

**Linking innovative human resource practices, employee attitudes and
intention to leave in healthcare services**

Panagiotis V. Kloutsiniotis and Dimitrios M. Mihail

Department of Business Administration, University of Macedonia, Thessaloniki, Greece

Abstract

Purpose: Following an “employee-centric” approach, this paper examines the effects of High Performance Work Systems (HPWS) on employees’ work engagement and job satisfaction, and the mediating effect of these variables on employees’ affective commitment and intention of leaving their hospital.

Design/methodology/approach: Structural Equation Modeling (SEM) was used on a sample of 296 clinicians (doctors and nurses) across seven Greek regional hospitals.

Findings: The findings indicate a strong positive effect of HPWS on employees’ job satisfaction, affective commitment, and work engagement and a negative effect on their intention to leave. In addition, employees’ engagement and job satisfaction positively mediate the HPWS effects on employees’ affective commitment and negatively on their intention to leave.

Practical implications: The findings not only validate previous studies’ conclusions, but also provide evidence for the potential fruitfulness of the HPWS approach in improving employees’ outcomes and well-being in turbulent times.

Originality/value: Although the argument that HPWS has a positive effect on organizational performance and productivity is well established, there are considerably fewer studies that examine the positive effects of HPWS specifically on employees’ job attitudes and outcomes, and the processes through which HPWS influences health-related outcomes. Finally, this study confirms the argument that HPWS can be a fruitful approach even in a country severely affected by Europe’s debt crisis over the last five years.

Keywords: *Affective commitment; healthcare; high-performance work systems; intention to leave; job satisfaction; work engagement*

Paper type – Research paper

Introduction

Since 2008, Greece has been overshadowed by a deep economic crisis. The unprecedented downswing of economic activity has had devastating consequences on the overall labor market, affecting both employment levels and the number of enterprises operating in Greece. Unemployment has skyrocketed over the last 5 years: as of October 2014 the unemployment rate stood at the unprecedented rate of 25.8%, the highest among the member states. In addition, youth unemployment reached 50.6% in December 2014 (Eurostat, 2014), while the memorandum obligations signed by the country and its lenders do not leave much space for maneuver.

Taking into account the economic downturn in Greece and the European financial crisis in general, it is generally believed nowadays that success in markets is largely derived from a firm's Human Resources, as HR are one of the most important resources to generate a firm's competitive advantage (Zhang and Morris, 2014, p. 84). Indeed, there has been a great deal of debate during the past 20 years regarding the appropriate human resource practices that should be used in an organization in order to lead to workers' prosperity and well-being and, consequently, to greater efficiency and increased financial performance for organizations. The most common term characterizing such a relationship is known as High Performance Work Systems (HPWS).

HPWS has been defined as "a specific combination of HR practices, work structures, and processes that maximizes employee knowledge, skill, commitment, and flexibility" (Bohlander and Snell, 2007, p. 690). One significant aspect of this definition is the reference to the "system" approach or "bundles of practices" and not to isolated individual practices, since HPWSs are composed of many interrelated parts that complement one another to align with the goals of an organization.

Across the (S)HRM literature, HPWS has been generally related with increased productivity, organizational performance, and reduced turnover (e.g., Arthur, 1992; Huselid, 1995) in the US manufacturing sector, while other empirical studies have demonstrated similar results focusing on different industries and regions (e.g., Datta et al., 2005; Delery and Doty, 1996; Den Hartog and Verburg 2004; Messersmith and Guthrie, 2010), on Small-Medium Enterprises (e.g., Klaas et al., 2012; Torre and Solari, 2012), or on the broader service-sector including hospitality (e.g., Chand, 2010) and healthcare (e.g., Ang et al., 2013; Bartram et al., 2014; Leggat et al., 2010; Zhang et al., 2013). The basic concept behind these systems is that organizational performance does not stem from the HR practices themselves but rather from the contribution that these HR practices make regarding employees' attitudes and behaviors (Delery, 1998; Messersmith et al., 2011), which in turn serve as mediators in the HPWS – organizational performance relationship (Purcell and Kinnie, 2007).

