The influence of high performance work systems on employee well-being

The moderating role of transformational leadership and perceived organizational support

Master thesis Human Resource Studies

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Abstract

This study examined the impact of high performance work systems (HPWS) on employee well-being. Within this study a distinguish was made between two dimensions of employee well-being: psychological well-being and physical well-being. On the one hand it was expected that HPWS is positively associated with psychological well-being, but on the other hand that HPWS is negatively associated with physical well-being. Furthermore, this study hypothesized that transformational leadership strengthens the positive relationship between HPWS and psychological well-being and weakens the negative relationship between HPWS and physical well-being. Also, a moderating effect was examined of perceived organizational support (POS), stating that POS strengthens the positive relationship between HPWS and psychological well-being and weakens the negative relationship between HPWS and physical well-being. A total of 170 employees from diverse organizations that operate in different service sector within the Netherlands filled in the questionnaire. Results showed that there was no moderating effect of transformational leadership or POS. However, this study found that HPWS have a positive effect on the psychological well-being of employees, meaning that more HPWS lead to more meaningfulness at work. Also, a direct effect of POS was found on physical well-being. Further, when HPWS was separated into sub-bundles, results showed that the HR practices 'performance appraisals' and 'caring' had a non-significant effect on psychological well-being and HR practices 'training', 'involvement and participation' and 'caring' had a significant effect on physical well-being.

Introduction

Since the last thirty years the organization of work changed rapidly due to the increased competition and the appealing changes in technology (Huselid & Becker, 1997; Appelbaum, Bailey, Berg, & Kalleberg, 2000). In order to face these challenges and meet the new performance standards, organizations are adopting the so-called high performance work systems (HPWS) (Appelbaum et al., 2000). In particular, it appears that organizations within the service sector are implementing HPWS to improve service quality (Gould-Williams, 2004; Harley, Allen, & Sargent, 2007). These HPWS are characterized as practices that enhance employees' skills and motivation and create participative forms of work (Harley, Sargent, & Allen, 2010; Messermith, Lepak, Patel, & Gould-Williams, 2011). Multiple researchers emphasized that HPWS lead to an increase in organizational performance (e.g. Becker and Huselid, 1998; Ramsay, Scholarios, & Harley, 2000). Although there is a growing amount of research on HPWS and its impact on organizational performance, more recently there has been an increase in studies, which examine the implications of HPWS for employees (Handel and Levine, 2004; Harley et al., 2010). Paauwe (2009) argues that HPWS research should pay more attention to the concerns and well-being of the employees. Furthermore, Harley (2005) states it is debatable whether HPWS is beneficial for employee well-being. Since a large body of research has already shown the positive impact of HPWS on the organizational performance and service quality of organizations (Huselid & Becker, 1997; Combs, Liu, Hall, & Ketchen, 2006; Gould-Williams, 2004; Harley et al., 2007), this study turns the focus towards the effects of HPWS on employee well-being.

According to Guest (2002), there are two main perspectives concerning the effect of HPWS on employee well-being: the optimistic and pessimistic perspective. In the optimistic perspective the organization and employee both benefit from HPWS. Researchers argue that the use of HPWS is beneficial for the employee, since it has a positive effect on their psychological state (Peccei, 2004). On the contrary, the pessimistic perspective adopts a negative view of high performance practices, stating that it has negative effects on employee well-being (Peccei, 2004). Due to the complex nature of employee well-being, considering the multiple definitions and dimensions of well-being, contradictory effects have been found in the relationship between HPWS and employee well-being (Grant, Christianson, & Price, 2007). Campion and McClelland (1993), for example, found that HPWS on the one hand have a positive effect on the psychological well-being, since it increases job satisfaction, but on the other hand have a negative effect on employees' physical well-being, because these practices lead to physical strain. In addition, Appelbaum (2002) reported that HPWS could positively influence job satisfaction and commitment (i.e. psychological well-being), but this might be at the cost of increased levels of stress among employees (i.e. physical well-being). Since multiple studies have shown differential effects of HPWS on well-being types (Peccei, 2004; Grawitch, Gottschalk, & Munz, 2006; Grant et al., 2007), this study focuses on two different dimensions of well-being at work: psychological well-being and physical well-being. Psychological well-being refers to employees' feelings of fulfilment and purpose in their efforts at work and finding meaning in their work (e.g., Wrzesniewski, Dutton, &

Debebe 2003). This psychological condition is known as meaningfulness (e.g., Hackman & Oldham, 1980). Physical well-being refers to the employees' exposure to job stress (Ganster and Schaubroeck, 1991). To date, most of previous studies only focused on one aspect of employee well-being. For example, Harley et al. (2010) only incorporated emotional exhaustion into their analysis, while Gould-Williams (2004) only examined job satisfaction. Therefore, the purpose of this research is to examine how HPWS are associated with psychological well-being (i.e. meaningfulness at work) and physical well-being (i.e. job stress). Based on previous research it can be expected that the use of HPWS enhances employees' meaningfulness at work, but at the same time increases job stress.

Besides HPWS, also supervisors play an important role in the management of employees. A supervisor's leadership style influences how employees perceive and react upon the intended HR practices (Wright & Nishii, 2006; Bowen & Ostroff, 2004). The leadership style that has the most effect on changing the employee's behavior within the organization is transformational leadership (Purcell & Hutchinson, 2007; Bass, 1985). Therefore, this study focuses on the leadership style transformational leadership. The moderating effect of this leadership style can be explained by the COR theory by Hobfoll (2010). This theory states that resources do not occur independently but exist in caravans, meaning that within an organization, resources strengthen each other (Hobfoll, 2010). Since a transformational leader provides resources and is responsible for creating consistency (Harney & Jordan, 2008; Bowen & Ostroff, 2004), there can be expected that transformational leadership strengthens the positive relationship between HPWS and psychological well-being and weakens the negative relationship between HPWS and physical well-being.

Perceived organizational support (POS) also has an important role for employees, since employees perceive POS as to what extent organizations value them and care about their well-being (Eisenberger, Fasolo, & Davis-Mastro, 1990). According to Rhoades and Eisenberger (2002) POS enhances employees' beliefs that the organization notices and compensates increased performance, which leads to positive outcomes for employees' psychological state. Furthermore, POS is seen as assurance that support will be available from the organization when it is needed for employees to deal with stressful situations (George et al., 1993). The Job Demands-Resources model by Bakker and Demerouti (2007) could explain the moderating effect of POS, since job resources like POS buffer the impact of job demands, in this case HPWS (Peeters, Jonge, & Taris, 2014), and resources can reduce the effects on stress (Kahn & Byosiere, 1992). Therefore, it can be expected that POS strengthens the positive relationship between HPWS and psychological well-being and weakens the negative relationship between HPWS and physical well-being. In sum, this study examines the moderating role of transformational leadership and POS in the link between HPWS and physical well-being and in the link between HPWS and psychological well-being. Thus, this leads to the following research question: *"To what extent does HPWS positively influence psychological well-being and negatively influence physical well-being and to what extent does transformational leadership and perceived organizational leadership moderate the relationship between HPWS and psychological and physical well-being?"*

Theoretical framework

Within this paragraph, the link between HPWS and employee well-being is discussed. The dependent variable in this research is well-being and the independent variable is HPWS. Also, two moderating effects are presented, that according to theory could enhance or weaken the link between HPWS and well-being. Lastly, this paragraph ends with a conceptual framework showing the expected relationships between the variables.

HPWS and well-being

Over the last 10 to 15 years the term high performance work systems (HPWS) has inspired widespread interest and is used to cover all the activities associated with the management of work and people (Boxall & Purcell, 2011). The term HPWS is used to cover a whole range of approaches labelled as ´High Commitment´ or ´High Involvement' work practices. Different terminologies are used within the HRM field, and they refer to more or less the same bundle of practices (Macky & Boxall, 2008). According to Messermith, Lepak, Patel, and Gould-Williams (2011), HPWS can be defined as "a group of separate but interconnected HR practices designed to enhance employees' skills and effort" (p. 1005). This corresponds to the AMO framework of Appelbaum et al. (2000), where high performance work practices are defined as bundles of HR practices that enhance the abilities, motivation and opportunities of employees. According to this framework, the integration of ability-enhancing practices (e.g., extensive training and selection program), motivation-enhancing practices (e.g., incentives, and job security) and opportunity-enhancing practices (e.g., information sharing and flexible job design) increase employees' knowledge, skills and performance (Appelbaum et al., 2000; Jiang, Lepak, Hu, & Baer, 2012). Previous research stated that the more HPWS are implemented, the more an organization and its employees can benefit (Combs et al., 2006). Furthermore, according to Van De Voorde et al. (2012), the linkage between the use of multiple HR-systems and employee well-being appears to be stronger compared to the use of singular HR-practices. Therefore, within this research HPWS is seen as set of HR practices that consists of ability-enhancing, motivation-enhancing and opportunity-enhancing activities.

