no specific marker variable was

included in the questionnaire, we used the smallest observed correlation among all the substantive variables as a proxy, as suggested by Lindell and Whitney (2001). Lowest correlations turned out to be below $r=.001$ for binary and ordinary variables. Thus, common method bias should not affect our results.

RESULTS

Our empirical results (Table 2) did not provide support for the first set of our hypotheses (Hypotheses 1a, 1b, and 1c, i.e. convergent positive associations between ability-enhancing HPWPs and the three dimensions of employee well-being) since we found no significant relationships between training activities and employee well-being.

In regard to motivation-enhancing HPWPs based on employee evaluation, we predicted divergent associations with a negative association with health well-being (Hypothesis 2a), a positive association with happiness (Hypothesis 2b), and a negative association with relational well-being (Hypothesis 2c). These hypotheses were supported through the results for incentive compensation based on individual performance.

The hypotheses on motivation-enhancing HPWPs based on employment security (convergent positive associations with health, happiness, and relational well-being – respectively Hypotheses 3a, 3b, and 3c) – are fully supported, since career advancement prospects and job security showed positive relationships with all three dimensions of employee well-being.

In regard to opportunity-enhancing HPWPs, the hypothesized divergent associations – i.e. negative association with health well-being (Hypothesis 4a) and positive associations with happiness and relational well-being (Hypothesis 4b and Hypothesis 4c) – were supported for autonomy. For self-directed teamwork and organizational participation, we found partial support. Indeed, regarding self-directed teamwork we found a negative relationship with health well-being (more physical health problems), which supports Hypothesis 4a, and a positive relationship with relational well-being (interpersonal relations), which supports Hypothesis 4c, but we found no positive association with happiness well-being (Hypotheses 4b). Regarding organizational participation, we found positive relationships with happiness and relational well-being, which supports Hypothesis 4b and Hypothesis 4c. However, we

found no negative relationships between organizational participation and health well-being (Hypothesis 4a) and thus no divergent associations.

TABLE 2 ABOUT HERE

DISCUSSION

Starting from the consideration that employee well-being is a multidimensional construct, our aim was to explore if tradeoff effects – which have been extensively explored by current research on the effects of HPWPs on other relevant outcomes – can be found in the relationship between HPWPs and the different dimensions of employee well-being. Therefore, we utilized COR theory for developing a systematic and comprehensive conceptual framework for the convergent and divergent relationships between each AMO-based component of HPWPs and the three dimensions of employee well-being, and tested the respective hypotheses empirically. In this section, we highlight and discuss the results which are most relevant to advancing the debate on the relationships between HPWPs and employee well-being.

The first relevant finding concerns the possible existence of divergent relationships between employees' perception of HPWPs and the three dimensions of employee well-being. Previous theoretical studies have supported this possibility (e.g. Grant et al., 2007), but it has not been fully empirically explored in the extant HRM literature (e.g. Clinton & van Veldhoven, 2013; Peccei et al., 2013). Our results on the relationships between HPWPs and the dimensions of employee well-being show that three practices present such tradeoff effects. Indeed, as expected, incentive compensation based on individual performance is negatively associated with health and relational well-being, but positively associated with happiness well-being;

autonomy is negatively associated with health well-being, but positively associated with both happiness and relational well-being; and working in a self-directed team is negatively associated with health well-being, but positively associated with relational well-being. Therefore, following our COR-informed predictions, we have demonstrated that specific HPWPs activate loss and gain cycles on different types of primary resources, thus leading to differential relationships with related dimensions of employee well-being.