On the other hand, although the argument that HPWS has a positive effect on organizational performance and productivity is well established, there are considerably fewer studies that examine the positive effects of HPWS on employees' job attitudes and outcomes specifically (e.g., Macky and Boxall, 2007; Takeuchi et al., 2009; Zhang and Morris, 2014). Indeed, employee outcomes have been either neglected or have been simply used as mediators between HPWS and organizational effectiveness (e.g., Paauwe and Boselie 2005; Sun et al., 2007). Thus, many researchers call for more employee-centered research, restoring the effects of HRM on employee outcomes to a central position of HPWS studies (Ang et al., 2013; Van De Voorde and Beijer, 2015; Zhang et al., 2013), and focusing on the processes that help to explain how HPWS influences health-related outcomes (Van De Voorde and Beijer, 2015, p. 62).

Taking the preceding discussion into consideration and, following research by Ang et al. (2013), in this study, we follow an “employee-centric standpoint” and examine the employee outcomes of HPWS in the Greek healthcare context. Specifically, using a sample of 296

clinicians (doctors and nurses) across seven Greek regional hospitals, we examine the effects of employees' perception of HPWS on their work engagement and job satisfaction, and the mediating effect of these variables on employees' affective commitment and intention of leaving their hospital. To our knowledge, there are only a few studies examining the HPWS effects on employees' well-being (e.g., Ang et al., 2013; Fan et al., 2014; Weinberg et al., 2012; Zhang et al., 2013) and intention to leave (Ang et al., 2013; Bartram et al., 2012) in the healthcare sector.

Finally, this study intends to contribute to the healthcare management as well as to the broader HRM literature in a number of ways. First of all, we follow an "employee-centric standpoint" that is currently lacking in the literature (Ang et al., 2013; Boselie et al., 2005; Paauwe, 2009; Van De Voorde and Beijer, 2015; Zhang et al., 2013). Secondly, since the majority of the HPWS studies have been conducted in the US and UK contexts, generalizations of the findings are questionable. Indeed, the context in which organizations operate may limit or enhance the HPWS usefulness and success due to differences in the culture, the legislative frames, and other cultural and institutional factors that are considered country-contingent, and which shape employment relationships and HR decision-making in organizations (Boxall and Macky, 2009; Den Hartog and Verburg, 2004). Hence, we examine whether similar findings will be reported in smaller European countries. Last but not least, what makes this specific research unique is the focus on the Greek healthcare context, the first European Union country severely affected by Europe's debt crisis. Thus, the main goal is to examine whether HPWS can be an effective approach in turbulent times and especially to understand how employees respond to innovative work environments under the current economic turmoil.

Theory and Conceptual Framework

High-Performance Work Systems (HPWS) in the healthcare sector

Although across the Human Resource Management (HRM) literature HPWS has been generally examined in the manufacturing sector, recent empirical studies have extended to the service sector as well, and especially in regard to healthcare.

Indeed, there is mounting evidence relating aspects of HPWS and improved patient outcomes in numerous healthcare studies. For instance, HPWS has been connected with cost efficiency through enhancing employee satisfaction and service quality (Scotti et al., 2007), and with positive perceptions of quality of patient care and delivery of healthcare services (Bartram et al., 2014; Bonias et al., 2010; Leggat et al., 2010, 2011). Moreover, it has been reported that the introduction of HPWS is positively related to employee experiences of work (Harley et al., 2007) and benefits to employees' well-being (Fan et al., 2014). In addition, some researchers have suggested a negative association of HPWS with employee burnout (Ang et al., 2013; Bartram et al., 2012; Fan et al., 2014; Zhang et al., 2013) and, consequently, on intention to leave (Ang et al., 2013; Bartram et al., 2012).