While previous research mainly focused on the associations between HPWS and organizational performance (e.g. Becker and Huselid, 1998), more recently there has been an increase in studies which have aimed to examine the implications of HPWS for employees (Handel and Levine, 2004; Harley et al., 2010). According to Harley (2005) it is debatable whether HPWS is beneficial for employee well-being. Therefore, this research focusses on how HPWS is associated with employee well-being. As this study aims to examine linkages between 'work' related concepts of HR activities (HPWS), employee well-being is seen as the well-being of employees at work. Since there are a number of dimensions of well-being at work that have been distinguished in the literature including both positive and negative work-related effects, this study focuses on two dimensions: psychological well-being and physical well-

being (e.g., Peccei, 2004; Grawitch, Gottschalk, & Munz, 2006; Warr, 2007; Grant, Christianson, & Price, 2007).

Psychologists and other researchers have devoted several decades to examine psychological well-being, by focusing on the subjective experiences of individuals (Grant el al., 2007). Psychologists mainly focused on two components of psychological well-being: hedonic and eudaimonic well-being (Ryan & Deci, 2001). The hedonic component refers to the employee's subjective perceptions regarding their work situations, in other words job satisfaction (Weiss, 2002). However, multiple researchers stated that job satisfaction is a passive state and does not relate to a state of happiness (Koprowski, 1981; Ledford, 1999). Thus, researchers prefer to examine the eudaimonic component of psychological well-being, which focuses on the employees' feelings of fulfilment and purpose in their efforts (Wrzesniewski, Dutton, & Debebe 2003). According to Frankl (1992) individuals tend to have the need to constantly seek meaning in their work (i.e. meaningfulness). Meaningfulness is defined as the value of a work goal or purpose, that is compared to an individual's own ideals and standards (Hackman & Oldham, 1980; Renn & Vandenberg, 1995; May, 2004). Spreitzer, Kizilos, and Nason (1997) stated that when work is perceived as meaningful, it enhances both the employee's personal growth as its motivation at work. Since the psychological condition of experienced meaningfulness has been recognized by many researchers as an important psychological state or condition at work (e.g., Hackman & Oldham, 1980; May, 2003), this study refers to the eudaimonic component of psychological well-being: meaningfulness.

The other dimension of well-being within this study is physical well-being. Many researchers have examined physical well-being and referred to it in terms of subjective experiences of an individual's specific or general health complaints (e.g., Schwarzer, Jerusalem, & Hahn, 1994). Within organizations the link between functioning at work and employee physical health can be studied when work is seen as a source of stress (Karasek & Theorell, 1990; Grant et al,. 2007). Ganster and Schaubroeck (1991) noted that physical well-being at work can be referred to as employees' exposure to job stress. Moreover, Danna and Griffin (1999) reported that employee health encompasses physical well-being, which relates to job stress. Therefore, this study refers to physical well-being as job stress.

Due to the complex nature of employee well-being, considering the multiple definitions and dimensions of well-being, limited empirical evidence regarding the effects of HPWS on employee well-being is available. Moreover, research regarding the effects of HPWS on employee well-being that is available shows mixed results (Harley, Sargent, & Allen, 2011; Macky & Boxall, 2008; Kroon, Van De Voorde, & Van Veldhoven, 2009; Van De Voorde et al., 2012; Peccei et al., 2013). For example, Appelbaum (2002) found that high performance practices could positively influence job satisfaction and commitment (i.e. psychological well-being), but this might be at the cost of increased stress levels among employees (i.e. physical well-being). Moreover, Godard (2001) found that higher levels of adoption of HPWS lead to an increase in stress at work, while Macky and Boxall (2008) stated that

HWPS focus on employee involvement, which according to Spreitzer, Kizilos and Nason (1997) leads to meaningfulness at work.

When looking at these contradictory results in the current literature, there are two competing perspectives about the linkage between high performance work systems and employee well-being. On the one hand there is the optimistic perspective, stating that what is good for the employer is good for the employee as well (Peccei, 2004; Zhang, Zhu, Dowling, & Bartram, 2013). Researchers that follow this positive perspective argue that the use of HPWS is beneficial for the employee, since it has a positive effect on their psychological state (Peccei, 2004). The argument here is that implementing these high performance practices lead to higher levels of satisfaction and meaningfulness at work (Peccei, 2004; Spreitzer et al., 1997). For example, opportunity-enhancing practices like autonomy give employees the feeling that the organization trusts them and gives them the opportunity to make their own decisions, which lead to an increase in their psychological state (e.g., Grant, Christianson, and Price, 2007). Also, motivation-enhancing practices like incentives could have a positive effect on the psychological state, since employees are more satisfied when they receive more incentives based on their actions (e.g., Eisenberger, Rhoades, & Cameron, 1999). The positive perspective can be further explained with the Social Exchange Theory. According to this theory, HR-practices are positively perceived by employees. As a response, employees reciprocate accordingly with a higher job satisfaction (Van De Voorde et al., 2012). Moreover, according to the Job Characteristics Model of Hackman and Oldham (1980), skill-enhancing and opportunity-enhancing practices enable employees to experience their job as more meaningful. Research shows that enriched practices create feelings of meaningfulness for employees and result in higher levels of an employee's psychological state (Fried & Ferris, 1980).

On the contrary, there is also a pessimistic perspective of high performance practices, which states that HPWS have negative effects on employee health well-being (Peccei, 2004). Researchers argue that the use of HPWS lead to the intensification of work and to more exploitation of employees, which are at the expense of employees' physical well-being (Godard, 2001; Ramsay et al., 2000). For example, selection program and intensive training needs an investment in time, which employees often do not have and therefore could lead to stress due to a lack of time to finish their daily tasks (Godard, 2001). Also, opportunity-enhancing practices like job rotation can have a negative effect on physical well-being, since it places higher demands on employees and therefore lead to more stress (Martin & Wall, 1989). In addition, compensation practices like pay for performance could also have negative effects on employee well-being, since employees feel the urge to work longer and harder, which could lead to stress (e.g., Grant, Christianson, and Price, 2007; Eisenberger, Rhoades, & Cameron, 1999). The pessimistic perspective can be further explained with the labor process theory. According to this theory, the implementation of HPWS lead towards the intensification of work since managers are constantly seeking ways to make employees work longer or harder to maximize their productivity (Harley et al., 2007). This implies that employees exposed to HPWS suffer from higher stress levels directly through the intensification of work (Ramsay et al., 2000). Additionally, researchers of this pessimistic

perspective propose that HPWS that pursue higher organizational performance may intensify job demands, and eventually lead to higher levels of job stress (Zhang et al., 2013).

To summarize, research has shown that on the one hand HPWS can have a positive effect on psychological well-being, but on the other hand a negative effect on physical well-being. Therefore, the following hypotheses have been formulated:

H1: HPWS is positively associated with psychological well-being, meaning that HPWS lead to more meaningfulness at work.

H2: HPWS is negatively associated with physical well-being, meaning that HPWS lead to more job stress

The moderating role of transformational leadership

When HR practices are implemented within the organization, it is meaningful to take the role of leadership into account due to its function in stimulating and motivating employees (Burke et al., 2006; Morgeson, DeRue, & Karam, 2010). Multiple studies argued that leadership is a critical determinant in shaping the organization (Hong, Liao, Hu, & Jiang, 2013; Schneider, Ehrhart, & Macey, 2013). When the organization implements HR practices, according to Wright and Nishii (2006) and Bowen and Ostroff (2004) employees can perceive these HR practices differently. It is the supervisor's responsibility to make sure that the intended HR practices meet the perceived HR practices, so that the organizational goals are reached (Bowen & Ostroff, 2004). One of the key elements for implementing HPWS into an organization is that there should be aimed for consistency between the intended and perceived practices and that it is the supervisor's responsibility to create this consistency (Harney & Jordan, 2008; Bowen & Ostroff, 2004). Moreover, according to Bowen and Ostroff (2004) the type of leadership is of great relevance, since the leadership style needs to be in line with HPWS.

Transformational leadership has gained wide popularity among leadership researchers over the last years, since this kind of leadership style has an unique approach in motivating employees as compared to other leadership styles (Gardner & Avolio, 1998; Howell & Avolio, 1993; Yammarino, Spangler, & Bass, 1993). Therefore, this research focuses on the effect of transformational leadership within the link between HPWS and well-being. A transformational leader can be defined as a leader who inspires their employees to work towards the goal or vision of the organization (McShane & Von Glinow, 2009). According to Bass and Avolio's characterization (1994) transformational leadership consists of four unique but interrelated behavioral components: inspirational motivation (i.e., creating and sharing a vision), intellectual stimulation (i.e., promoting creativity and innovation), idealized influence (i.e., charismatic role modelling), and individualized consideration (i.e., coaching and mentoring).