The second relevant finding concerns the selective associations between employees' perception of HPWPs and the different dimensions of employee well-being. Indeed, our findings show that the HPWPs considered were not always associated (either positively or negatively) with all the well-being dimensions. Specifically, we found four HPWPs (i.e. incentive compensation based on individual performance, career advancement prospects, job security, and autonomy) to be associated with all the well-being dimensions; two HPWPs (i.e. self-directed teamwork and organizational participation) to be associated with two well-being dimensions; one HPWP (i.e. incentive compensation based on group/company performance) to be associated with one well-being dimension, and one HPWP (i.e. training) which was not related to any dimension of employee well-being. These (unpredicted) findings show that our COR-based predictions underestimated the possibility that some HPWPs do not activate any gain or loss cycle on specific primary resources, with null effects on their related dimensions of employee well-being. These findings might challenge those contributions which focused on the debate between conflicting outcomes versus mutual gains (e.g. van de Voorde et al., 2012). Indeed, these contributions risk to overestimate the effects of HPWPs on employee well-being, denying the possible existence of a third perspective, which can be called *skeptical perspective*. This perspective has already been put forward by Peccei who argued that we should not expect HPWP to “necessarily have a significant impact, either positive or negative, on employee well-being” (Peccei, 2004, p. 5). Until now, this perspective has not been fully considered in the theoretical and empirical contributions on the topic. However,

even if potentially disappointing for the HRM research and practice communities (as it limits the scope of the effects of HRM), it could help to understand which are the well-being dimensions affected by HPWPs, and which are the well-being dimensions affected by other types of organizational practices.

The two above-synthesized key findings of our studies show that COR theory can be effectively used to theorize differentiated relationships between employees' perception of HPWPs and the various dimensions of employee well-being. Indeed, according to that theory, it is argued that HPWPs can be supportive of, indifferent to, or harmful to the primary resources of employees, therefore producing different impacts (increasing, neutral, or decreasing respectively) on the respective dimensions of employee well-being. Taken together, the two above-reported findings allow us to highlight that future studies on the relationships between HPWPs and employee well-being should adopt a multi-dimensional approach to employee well-being. This approach suggests not to employ a *synthetic* focus on the *single* relationships between HPWPs and employee well-being, but an *analytical* focus on the *multiple* relationships between HPWPs and the various dimensions of employee well-being. As a result, the adoption of this approach would support the interpretation of those cases considered contradictory by extant research, i.e. the HPWPs presenting positive, negative, tradeoff, and/or neutral associations with employee well-being dimensions. In addition, the adoption of this analytical approach would allow HRM research to incorporate the idea of tradeoff effects into the exploration of the relationships between HPWPs and employee well-being.

Implications for HR practice

In terms of HR practice, the reported findings furnish three data-driven recommendations for HR practitioners interested in developing employee well-being. Notably, those recommendations do not take into account the possibility that the HPWPs considered in this

paper might present tradeoffs also with other HR outcomes, not related with employee well-being, such as employee performance. A first recommendation concerns the development of a more realistic view on the relationships between HPWPs and employee well-being. Indeed, since we found that most HPWPs are selectively associated with specific dimensions of employee well-being, HR practitioners interested in developing employee well-being should channel investments to those practices actually associated with employee well-being, and in particular with those well-being dimensions of interest to the organization. For example, if a company has the aim to increase employees health by reducing mental health problems, investing in organizational participation would not be a good choice, as this opportunity-enhancing HPWP was only associated with increased happiness and relational well-being. The second recommendation is that organizations interested in developing employee well-being should prioritize interventions on HPWPs falling in the mutual gains perspective, i.e. proven to have positive associations with employee well-being dimensions (i.e. career advancement prospects, job security, and organizational participation). For example, a company interested in developing employee well-being should prioritize actions on the above reported HPWPs before targeting HPWPs with more complex (i.e. divergent) associations with the different dimensions of employee well-being. The last recommendation concerns those HPWPs that have been found to have “black-and-white” or negative effects on employee well-being (i.e. incentive compensation based on individual performance, incentive compensation based on group/company performance, autonomy, self-directed teams). On those HPWPs we recommend that HR practitioners interested in developing employee well-being should combine them with others HPWPs that have positive associations with the same employee well-being dimensions, in order to mitigate potential detrimental effects.