Overall, although the positive contribution of HPWS has been well documented across different industries, there has been little agreement as to the exact "best" practices that constitute a HPWS (Boxall, 2012; Delery, 1998, p. 296), even though some researchers have tried to overcome this issue. For instance, Appelbaum et al. (2000) proposed the AMO framework, and argued that performance should be a function of three factors known as Ability, Motivation, and Opportunities. Similarly, Lepak et al. (2006) summarized the HRM practices used in previous empirical studies into three groups of activities, namely employee skills, motivation and empowerment. Nevertheless, there is still no specific list of HR practices forming the HPWS construct. For this study, however, after considering the HR practices confirmed by Zacharatos et al. (2005) as representative of HPWS and following some of the most significant studies in the healthcare industry examining the HPWS approach (Ang et al., 2013; Bartram et al., 2012, 2014; Leggat et al., 2010, 2011; Zhang et al., 2013), we suggest

that the following HRM practices should be representative within the Greek healthcare context. They comprise recruitment and selection, training and development, participation in decision-making, employment security, performance management, job clarity, and employee autonomy.

Job satisfaction

Job satisfaction lies at the heart of the HPWS approach. Indeed, it has been argued that discretionary effort is one of the keys to understanding the links between HR practices and organizational performance (CIPD/EEF, 2003, p. 15), which depends on improvements in job satisfaction, organizational commitment, and motivation. This argument is aligned with the AMO framework (Appelbaum et al., 2000), which supports the fact that HPWS will create highly skilled, engaged and empowered workers who feel valued and enjoy higher job satisfaction. Overall, there is mounting evidence across the HRM literature supporting the positive relationship between HPWS and employee attitudes and behavior, such as job satisfaction, across different industries (e.g., Garcia – Chas et al., 2014; Macky and Boxall, 2007; Paauwe and Boselie, 2005) including the healthcare sector (e.g., Chang et al., 2009; Chuang et al., 2011; Harley et al., 2007; Weinberg et al., 2012; Young et al., 2010).

Indeed, Leggat et al. (2010) found that job satisfaction moderated the relationship between HPWS and perceived quality of care, while Ang et al. (2013) and Zhang et al. (2013) reported that HPWS can be positively translated into greater engagement and job satisfaction. Fan et al. (2014) indicated that the adoption of HPWS would increase employees' subjective well-being, including satisfaction with their lives and their work. Hence, and following these studies, we formulate the following hypothesis.

Hypothesis 1: HPWS will be positively related to employees' job satisfaction.

Affective commitment

Organizational commitment is considered one of the most important concepts in the area of organizational behavior and human resource management (Dhar, 2015). Although previous studies have indicated that employees' perceptions of HPWS are positively related with organizational commitment (Macky and Boxall, 2007; Takeuchi et al., 2009; Van de Voorde and Beijer, 2015), it is widely accepted nowadays that organizational commitment is multidimensional in nature and is comprised of three separate components, namely affective, continuance and normative commitment (Meyer and Allen 1991). Among these three, affective commitment occupies a vital position since it captures the fundamental meaning of commitment, which is emotional attachment between employee and the organization. Employees reciprocate equity and balance with increased trust and a sense of responsibility that is manifested as an affective commitment toward an organization (Sharma and Dhar, 2016, p. 163). Affective commitment is defined as "the employee's emotional attachment to, identification with and involvement in the organization" (Meyer and Allen, 1991, p. 67). In other words, affectively committed employees stay in the workplace because they want to (Shipton et al., 2015).

Taking all of the above into consideration, in this study we examine the affective commitment component, for several reasons. First of all, employees' work experiences have been identified as the most influential antecedents of affective commitment by satisfying their needs (Meyer and Allen 1991, p. 70). Hence, HRM practices that satisfy employees' needs to feel competence in the work role are expected to affect employees' level of affective commitment positively (Giannikis and Nikandrou, 2013, p. 3649; Meyer and Allen, 1991). In addition, the ability of affective commitment to predict organizational commitment has gained a sufficient amount of attention from researchers (Dhar, 2014, p. 423; Meyer et al., 2006). Indeed, previous studies indicated that in comparison to continuance and normative

commitment, affective commitment correlated more significantly with work outcomes such as performance, absenteeism, quit intention, levels of stress, and organizational citizenship behavior (Meyer and Herscovitch, 2001), while another empirical study showed that affective commitment played a crucial, yet not fully understood, role in both retaining employees and promoting staff well-being (Somers, 2009). Finally, and following Shipton et al. (2015, p. 3) argument, “since affective commitment is an antecedent for both turnover and well-being, the case for understanding what factors promote high levels of staff-reported affective commitment is perhaps more compelling than ever before.”