The moderating effect of transformational leadership in the link between HPWS and psychological well-being and physical well-being can be explained by the notion of resource caravans of the COR theory by Hobfoll (2010). According to the theory, organizations provide resources to their

employees to meet organizational goals. Furthermore, individuals seek to acquire and maintain these resources (Hobfoll, 2010). However, resources do not occur independently, since they are connected and exist in caravans. According to Hobfoll (2010) the combination of resources that are accessible within an organization strengthen each other. As stated above, a transformational leader provides resources to employees since it consists out of four different components. Thus, more resources are made available in the form of support, opportunities to develop, feedback and training (Yukl, 2010; Lowe, Kroeck, & Sivasubramaniam, 1996). Multiple studies found that when transformational leadership is combined with HPWS it enhances the psychological state of employees, meaning employees create positive feelings towards their organization and show a higher satisfaction and a higher job motivation (Gillespie & Mann, 2004; Podsakoff, MacKenzie, & Bommer 1996; Whittington, Goodwin, & Murray, 2004; Avolio, Zhu, Koh, & Bhatia, 2004). Furthermore, transformational leadership can mitigate the negative effects of HPWS on job stress, because transformational leaders pay attention to the problems and needs of individuals who are being led and are able to make self-sacrifice in order to benefit the employees (Yukl, 2010; Lowe et al., 1996).

Therefore, the COR theory explains that transformational leadership moderates the link between HPWS and psychological well-being and the link between HPWS and physical well-being. Moreover, research has shown that the effectiveness of HPWS is linked with the type of leadership of the manager (Biswas, 2009; Bowen & Ostroff, 2004). Therefore, the following hypotheses are stated:

H3: Transformational leadership strengthens the positive relationship between HPWS and psychological well-being.

H4: Transformational leadership weakens the negative relationship between HPWS and physical well-being.

The moderating role of perceived organizational support

Perceived organizational support (POS) can be seen as the employees' perceptions of the extent to which organizations value employees and care about their well-being (Eisenberger, Fasolo, & Davis-Mastro, 1990). The organizational support theory elaborates on the psychological processes of POS. First, according to Rhoades and Eisenberger (2002), POS relies on the reciprocity concept and should produce a felt obligation to care about the organization's welfare and to help the organization meet its goals. Second, POS creates an environment of care, approval and respect, which should fulfill the employees' needs. Third, POS has the ability to strengthen employees' beliefs that the organization recognizes and compensates increased performance.

These psychological processes which are created by POS should create beneficial outcomes, both for employees (e.g., increased satisfaction) and for the organization (e.g., increased performance) (Rhoades & Eisenberger, 2002). On the other hand, the theory supposes that employees are able to develop the perspectivs in which they belief that the organization values the employees' contributions and cares about the employees' well-being. Furthermore, POS is seen as assurance that support will be

available from the organization when it is needed for employees to carry out their job effectively and to deal with stressful situations (George et al., 1993).

The Job Demands-Resources model by Bakker and Demerouti (2007) could explain the moderating effect of perceived organizational support. According to the JD-R model, job resources buffer the impact of job demands in predicting employee well-being (Peeters, Jonge, & Taris, 2014). Within this study job demands refer to the work intensification effect of HPWS (Liao, Toya, Lepak, & Hong, 2009) and job resources refer to POS. Bakker and Demerouti (2007) stated that the relation between job demands and employee well-being will be weaker for those enjoying a high degree of job resources. Moreover, Kahn and Byosiere (1992) stated that the buffering effect of resources can reduce the effects on stress as a consequence of high demands. Therefore, it can be expected that when POS is combined with HPWS it mitigates the negative effects of HPWS on physical well-being of employees. Additionally, job resources, like POS, foster employee development and growth, and fulfill basic human needs. Thus, it can be expected that POS enhances the positive effect of HPWS on psychological well-being, since the presence of job resources leads to a more engaged workforce and to a workforce that has positive feelings towards the organization (Peeters, Jonge, & Taris, 2014).

Since the JD-R model indicates that perceived organizational support moderates the link between HPWS and psychological well-being and the link between HPWS and physical well-being, thus the following hypotheses are formulated:

H5: Perceived organizational support strengthens the positive relationship between HPWS and psychological well-being.

H6: Perceived organizational support weakens the negative relationship between HPWS and physical well-being.

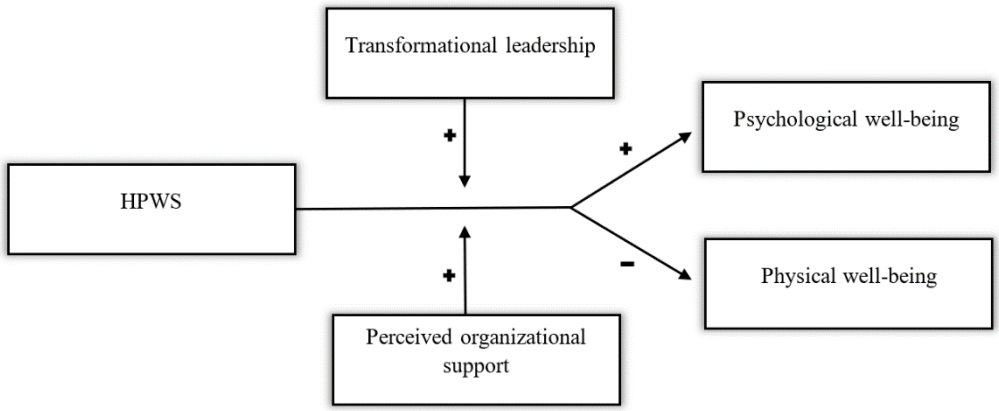

Figure 1. Conceptual model

Methods

Research sample and design

The proposed theoretical framework was tested using data from a quantitative cross-sectional study. In order to collect data, a convenience sampling approach was used through the network of four master students from Tilburg University. The data was collected from different Dutch employees and line managers working in organizations within the service sector. The service organizations that participated had at least one department with a manager, as managers were also approached to fill in a questionnaire. The aim of this study was to collect a sample of 200 employees and their supervisors (200 employee-supervisor dyads). The actual sample of this study consisted of 170 employees and 55 managers. According to the power analysis, the sample size should be at least 166 (Faul, Erdfelder, Lang, and Buchner, 2007). Since this study only focuses on employees, the data of the managers is not used. The employee response rate was 89% (190 employees received the questionnaire and 170 employees filled it in). The average age of the sample was 34 years old (Sd. 13.10). Further, the oldest employee was 64 years old and the youngest employee was 18 years old. Additionally, of the 170 employees that participated in this study, 44.7% was male and 55.3% was female. Furthermore, on average employees work 26.82 hours per week (Sd. 12.70, N=168). Moreover, most employees (23.5%) worked in sales, 20.6% worked in healthcare, 17.6% in retail, 12.4% in education, 11.2% in financial services, 6.5% in ICT and 8.2% in other organizations. The employees who chose for the option 'other', named organizations like government, consultancy, aviation and legal services. The demographic characteristics of the sample are shown in appendix I.

Procedure

This study used online questionnaires, which covered all the variables of four fellow researchers. The questionnaires were sent to employees and their managers. The language of the questionnaires was Dutch, since the researchers addressed Dutch service organizations. HPWS, physical well-being, psychological well-being, transformational leadership and perceived organizational support were all measured by questioning employees. In order to gather data multiple collecting methods were used. First, the four researchers contacted their network, both manager as employees, within the service sector. When the contact person was a manager he or she was asked to conduct a list of names of employees from their department. By making use of random sampling, the researcher could determine which employees could participate in the research. Through the use of Microsoft Excel and by asking the initials of the employees, random selection was possible. If the contact person was an employee, the employee was responsible for inviting his or her manager to participate. Also, the researchers developed a flyer, that was distributed via the LinkedIn page of all four researchers. The managers and employees that showed interest received a letter via e-mail. The letter contained the aim of the research and the guaranteed confidentially for the organization and its employees. On a mutually agreed date the researchers spread the online questionnaires for employees and managers via the online survey tool

Qualtrics. The anonymous links were send by e-mail, including an information letter that explained the aim of the study and how the confidentially of the respondents was guaranteed. Different codes were used in order to keep the data structured for the researchers, to pair managers with employees, and to guarantee the confidentially. The codes were created by making use of the researcher's initials combined with a letter.

Measures

High performance work systems is measured with the scale developed by Chuang and Liao (2010) which contains 35 items as shown in appendix II along with the other scales. This scale consists of six categories of HR practices: staffing (five items), training (five items), involvement and participation (seven items), performance appraisals (six items), compensation and rewards (seven items) and caring (five items), with a total of 35 items. In order to make the items fit the current research, the word 'store' has been replaced by 'company'. All items are measured using a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). An example of a statement of the HR practice staffing is: "Qualified employees have good career opportunities". An example of a statement of the HR practice training is: "The company invests a lot of time and money in training". An example of a statement of the HR practice involvement and participation is: "The company does not share information with their employees (for example turnover). An example of a statement of the HR practice performance appraisals is: "Supervisors do not set personal goals together with their employees". An example of a statement of the HR practice compensation and rewards is: "The company offers multiple benefits". An example of a statement of the HR practice caring is: "The company cares about the safety at work and the well-being of its employees". Factor analyses were done for all six categories separately. Results showed that all items loaded on one factor. Moreover, results showed that all factor loadings exceed .30, except for two. These two items were the fifth item from the category caring and the seventh item from category involvement & participation. Therefore, these two items were deleted from the HPWS scale. Then, the mean scores of the six HR practices were created, so they could be used into one factor analysis. The results showed that the loading of all items exceed .64, except for training (.24). Furthermore, the KMO was above the required .60 ($p < 0.001$) and all items loaded on one factor. Since a previous study of Chuang and Liao (2010) supported that training fits the bundle of HR practices, this study will include training in the HPWS bundle. In addition, post-hoc analyses are performed for the separate HR practices, so separate HR categories could be used in further analyses. Lastly, the reliability analysis showed that the scale measuring this variable is sufficient ($\alpha = .86$). All factor analyses and reliability analyses are shown in appendix III.