Limitations and future research

It should be pointed out that our findings and interpretations have some limitations. First, because they are based on a cross-sectional design, we have not been able to analyze actual causal relationships. Second, even if our empirical tests (i.e., Harman's single-factor test, Lindell and Whitney's analysis on smallest observed correlation) did not indicate particular problems in this regard, the used data represent self-reported measures from a single source, which may give rise to common method bias (Podsakoff et al., 2003). Third, the used measures present two limits: (i) some constructs were measured in a rather simple way (i.e. yes/no response format and/or single items) and, even if this is not uncommon in strategic HRM research (Langevin-Heavey et al., 2013), we recognize that future research could benefit from more sophisticated and comprehensive measures; (ii) in the case of engagement, the EWCS questionnaire did not include all the items included of the established scales, and this leads to a Cronbach's alpha which, even if still within acceptable limits (DeVellis, 2012), is quite poor. While our study was based on secondary data, and therefore the choice of the items was beyond our control, in the future, it could be interesting to consider the ultra-short measure for work engagement (the UWES-3) proposed by Schaufeli et al. (2017). Having accounted for those measures-related limits, we argue that those are counterbalanced by the benefits of using the high-quality data from an established research project like EWCS (as recently called for by Boxall et al., 2016) which, to our based knowledge, has not yet been used for exploring employees' perception of HPWPs. Fourth, it could be argued that there are additional HPWPs, like extensive recruiting, selection, and information-sharing processes (Jiang, Lepak, Hu et al., 2012; Posthuma et al., 2013), but information on such HPWPs is not included in the EWCS questionnaire. Accordingly, future research could apply a broader set of HPWPs. Fifth, we measured the direct associations among each HPWP and the different dimensions of employee well-being. In contrast to most previous (see van de Voorde et al., 2012) and also current research (e.g. van de Voorde, Veld, & van Veldhoven, 2016) which

summarizes HPWPs into a composite score, this approach has the advantage of revealing the effects of each HPWP. This seems particularly important in order to acknowledge that a specific HPWP can have only positive, only negative, positive and negative, and/or neutral relations with employee well-being dimensions. However, our approach does not account for any interactions and the effects of subsystems or the overall HRM system (Hauff, 2019). Thus, future studies could explore the relationships between HPWPs and employee well-being including interactions and different levels of aggregation.

Besides overcoming the aforementioned limitations, there are several additional avenues for future research. First, future studies might explore the relationships among the AMO-based components of HPWPs, the three dimensions of employee well-being, *and* organizational performance. Second, future research might benefit from studies which explore the relationships between HPWPs and employee well-being dimensions by assessing not only the presence (or the degree of use) of a certain HR practice, but also the employee-level attributions to that practice (e.g. Shantz, Arevshatian, Alfes, & Bailey, 2016). Third, another possible avenue for future research seems to be that of determining generalizability in diverse contexts. Following, for example, the contextually-based HRM theory (Brewster & Mayrhofer, 2009), we argue that institutional and cultural differences need to be taken into account when examining the relationships between HPWPs and employee well-being.

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Table 1: Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Training activities	1.06	1.59													
2 Incentive compensation based on individual performance	0.24	0.43	.114**												
3 Incentive compensation based on group/company performance	0.20	0.40	.269**	.328**											
4 Job security	2.74	1.27	.349**	.149**	.225**										
5 Career advancement prospects	4.19	1.06	.101**	.010	.076**	.111**									
6 Autonomy	1.85	1.19	.069*	.040	.089**	.183**	.120**								
7 Self-directed teamwork	1.22	1.33	.119**	.049	.144**	.152**	.067*	.081**							
8 Organizational participation	2.65	1.00	.233**	.186**	.290**	.364**	.167**	.452**	.356**						
9 Physical health problems	1.43	1.46	-.059*	.064*	-.037	-.215**	-.019	.028	.029	-.038					
10 Mental health problems	0.90	1.31	-.029	.007	.018	-.175**	-.110**	-.049	.054*	-.068*	.397**				
11 Job satisfaction	3.16	0.63	.140**	.027	.080**	.334**	.256**	.173**	.074**	.306**	-.264**	-.323**			
12 Work engagement	3.74	0.64	.199**	.132**	.135**	.405**	.171**	.267**	.168**	.428**	-.200**	-.249**	.451**		
13 Fairness	4.27	0.77	.065*	-.033	.024	.192**	.183**	.147**	.015	.155**	-.157**	-.213**	.436**	.320**	
14 Interpersonal relations	4.44	0.72	.101**	-.018	.072**	.187**	.242**	.118**	.134**	.131**	-.054	-.108**	.296**	.299**	.404**

Notes: Levels of significance: * 5%; ** 1%.