Psychological well-being within this study is measured with meaningfulness: employees feelings of fulfilment and purpose in their efforts (May, 2004). The scale that measures meaningfulness is drawn from a previous study of May, Gilson, and Harter (2004) and consists of six items, which collects the degree of meaning that individuals discovered in their work-related activities. Examples of

statements are: “The work I do on this job is very important to me” and “My job activities are personally meaningful to me”. These items are measures using a 5-point Likert scale, where 1 refers to strongly disagree and 5 refers to strongly agree. The factor analysis showed sufficient validity, since all loadings exceed .69, the eigenvalue was higher than 1 (3.93), the scale had a KMO of .88 and the Bartlett’s test of sphericity was significant ($p < 0.001$). Moreover, the reliability analysis showed that the scale measuring this variable is sufficient ($\alpha = .89$)

Physical well-being within this study refers to employee’s experience of job stress. The scale that measures job stress consists of three items drawn from Motowidlo, Packard and Manning (1986). Motowidlo et al. (1986) use a 5-point Likert scale, where 1 refers to strongly disagree and 5 refers to strongly agree. An example of a statement is: “I feel a great deal of stress because of my job”. The factor analysis showed sufficient validity, since all loadings exceed .75, the eigenvalue was higher than 1 (1.95), the scale had a KMO of .66 and the Bartlett’s test of sphericity was significant ($p < 0.001$). Furthermore, the reliability analysis showed that the scale measuring this variable is sufficient ($\alpha = .73$).

Transformational leadership is measured by making use of the Charismatic Leadership in Organizations Questionnaire (CLIO) by De Hoogh, Koopman and Den Hartog (2004). In order to measure this variable two scales of transformational leadership will be used: charismatic and empowerment. These scales measure the key elements of transformational leadership since charismatic leadership is in line with the dimensions idealized influence and inspirational motivation, and empowerment refers to intellectual stimulation and individual consideration (De Hoogh et al., 2004). Charismatic leadership consists of six items and empowerment consists of five items. All items have a 5-point Likert scale where 1 refers to strongly disagree and 5 refers to strongly agree. An example of a statement is: “My supervisor stimulates employees to develop their talents”. The factor analysis indicated sufficient validity, even though two eigenvalues appeared to be higher than 1. However, all loadings on the first factor exceed .56. Also, the scree plot supported that all items measure one construct, since a break between the two components is visible. Furthermore, the KMO of the scale was .92 ($p < 0.001$). Lastly, the reliability analysis showed the scale is reliable ($\alpha = .91$).

Perceived organizational support is measured with a scale which is developed by Eisenberger, Fasolo and Davis-LaMastro (1990). This scale consists of four items and uses a 5-point Likert scale, where 1 refers to strongly disagree and 5 refers to strongly agree. Examples of statements are: “The organization strongly considers my goals and values” and “The organization really cares about my well-being”. The factor analysis showed sufficient validity, since all loadings exceed .68, the eigenvalue was higher than 1 (2.50), the KMO of this scale was .75 and the Test of Sphericity showed significance ($p < 0.001$). In addition, the Cronbach’s alpha of this scale turned out to be sufficient ($\alpha = .79$).

Control variables are included to rule out spuriousness. The following control variables are included in this research; age, gender, working hours and type of work. First, the control variable age (in years) is included within this research, since previous research has shown that age influences the perceptions and attitudes of employees towards their job (Berg, 1999; Miao, 2011). Previous studies

found that when employees are older the level of job satisfaction is higher compared to employees that are young (e.g., Warr, 1992; Berg, 1999). Second, gender is included within this research (1=male, 2=female). Berg (1999) stated that it is common to find that men react differently towards their work compared to women, meaning that women could have different perceptions and expectations from their job than men. Third, the number of working hours per week is included within this research, since previous research stated that the higher the amount of working hours, the lower the levels of employee well-being (Rupert & Morgan, 2005). Lastly, within this research type of work is used as a control variable, since the service sector within our country is diverse. For example, employees can work in health institutions, consultancy companies or in banks. These types of jobs differ from each other, which can influence the outcomes of this research. Therefore there will be controlled for type of work with the following dummy categories: ICT, health/healthcare, education, financial services, retail, sales and other. Education is used as the reference category.

Analysis

The data was analyzed by making use of the analysis software SPSS. Descriptive Statistics was used to get means and standard deviations. Further, the Pearson Correlation test was used to obtain correlations for interval and ratio variables. To test the assumed hypotheses, the Hayes Process Macro regression analysis was used (Hayes, 2013). The Process macro allowed the testing of a moderation model. For this research model 2 was tested two times, since this study uses two outcomes of well-being, naming psychological well-being and physical well-being.

First, to test moderation, in particular the interaction effect between X and M and X and W, it is checked whether the interaction effects are significant in predicting Y. Since this research consists of two different outcomes, namely psychological well-being and physical well-being, the procedure mentioned below was done twice. The independent variable, HPWS, was added in block X, the dependent variables, psychological well-being and physical well-being, were added in block Y, the moderator, transformational leadership, in block M, the moderator, perceived organizational support, in block W and the control variables in block covariate(s). By making use of Hayes' process the variables are centered and interaction terms of variables are created. Bootstrapping was used to calculate standard errors and 95% confidence intervals to test the significance of the interaction and conditional effects. The other hypotheses were also tested by making use of the two outputs of model 2 and if needed by simpler regression analyses.

Results

This paragraph is an overview of the most important correlations and the analyses to test the hypotheses. Table 1 of appendix IV includes an overview of an ANOVA analysis on the main variables (X, Y1, Y2, M and W) when controlled for 'type of work'. The results indicated that the different groups within type of work do not differ significantly on HPWS, POS, transformational leadership, psychological well-being and physical well-being. Thus, type of work is no longer added as a control variable in the following analyses.

Table 1 shows the means, standard deviations and correlations of all the main variables and control variables. HPWS is positively correlated with transformational leadership (r = .65, p < .01). Further, HPWS is positively correlated with perceived organizational support (r = .58, p < .01). Also, HPWS is positively correlated with psychological well-being (r = .29, p < .01). On the one hand, transformational leadership is positively correlated with POS (r = .54, p < .01) and with psychological well-being (r = .28, p < .01). On the other hand, transformational leadership is negatively associated with physical well-being (r = -.19, p < .01). Besides, perceived organizational support is positively correlated with psychological well-being (r = .26, p < .01). Lastly, POS is negatively associated with physical well-being (r = -.37, p < .01).

Table 1 *Means, standard deviations and correlations of the studied variables*

	M	**SD**	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**
1. HPWS	3.433	.398							
2. Trans. Lead.	3.830	.609	.645**						
3. POS	3.670	.673	.580**	.537**					
4. Psy. well-being	3.919	.572	. 292**	.276**	.258**				
5. Phy. well-being	2.521	.752	-.105	-.191*	-.373**	.045			
6. Gender	1.55	.50	.039	-.005	-.012	.055	-.015		
7. Age (years)	33.75	13.09	-.142	-.095	-1.77*	.143	.253**	-.017	
8. Working hours	26.82	12.70	.063	.020	-.051	.157*	.189*	-.046	.186*

*P < .05 ** P < .01 ***P < .001

Moderation model with psychological well-being as outcome

First, the moderation model number 2 is tested. This model includes HPWS as X-variable, transformational leadership as M-variable, perceived organizational support as W-variable, and psychological well-being and physical well-being as outcome (Y). Age, gender and working hours are added as control variables. The output is shown in table 2. It appeared that there was no significant interaction effect of transformational leadership on the relationship of HPWS and psychological well-being (B = .0949; p > .05), as a zero is present in the 95 percent confidence interval (CI = -.2535, .4433). Also, no significant interaction effect of POS on the relationship of HPWS and psychological well-being was found (B = -.0271; p > .05), as a zero is present in the 95 percent

confidence interval (*CI* = -.4124, .3581). Thus, no moderating effect was found of transformational leadership or POS in the link between HPWS and meaningfulness. Therefore, hypotheses *H3: Transformational leadership strengthens the positive relationship between HPWS and psychological well-being* and *H5: Perceived organizational support strengthens the positive relationship between HPWS and psychological well-being* are not confirmed[1].

Table 2 *Effects on psychological well-being*

	Effect	***P***	**LL 95% CI**	**UL 95% CI**
Transformational leadership	.0997	.3244	-.0996	.2990
HPWS	.2913	.0966	-.-529	.6356
HPWS x Trans. leadership	.0949	.5912	-.2535	.4433
POS	.1124	.1718	-.0493	.2742
HPWS x POS	-.0271	.8895	-.4124	.3581
Gender	.0552	.5296	-.1178	.2282
Age	.0090	.0018	.0034	.0145
Working hours	.0046	.2065	-.0025	.0116

Moderation model with physical well-being as outcome

When physical well-being was entered in model 2 as outcome, it appeared that there was no significant interaction effect of transformational leadership on the relationship between HPWS and physical well-being (*B* = .0642; *p* > .05), as a zero is present in the 95 percent confidence interval (*CI* = -.4778, .6063). The output is shown in table 3. Also, no significant interaction effect of POS on the relationship between HPWS and physical well-being was found (*B* = .1730; *p* > .05), as a zero is present in the 95 percent confidence interval (*CI* = -.3545, .7006). Thus, no moderating effect was found of transformational leadership or POS in the link between HPWS and job stress. Therefore, hypotheses *H4: Transformational leadership weakens the negative relationship between HPWS and physical well-being* and *H6: Perceived organizational support weakens the negative relationship between HPWS and physical well-be* are not confirmed[2]. However, the results showed that there is a direct effect of POS on physical well-being (*B* = -.4059; *p* < .05), as zero is not present in the 95 percent confidence interval (*CI* = -.6374, -.1744). Therefore, a main effect of POS is present.

[1] When testing one moderator at a time by making use of model 1 with psychological well-being as outcome, similar results appeared. Also, Post Hoc Analysis showed similar results when using the HR practices separately.
[2] When testing one moderator at a time by making use of model 1 with physical well-being as outcome, similar results appeared. Also, Post Hoc Analysis showed similar results when using the HR practices separately.

Table 3 *Effects on physical well-being*

	Effect	*P*	LL 95% CI	UL 95% CI
Transformational leadership	-.0389	.7816	-.3155	.2377
HPWS	.2892	.1684	-.1237	.7021
HPWS x Trans. leadership	.0642	.8153	-.4778	.6063
POS	-.4059	.0007	-.6374	-.1744
HPWS x POS	.1730	.5179	-.3545	.7006
Gender	.0207	.8546	-.2017	.2430
Age	.0127	.0095	.0031	.0222
Working hours	..0074	.0998	-.0014	.0162

Direct effects of HPWS on well-being

Simple regression analysis was used to test if HPWS significantly predicted participants' psychological and physical well-being. The results of the regression indicated that HPWS have a significant effect on psychological well-being (b = .48, p < .001). Therefore, hypothesis 1 is accepted: *HPWS is positively associated with psychological well-being, meaning that HPWS lead to more meaningfulness at work.* Furthermore, the analysis showed that also age has a significant effect on psychological well-being (b = .01, p < .05). As shown in table 1 of appendix V, gender and working hours are non-significant predictors of psychological well-being. However, when the simple regression was done by separating the HPWS bundle into six categories, as shown in table 4, the results showed that the HR practice 'performance appraisals' had a non-significant effect on psychological well-being (b = .07, p > .05). Again, the HR practice 'caring' had a non-significant effect on psychological well-being (b = .10, p > .05).

Table 4 *Direct effects of separate HR practices on psychological well-being*

	Unstandard B	Coefficients Std. error	Standard coeff. Beta	t	Sig.
Staffing	.246	.080	.233	3.073	.002
Perf. appraisal	.071	.077	.072	.923	.357
Training	.152	.049	.235	3.100	.002
Inv. & part.	.253	.076	.251	3.324	.001
Comp. & ben.	.140	.065	.165	2.134	.034
Caring	.104	.067	.120	1.545	.124

Also, simple regression analysis was used to test if HPWS significantly predicted participants' physical well-being. The results of the regression showed that HPWS have a non-significant effect on physical well-being (b = -.20, p > .05). Therefore, hypothesis 2 has been rejected: *HPWS is negatively associated with physical well-being, meaning that HPWS lead to more job stress*. On the contrary, as shown in table 2 of appendix V, age is a significant predictor of physical well-being (b = .01, p < .01). Also, working hours is a significant predictor of physical well-being (b = .01, p < .05). In addition, when the simple regression was done by separating the HPWS bundle into six categories, as shown in table 5, the results showed that the HR practice 'training' had a significant effect on physical well-being (b = .19, p < .01). Moreover, the results showed that the HR practice 'involvement and participation' also had a significant effect on physical well-being (b = -.33, p < .01), as well as the HR practice 'caring' (b = -.36, p < .001).

Table 5 *Direct effects of separate HR practices on physical well-being*

	Unstandard B	**Coefficients Std. error**	**Standard coeff. Beta**	**t**	**Sig.**
Staffing	-.155	.108	-.111	-1.439	.152
Perf. appraisal	.016	.101	.012	.158	.875
Training	.194	.065	.228	2.994	.003
Inv. & part.	-.331	.099	-.251	-3.325	.001
Comp. & ben.	-.119	.087	-.106	-1.360	.176
Caring	-.356	.086	-.311	-4.162	.000

Discussion

This study aimed to investigate the influence of HPWS on psychological well-being and the influence of HPWS on physical well-being. Further, this study examined to what extent transformational leadership and POS moderate the relationships between HPWS and psychological well-being and the relationship between HPWS and physical well-being. In order to answer the research question several hypotheses need to be discussed.

First, this research supports the first hypothesis, stating that HPWS is positively associated with psychological well-being, meaning that HPWS is associated with more meaningfulness at work. This is in line with the study of Peccei (2004) and Spreitzer et al. (1997) in which they stated that implementing HPWS lead to higher levels of meaningfulness at work. Furthermore, Combs et al. (2006) and Van de Voorde et al. (2012) stated that the more HR activities are available the more an employee can benefit. Also, results showed that age positively influences psychological well-being at work. This is in line with the study of Warr (1992) and Berg (1999), in which they stated that the older an employee, the higher the level of job satisfaction, thus the better the psychological well-being of an employee. Hence, the

more HPWS are implemented or the older an employee is, the more meaningfulness employees experience at work.

However, when the HPWS bundle was separated into sub-bundles, results showed that not all HR practices lead to more meaningfulness at work. It appeared that the HR practice 'performance appraisals' is not related with meaningfulness at work. This is in line with previous research, in which they stated that implementing performance appraisals can have a negative effect on employee well-being, since employees often do not accept or support PM systems, leading to a decrease in overall job satisfaction, which relates to meaningfulness at work (e.g., Sparr & Sonnentag, 2008; Levy, Herb, Frantz, & Carr, 2012). Furthermore, there is clear evidence that performance appraisal systems negatively influence employees' psychological well-being, when they are not implemented carefully, thus often leads to work intensification (e.g., Levy & Williams, 2004; Levy, Herb, Frantz, & Carr, 2012). Also, it appeared that the HR practice 'caring' is not associated with meaningfulness at work. This could be explained with the pessimistic perspective of high performance practices, in which researchers stated that the more HR practices are implemented, the more employees feel like their work is interfered and the organization does not trust them or give them autonomy, which could lead to less satisfaction at work (e.g., Peccei, 2004; Harley et al., 2007; Warr, 2007). Another explanation, considering the two contradictory perspectives, is that individuals perceive the HR practices differently, which causes different outcomes on their well-being.

Second, this research does not confirm the hypothesis stating that HPWS is negatively associated with physical well-being, meaning that HPWS lead to more job stress. This is not in line with previous research in which they stated that HPWS lead to more intensification of work, which leads to higher stress levels (e.g., Harley et al., 2007; Ramsay et al., 2000). However, when the link between different HR practices and physical well-being were examined, different results appeared. Results showed that the HR practice 'training' did lead to more stress at work, but that the HR practices 'involvement and participation' and 'caring' lead to less stress at work. That training leads to more stress at work corresponds with the study of Oppenauer and Van De Voorde (2016) in which they found that training and development leads to work overload. Consequently, training programs often take place during work hours, meaning that employees need more work hours if they want to combine their daily tasks with an extra training program, leading to more pressure (e.g., Parshuram, Dhanani, Kirsh, & Cox, 2004; Topcic, Baum & Kabst, 2015). Hence, more training lead to more job stress. An explanation why HR practices like 'involvement and participation' and 'caring' lead to less stress at work is that it is in line with the optimistic perspective, whereby researchers argue that the use of multiple HR practices is beneficial for the employee, since it has a positive effect on employee well-being (e.g., Peccei, 2004; Zhang et., 2013). Moreover, these HR practices relate to opportunity-enhancing practices, which translate into employees experiencing more control over their work by having a say in organizational decisions and feeling more respected by the organization (e.g., Wood et al., 2012; Conway et al., 2015; Wood & de Menezes, 2011) Thus, more involvement and participation and caring lead to less job stress.

Another result that appeared was that working hours did have an effect on physical well-being, meaning that the more working hours employees have, the more job stress they experience. This is in line with the research of Rupert and Morgan (2005), in which they found that the higher the amount of working hours, the lower the levels of employee well-being.