Table 2: HPWPs Effects on Employee Well-being

HPWPs	Health well-being		Happiness well-being		Relational well-being	
	Physical health problems	Mental health problems	Job satisfaction	Work engagement	Fairness	Interpersonal relations
Controls						
Gender (Ref. = female)	-0.122	-0.030	-.180	-.038	-.119	-.018
Age	0.012***	0.006	.000	.001	-.002	-.006
Education (Ref. = Up to lower secondary)						
Upper secondary	-0.077	-0.082	-.201	-.066	-.691**	-.309
At least first stage of tertiary	-0.326*	-0.156	-.478	-.025	-.738*	-.660*
Occupation (Ref. = Managers/professionals)						
Clerical support workers	-0.039	-0.110	-.246	-.054	-.226	-.529**
Service and sales workers	-0.096	-0.233	-.160	.059	-.156	-.413*
Craft and related trades workers	0.085	-0.641***	-.085	.151**	-.120	-.150
Plant and machine operators	0.130	-0.118	-.230	-.068	-.093	-.276
Elementary occupations	0.005	-0.137	-.380	-.107	-.190	-.695**
Contract type (Ref. = Indefinite)						
Fixed-term	-0.071	-0.180	-.127	-.004	.111	.272
Other	-0.085	-0.317	.576	.072	.545*	-.157
Form of employment (Ref. = Part time)	0.051	-0.119	-.601***	-.057	-.237	-.032
Firm size (Ref.= Less than 10)						
10 to 249	0.014	0.211*	-.461***	-.045	-.347**	.018
250 and more	-0.217*	0.177	.029	-.022	-.113	.248

Table 2: HPWPs Effects on Employee Well-being (continuation)

HPWPs		Health well-being		Happiness well-being		Relational well-being	
		Physical health problems	Mental health problems	Job satisfaction	Work engagement	Fairness	Interpersonal relations
Ability-enhancing HPWPs	Training activities	0.030	0.024	.001	.012	-.043	-.023
Motivation-enhancing HPWPs based on employee evaluation	Incentive compensation based on individual performance	0.274***	0.071	-.167	.077*	-.310*	-.368*
	Incentive compensation based on group/company performance	-0.037	0.250*	-.070	-.056	.057	.113
Motivation-enhancing HPWPs based on employment security	Career advancement prospects	-0.177***	-0.210***	.485***	.136***	.233***	.188***
	Job security	-0.021	-0.130**	.453***	.053***	.299***	.444***
Opportunity-enhancing HPWPs	Autonomy	0.072**	-0.020	.029	.047**	.135*	.150**
	Self-directed teamwork	0.056*	0.118***	-.071	.003	-.084	.127**
	Organizational participation	-0.046	-0.090	.505***	.166***	.192*	.011
Pseudo/adjusted R-squared		0.064	0.133	.265	.279	.118	.141

Notes: Results obtained using IBM SPSS Statistics Version 24. Displayed estimates: negative binomial regression coefficients for negative binomial regression (physical health, mental health); ordered logit regression coefficients for ordinal regression (job satisfaction, fairness, interpersonal relationships); unstandardized regression coefficients for OLS (work engagement). Reported R-squared dependent on regression method: Pseudo R-squared for negative binomial regression (calculated as $1 - \ln_{\text{model}}/\ln_{\text{null}}$); Nagelkerke R-squared for ordinal logit regression; Adjusted R-squared for OLS. Levels of significance: * 5%; ** 1%; *** 0.1%