Third, this research rejects hypothesis stating that transformational leadership has a moderating effect on the relationship between HPWS and psychological well-being. Likewise, this research rejects hypothesis stating that transformational leadership has a moderating effect on the relationship between HPWS and physical well-being. Even when HPWS was separated into different categories, there was no moderating effect on both well-being outcomes. This is not in line with previous research which stated that when transformational leadership is combined with HPWS it enhances the psychological state of employees and mitigates the negative effects of HPWS on job stress (e.g., Gillespie & Mann, 2004; Podsakoff, MacKenzie, & Bommer 1996; Yukl, 2010; Lowe et al., 1996). A possible explanation for this finding is that results show that transformational leadership is highly correlated with HPWS. According to previous research, transformational leadership and HPWS often appear at the same time within an organization (Vasilaki, Tarba, Ahammad, & Glaister, 2016). Moreover, results showed that transformational leadership is closely related to HPWS, which can be explained by the fact that it also provides ability-enhancing, motivation-enhancing and opportunity-enhancing practices like HPWS (e.g., Bowen & Ostroff, 2004; McShane & Von Glinow, 2009; Bass & Avolio, 1994). Therefore, transformational leadership is similar like HPWS and does not have the ability to strengthen a relationship. Further, in previous research the effect of transformational leadership is only examined in the relationship with performance (e.g., Jung, Chow, & Wu, 2003). Thus, it could be that transformational leadership does not have an effect on employee well-being.

Fourth, this research does not confirm hypotheses stating that POS has a moderating effect on the relationship between HPWS and psychological well-being and the relationship between HPWS and physical well-being. This is not in line with the JD-R model by Bakker and Demerouti (2007), which stated that POS is a form of job resources, thus should have a buffering effect and lead to less stress and more positive feelings towards the organization. Nonetheless, results showed that POS does have a positive effect on physical well-being, meaning that more POS leads to less job stress. This is in line with the organizational support theory, which stated that perceived organizational support creates an environment of care, approval and respect, which should fulfil employees' needs. Furthermore, employees feel that the organization really cares about their well-being and that support will be available constantly to help them out. Hence, it is expected that POS have a positive effect on employee well-being, thus lead to less job stress.

Limitations

This research has several limitations which need to be taken into account when interpreting the findings. First, in this research a cross-sectional study design was used to analyze the data. This type of study captures data that is gathered at a specific point in time. Therefore, no conclusions regarding causality can be drawn. The proposed causal relations shown in Figure 1, the conceptual model, are based on theoretical predictions which are built on theoretical logic and previous research findings from HRM and employee well-being literature (e.g., Macky & Boxall, 2008; Ramsay et al., 2002; Appelbaum et al., 2000; Handel and Levine, 2004; Harley et al., 2010). Evidence regarding the effects of HPWS on employee well-being that is available already showed mixed results, in the relationship between HPWS and psychological/physical well-being (e.g.. Van De Voorde et al., 2012; Peccei, 2004; Campion and McClelland, 1993; Appelbaum, 2002). In order to better understand how HPWS influence employee outcomes, a longitudinal study should be done in which all variables of interest are measured at different times.

Second, previous research has shown that respondents often try to maintain consistency within their answers. This phenomenon is called consistency motif and may result in relationships between questions that would not otherwise exist (Podsakoff et al., 2003). Also, the length of the questionnaire can be seen as a limitation, which may have a negative effect on the neutral answer category (Krosnick et al., 2002). Furthermore, it may have a negative effect on the answer uniformity, which means that participants answer identical to different questions (Herzog & Bachman, 1981).

Third, since a convenience sample design has been used, the generalizability of the findings might be limited. By making use of a convenience sample, the sample is not representative of the entire population. Thus, sampling bias is likely to occur. Therefore, conclusions about the entire population cannot be drawn. Moreover, the data was collected from Dutch organizations only which limits the generalizability of the findings across different countries. Hence, cross-cultural differences cannot be identified. However, it might be that the coverage of employees in a work unit by high performance work practices implemented by line management differs among countries due to power distance (Hofstede, 1993; Wu & Chaturvedi, 2009). Within the Netherlands, power distance is quite low compared to other countries (Hofstede, 1993). Therefore, certain HR practices emphasizing the involvement of employees are likely to be supported and implemented by Dutch line managers. On the contrary, it might be that countries with a high power distance do not implement HPWS as these involvement and empowering practices would not correspond to their cultural values.

Another limitation within this study is the sample of this study, regarding the gathering of respondents. Within this study four weeks were set to gather data. Therefore, the sample of this study was relatively small. Moreover, the sample was too small when compared to the power analysis, which indicated a sample of 166. Due to incorrectly entered questionnaires, the sample of 166 was not reached. Thus, the size of the sample could have had an effect on the findings.

Fifth, the analysis of the questionnaires showed that people found it difficult to rank themselves into a category when was asked in which type of organization they worked. Even within the same team people chose a different branch, due to the lack of knowledge. Moreover, many people chose the category option 'different', because they thought that their organization was different even though that was not the case. Therefore, the researchers were forced to check each participant and to adjust the original data when a respondent chose the wrong option.

Suggestions for future research

For future research it is advisable to counter previously found limitations. The first suggestion concerns the variable HPWS. This variable was conceptualized and tested as a bundle (e.g., Macky & Boxall, 2008; Messersmith et al., 2011) consisting of HR practices that are focused on staffing, training, involvement and participation, performance appraisals, compensation and rewards and caring (Chuang & Liao, 2010). However, it would be worthwhile to bundle HPWS into different sub-bundles (e.g., Den Hartog, & Pijnenburg, 2014; Appelbaum et al., 2000; Jiang et al., 2012), such as ability-enhancing bundle (practices like training and selection program), motivation-enhancing bundle (practices like incentives and pay for performance) and opportunity-enhancing bundle (practices like job design and participation in decision-making). This would enable to test for possible differential effects of HPWS sub-bundles on employee outcomes.

Also, there are a number of dimensions of well-being at work that have been distinguished in the literature including both positive and negative work-related effects (Peccei, 2004; Grawitch et al., 2006; Grant, Christianson, & Price, 2007). Moreover, previous research mainly focused on the associations between HPWS and organizational performance (e.g. Becker and Huselid, 1998). Therefore, more research is needed and should be examined in order to better define employee well-being. For example, psychological well-being should be examined both as job satisfaction, engagement and meaningfulness and physical well-being should be examined as job stress, burnout and emotional exhaustion. Also, a different moderator can be introduced in future research. For example, autonomy could be used as moderator. Since, previous research confirmed that job resources can have a buffering effect which reduces job stress and increases the psychological state of employees, autonomy could have a moderating effect in the link between HPWS and employee well-being. When employees have autonomy, they have more control during their work day, since they are able to decide and choose how to plan and accomplish their daily tasks (Hackman & Oldham, 1975; Parker, Axtell, & Turner, 2001). Therefore, it can be expected that autonomy strengthens the relationship between HPWS and meaningfulness at work and weakens the relationship between HPWS and physical well-being.

Practical implications

The first practical implication is that the psychological well-being of employees can be increased by creating more HPWS. Since this research acknowledged that HPWS lead to more meaningfulness at work, Dutch organizations within the service sector should invest in implementing HPWS. Within this research HPWS were defined as bundles of HR practices that enhance employees' abilities, motivation and opportunities. Hence, Dutch organizations should supply ability-enhancing practices (e.g., extensive training and selection program), motivation-enhancing practices (e.g., pay for performance, incentives, and job security) and opportunity-enhancing practices (e.g., information sharing and flexible job design). Thus, when implementing more HPWS, the more employees experience their work as meaningful, the more it enhances employees' personal growth and their motivation at work, resulting in an engaged workforce.

Another implication is that the amount of job stress can be decreased by giving attention to employees' experiences towards perceived organizational support. Since an organization communicates to their employees on what is expected from them, it is of great importance that line managers improve their communication skills, so they can prevent misunderstood HR practices that are well-intended. Moreover, by implementing HPWS it also should be made available to increase dialogue between management and employees and discussion groups or monthly meetings could be used for line managers to increase information sharing and to better understand what employees actually experience and how they feel in the work place. Hence, the gap between employees and management can be reduced and an environment of care, approval, support and respect can be created, leading to favorable outcomes, both for employees (i.e., increased psychological state) and for the organization (i.e., increased performance, reduced turnover).

The last implication concerns the ability-enhancing practices of HPWS. Since this research found that more training leads to more job stress, organizations should pay attention to the amount of training programs they provide to their workforce. It is noted that training programs can have a positive effect on employees' skills and knowledge, but it is also noted that these programs often take place during working hours. Therefore, organizations could decrease the length of a training or by scheduling extra time to follow a training. Also, this could already be achieved by instructing line managers how they can support their employees on finding balance between following extensive training and finishing their daily tasks. Moreover, organizations could also implement selective staffing practices, so new employees are already screened and assessed on their personalities, skills and abilities during the recruitment process. Hence, employees will better match the profile of what an organization seeks and less training is needed.

Conclusion

This study was conducted to investigate what the influence of HPWS on employee well-being is. In total 170 Dutch employees from different type of organizations that operate in different service sector participated in this study. The findings indicated that HPWS do positively influence employees' psychological well-being, meaning that more HPWS lead to more meaningfulness at work. In addition, this study showed that more perceived organizational support leads to less job stress. Even though the other hypotheses were not confirmed, this study contributed to the HRM literature by looking at both the positive and negative effects of HPWS on employee well-being. Furthermore, this study revealed more evidence that HPWS have an effect on employee well-being. Thus, this study allows other researchers to investigate the variables in a more thorough setting and a longitudinal study.

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Appendix I – demographic data

Table 1 Demographics sample

Variable	Mean	Sd.	Total
Age (years)	34	13.10	170
	n	**%**	**Total**
Gender (male)	76	44.7	170
Sales	28	16.5	170
Healthcare	33	19.4	170
Retail	29	17.1	170
Education	17	10.0	170
Financial services	19	11.2	170
ICT	10	5.9	170
Other part service sector	34	20.0	170
Working hours	26.82	12.70	168

Appendix II – questionnaire items

HPWS (Chuang & Liao, 2010;)

1	2	3	4	5
Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens

Personeel

1.	Ik denk dat selectie van nieuwe medewerkers is gebaseerd op hoe goed medewerkers passen in de organisatie.	1	2	3	4	5
2.	Tijdens het werven van werknemers hecht mijn bedrijf veel waarde aan het potentieel van kandidaten.	1	2	3	4	5
3.	Tijdens het werven van werknemers legt mijn bedrijf de nadruk op eigenschappen en vaardigheden die vereist zijn voor het leveren van goede prestaties.	1	2	3	4	5
4.	Interne kandidaten hebben de prioriteit voor vacatures.	1	2	3	4	5
5.	Gekwalificeerde medewerkers hebben goede promotiekansen.	1	2	3	4	5

Training

6.	Het bedrijf biedt een oriëntatieprogramma voor nieuwkomers aan om meer te weten te komen over het bedrijf.	1	2	3	4	5
7.	Ik neem regelmatig deel aan trainingen.	1	2	3	4	5
8.	Het bedrijf investeert veel tijd en geld in training.	1	2	3	4	5
9.	Training is veelomvattend, niet beperkt tot vaardighedentraining.	1	2	3	4	5
10.	Ik krijg uitgebreide trainingsmogelijkheden.	1	2	3	4	5

Betrokkenheid & participatie

11.	Als een beslissing een invloed kan hebben op werknemers, vraagt het bedrijf vooraf om meningen.	1	2	3	4	5
12.	Werknemers worden vaak gevraagd om deel te nemen aan werk gerelateerde beslissingen.	1	2	3	4	5
13.	Medewerkers hebben discretie bij het verwerken van extra verzoeken van klanten.	1	2	3	4	5
14.	Medewerkers hebben discretie bij het afhandelen van klachten van klanten zonder te rapporteren aan een supervisor of andere specialisten.	1	2	3	4	5
15.	Medewerkers mogen noodzakelijke wijzigingen aanbrengen in de manier waarop zij hun werk uitvoeren.	1	2	3	4	5

16.	Het bedrijf ondersteunt medewerkers volledig met de benodigde apparatuur en middelen voor het leveren van hoogwaardige klantenservice.	1	2	3	4	5
17.	Het bedrijf deelt geen informatie met werknemers (bijvoorbeeld omzet).	1	2	3	4	5
	Beoordeling					
18.	Prestatiebeoordelingen bieden medewerkers feedback voor persoonlijke ontwikkeling.	1	2	3	4	5
19.	Prestatiebeoordelingen zijn gebaseerd op meerdere bronnen (zelf, collega's, supervisors, klanten).	1	2	3	4	5
20.	Prestatiebeoordelingen zijn gebaseerd op objectieve, kwantificeerbare resultaten.	1	2	3	4	5
21.	Supervisors komen niet samen met werknemers om hun persoonlijke doelen te stellen.	1	2	3	4	5
22.	Het bevredigen van klanten is de belangrijkste werkrichtlijn	1	2	3	4	5
23.	Het voldoen aan de behoeften van klanten wordt benadrukt in functioneringsgesprekken.	1	2	3	4	5
	Compensatie & beloningen					
24.	Gemiddeld is het beloningsniveau (inclusief incentives) van onze medewerkers hoger dan dat van onze concurrenten.	1	2	3	4	5
25.	Medewerkerssalarissen en -beloningen worden bepaald door hun prestaties.	1	2	3	4	5
26.	Het bedrijf beloont werknemers voor nieuwe ideeën om de klantenservice te verbeteren.	1	2	3	4	5
27.	Het bedrijf biedt verschillende voordelen.	1	2	3	4	5
28.	Het bedrijf hecht geen belang aan de eerlijkheid van compensatie / beloningen.	1	2	3	4	5
29.	Medewerkers ontvangen geld- of niet-geldelijke beloningen voor grote inspanningen en goede prestaties.	1	2	3	4	5
30.	Het bedrijf geeft speciale beloningen aan werknemers die uitstekend zijn in het bedienen van klanten.	1	2	3	4	5
	Zorg					
31.	Het bedrijf houdt rekening met situaties buiten het werk van werknemers (familie, school, enz.) bij het maken van planningen.	1	2	3	4	5
32.	Het bedrijf geeft om de veiligheid van het werk en de gezondheid van werknemers.	1	2	3	4	5

33.	Het bedrijf geeft om de balans tussen werk en privéleven van werknemers.	1	2	3	4	5
34.	Het bedrijf heeft zijn manieren of methoden om werknemers te helpen werkstress te verlichten.	1	2	3	4	5
35.	Het bedrijf heeft formele klachtenprocedures om klachten of beroepen van werknemers te behandelen.	1	2	3	4	5

Psychological well-being (Spreitzer, 1995; May, 2003)

1	2	3	4	5
Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens

1.	Mijn werk is erg belangrijk voor mij.	1	2	3	4	5
2.	De taken die ik op mijn werk uitvoer betekenen persoonlijk veel voor mij.	1	2	3	4	5
3.	Mijn werk vind ik de moeite waard.	1	2	3	4	5
4.	De taken die ik uitvoer op mijn werk vind ik belangrijk.	1	2	3	4	5
5.	Mijn werk is erg betekenisvol voor mij.	1	2	3	4	5
6.	Ik heb het gevoel dat mijn werk van waarde is.	1	2	3	4	5

Physical well-being (Motowidlo et al., 1986)

1	2	3	4	5
Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens

1.	Ik ervaar veel stress door mijn werk.	1	2	3	4	5
2.	In mijn werk heb ik te maken met weinig stressvolle gebeurtenissen.	1	2	3	4	5
3.	Mijn baan is uitermate stressvol.	1	2	3	4	5

Transformational leadership (De Hoogh et al., 2004)

1	2	3	4	5
Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens

1.	Mijn leidinggevende moedigt medewerkers aan om onafhankelijk te denken.	1	2	3	4	5
2.	Mijn leidinggevende betrekt medewerkers bij besluiten die van belang zijn voor hun werk.	1	2	3	4	5
3.	Mijn leidinggevende stimuleert medewerkers hun talenten zo goed mogelijk te ontwikkelen.	1	2	3	4	5

4.	Mijn leidinggevende is in staat anderen enthousiast te maken voor zijn/haar plannen.	1	2	3	4	5
5.	Mijn leidinggevende praat met medewerkers over wat voor hen belangrijk is.	1	2	3	4	5
6.	Mijn leidinggevende heeft visie en een beeld van de toekomst.	1	2	3	4	5
7.	Mijn leidinggevende stimuleert medewerkers om op nieuwe manieren over problemen na te denken.	1	2	3	4	5
8.	Mijn leidinggevende delegeert uitdagende verantwoordelijkheden aan medewerkers.	1	2	3	4	5
9.	Mijn leidinggevende laat zien overtuigd te zijn van zijn/haar idealen, opvattingen en waarden.	1	2	3	4	5
10.	Mijn leidinggevende is altijd op zoek naar nieuwe mogelijkheden voor de organisatie.	1	2	3	4	5
11.	Mijn leidinggevende geeft medewerkers het gevoel aan een belangrijke, gemeenschappelijke missie/opdracht te werken.	1	2	3	4	5

Perceived organizational support (Eisenberger et al., 1990)

1	2	3	4	5
Helemaal oneens	Oneens	Neutraal	Eens	Helemaal eens

1.	Mijn organisatie geeft echt om mijn welzijn.	1	2	3	4	5
2.	Mijn organisatie toont weinig aandacht voor mij.	1	2	3	4	5
3.	Mijn organisatie houdt veel rekening met mijn doelen en waarden.	1	2	3	4	5
4.	Mijn organisatie is trots op mijn prestaties op het werk.	1	2	3	4	5

Appendix III – Factor analyses

Table 1.
Factor analysis HPWS

Personeelsmanagement		Factor 1
Q16_1	Selectie van nieuwe medewerkers is gebaseerd op hoe goed medewerkers passen in de organisatie.	.711
Q16_2	In het selectieproces wordt prioriteit gegeven aan het vermogen om te leren.	.646
Q16_3	In het selectieproces wordt de nadruk gelegd op persoonlijke eigenschappen en vaardigheden die nodig zijn voor het leveren van goede dienstverlening.	.572
Q16_4	In het selectieproces wordt voorrang gegeven aan interne doorstroming van medewerkers.	.569
Q16_5	Gekwalificeerde medewerkers hebben de mogelijkheid om promotie te maken.	.542

Note: extraction Method: principal Component Analysis. Forced into one component. Suppressed values below 0.30

Trainingsmogelijkheden		Factor 1
Q17_1	Het bedrijf biedt een oriëntatieprogramma voor nieuwkomers aan om meer te weten te komen over het bedrijf.	.585
Q17_2	Mijn organisatie biedt doorlopende trainingen	.885
Q17_3	Mijn organisatie investeert tijd en geld in trainingen	.887
Q17_4	Mijn organisatie biedt uitgebreide trainingsmogelijkheden die niet beperkt zijn tot vaardigheidstraining	.872
Q17_5	In trainingsactiviteiten wordt de nadruk gelegd op het leveren van goede dienstverlening	.631

Betrokkenheid en participatie		Factor 1
Q18_1	Mijn organisatie vraagt vooraf om de mening van medewerkers. bij beslissingen die invloed hebben op hun werk.	.819
Q18_2	Medewerkers worden vaak betrokken bij werk gerelateerde beslissingen.	.832
Q18_3	Medewerkers hebben vrijheid bij het verwerken van extra verzoeken van klanten. patiënten. leerlingen.	.550
Q18_4	Medewerkers hebben vrijheid in het afhandelen van klachten van klanten. patiënten. leerlingen. zonder te hoeven rapporteren aan een leidinggevende of andere specialisten.	.557
Q18_5	Medewerkers mogen noodzakelijke wijzigingen aanbrengen in de manier waarop zij hun werk uitvoeren.	.601
Q18_6	Mijn organisatie zorgt voor de benodigde apparatuur en middelen zodat medewerkers hoogwaardige dienstverlening kunnen leveren.	.421

RQ18_7	Mijn organisatie deelt geen informatie met medewerkers (bijvoorbeeld over de bedrijfsvoering).	

Beoordeling		Factor 1
Q19_1	Feedback op persoonlijke ontwikkeling van medewerkers is onderdeel van de prestatiebeoordeling.	.734
Q19_2	Prestatiebeoordelingen zijn gebaseerd op informatie uit meerdere bronnen (eigen inbreng. inbreng van collega's. leidinggevende. klanten).	.567
Q19_3	Prestatiebeoordelingen zijn gebaseerd op objectieve. kwantificeerbare resultaten.	.555
Q19_5	Leidinggevende stellen niet in gezamenlijk overleg met medewerkers persoonlijke doelen op.	.595
Q19_6	Het tevreden stellen van klanten is het belangrijkste uitganspunt binnen de organisatie.	.601
RQ19_4	In prestatiebeoordelingen wordt het voldoen aan de behoeften van klanten. patiënten. leerlingen benadrukt.	.754

Compensatie en beloningen		Factor 1
Q20_1	Mijn organisatie betaalt gemiddeld genomen hogere salarissen dan marktconform is..	.632
Q20_2	Beloningen van medewerkers zijn afhankelijk van hun prestaties.	.660
Q20_3	Mijn organisatie beloont medewerkers voor nieuwe ideeën om de dienstverlening te verbeteren.	.743
Q20_4	Mijn organisatie biedt uitgebreide secundaire arbeidsvoorwaarden als onderdeel van het beloningspakket.	.563
Q20_6	Mijn organisatie beloont medewerkers die zich extra inzetten en goed presteren.	.855
Q20_7	Mijn organisatie geeft speciale beloningen aan medewerkers die excellente dienstverlening leveren.	.726
RQ20_5	Mijn organisatie hecht geen belang aan eerlijk belonen van medewerkers	.374

Zorg		Factor 1
Q21_1	Mijn organisatie houdt rekening met de privé-situatie van medewerkers bij het maken van werkroosters.	.739
Q21_2	Mijn organisatie geeft om de veiligheid en de gezondheid van medewerkers.	.750
Q21_3	Mijn organisatie geeft om de werk-privé balans van medewerkers	.856
Q21_4	Mijn organisatie helpt medewerkers om werkstress te verminderen.	.770

Q21_5	Mijn organisatie heeft procedures en of regelingen voor klachten van medewerkers.

Table 2.
Factor analysis transformational leadership

		Factor 1
Q22_1	Mijn leidinggevende moedigt medewerkers aan om onafhankelijk te denken.	.674
Q22_2	Mijn leidinggevende betrekt medewerkers bij besluiten die van belang zijn voor hun werk.	.745
Q22_3	Mijn leidinggevende stimuleert medewerkers hun talenten zo goed mogelijk te ontwikkelen.	.787
Q22_4	Mijn leidinggevende is in staat anderen enthousiast te maken voor zijn/haar plannen.	.755
Q22_5	Mijn leidinggevende praat met medewerkers over wat voor hen belangrijk is.	.767
Q22_6	Mijn leidinggevende heeft visie en een beeld van de toekomst.	.759
Q22_7	Mijn leidinggevende stimuleert medewerkers om op nieuwe manieren over problemen na te denken.	.720
Q22_8	Mijn leidinggevende delegeert uitdagende verantwoordelijkheden aan medewerkers.	.563
Q22_9	Mijn leidinggevende laat zien overtuigd te zijn van zijn/haar idealen, opvattingen en waarden.	.629
Q22_10	Mijn leidinggevende is altijd op zoek naar nieuwe mogelijkheden voor de organisatie.	.731
Q22_11	Mijn leidinggevende geeft medewerkers het gevoel aan een belangrijke, gemeenschappelijke missie/opdracht te werken.	.756

Note: extraction Method: principal Component Analysis. Forced into one component. Suppressed values below 0.30

Table 3.
Factor analysis POS

		Factor 1
Q24_1	Mijn organisatie geeft echt om mijn welzijn.	.844
Q24_2	Mijn organisatie toont weinig aandacht voor mij.	.681
Q24_3	Mijn organisatie houdt veel rekening met mijn doelen en waarden	.819
Q24_4	Mijn organisatie is trots op mijn prestaties op het werk.	.806

Note: extraction Method: principal Component Analysis. Forced into one component. Suppressed values below 0.30

Table 4.
Factor analysis psychological well-being

		Factor 1
Q27_1	Mijn werk is erg belangrijk voor mij.	.690
Q27_2	De taken die ik op mijn werk uitvoer betekenen persoonlijk veel voor mij.	.822
Q27_3	Mijn werk vind ik de moeite waard.	.822
Q27_4	De taken die ik uitvoer op mijn werk vind ik belangrijk.	.847
Q27_5	Mijn werk is erg betekenisvol voor mij.	.889
Q27_6	Ik heb het gevoel dat mijn werk van waarde is.	.772

Note: extraction Method: principal Component Analysis. Forced into one component. Suppressed values below 0.30

Table 5.
Factor analysis physical well-being

		Factor 1
Q26_10	Ik ervaar veel stress door mijn werk	.751
Q26_11	De taken die ik op mijn werk uitvoer betekenen persoonlijk veel voor mij.	.811
Q26_12	Mijn baan is uitermate stressvol	.851

Note: extraction Method: principal Component Analysis. Forced into one component. Suppressed values below 0.30

Appendix IV – One way ANOVA analysis

Table 1 *One way ANOVA results main variables controlled for 'type of work'*

	F	**Sig.**
1. HPWS	2.049	.062
2. Transformational leadership	1.091	.370
3. POS	1.801	.102
4. Psychological well-being	1.836	.095
5. Physical well-being	1.890	.086

Appendix V – Reliability analysis

Results Reliability analyses

	N of items	Cronbach's Alpha
HPWS	33	.855
Trans. leadership	11	.905
POS	4	.788
Psy. well-being	6	.891
Phy. well-being	3	.728

Appendix VI – Output regression analyses

Table 1 *Direct effects on psychological well-being*

	Unstandard B	**Coefficients Std. error**	**Standard coeff. Beta**	**t**	**Sig.**
HPWS	.475	.106	.331	4.465	.000
Gender	.044	.084	.038	.525	.600
Age	.007	.003	.159	2.127	.035
Working hours	.005	.003	.111	1.489	.138

Table 2 *Direct effects on physical well-being*

	Unstandard B	**Coefficients Std. error**	**Standard coeff. Beta**	**t**	**Sig.**
HPWS	-.199	.143	-.106	-1.394	.165
Gender	.028	.112	.019	.250	.803
Age	.013	.004	.233	3.035	.003
Working hours	.009	.005	.158	2.069	.040