In the healthcare sector, empirical studies have associated HPWS with employees’ organizational (Chuang et al., 2011; Harley et al., 2007) as well as affective commitment (Ang et al., 2013; Young et al., 2010). For instance, Weinberg et al. (2012) demonstrated the importance of HPWS as central components of a supportive work environment designed to promote broader worker engagement and organizational commitment. Hence, and taking these arguments into consideration, we formulate the following hypothesis.

Hypothesis 2: HPWS will be positively related to employees’ affective commitment.

In addition, Williams and Hazer (1986, cited in Ang et al., 2013, p. 3091) indicated that job satisfaction is regarded as an antecedent of affective commitment, especially when HPWS is adopted by organizations. Indeed, HPWS engages employees through involvement in participative decision-making and extensive training, thus, influencing their affective commitment (Pfeffer, 1998). This finding was also supported by the Ang et al. (2013) study. Thus, we formulate the following hypothesis.

Hypothesis 3: Job satisfaction will mediate the positive relationship between HPWS and employees’ affective commitment.

Engagement

Engagement has been defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Demerouti et al., 2010, p. 210). Previous research has demonstrated that employees who perceive higher organizational support and receive higher perceptions of procedural justice are more likely to reciprocate with greater levels of engagement (Saks, 2006). This relationship can be explained by the Social Exchange Theory (Blau, 1964). According to this theory, employers and employees develop an exchange relationship. Hence, if an organization provides substantial inducements to employees, then employees are more likely to reciprocate with positive job attitudes (Giannikis and Nikandrou, 2013, p. 3651; Zhang et al., 2013, pp. 3199-3200) and greater job satisfaction and work involvement (Ang et al., 2013, p. 3091). Following this argument, the social exchange theory could be especially crucial in the implementation of HPWS (Fan et al., 2014, p. 944), since employees may interpret HPWS as a sign that they are valued and respected by the organization. Thus, showing loyalty to the organization is one way for employees to reciprocate the positive treatment they receive from the organization (Bartram et al., 2012, p. 1575), even if their jobs are emotionally demanding. In contrast, poor HPWS implementation may be associated with employees perceiving that the gains from the employer are not proportional to their expectations and inputs, thus leading to dissatisfaction and higher levels of disengagement from work (Ang et al., p. 3091; Zhang et al., 2013, pp. 3199-3200).

Previous research has indeed indicated a positive relationship between HPWS and employees’ work engagement in the healthcare context (Ang et al., 2013; McAlearney et al., 2011). For instance, Zhang et al. (2013) demonstrated that HPWS may lead to work engagement under a social exchange relationship, while Weinberg et al. (2012) reported that a high-performance work environment (HPWE) is associated with better retention as well as

with greater engagement in the care process through enhanced professional empowerment and interdisciplinary collaboration.

Hence, and based on the reported findings of the aforementioned research, we propose the following hypothesis.

Hypothesis 4: HPWS will be positively related to employees' engagement.

Moreover, previous research proposed that engagement leads to both individual outcomes as well as organizational-level outcomes (Kahn, 1992). Following this argument, Saks (2006, p. 607) suggested a number of reasons to expect engagement to be related to work outcomes. First of all, engagement has been found to be related to good health and positive work affect (Sonnentag, 2003), which in turn will likely result in positive work outcomes, such as greater attachment to the organization (Schaufeli and Bakker, 2004). Secondly, and following the Social Exchange Theory, individuals who continue to engage themselves do so because of the favorable reciprocal exchanges they receive. Consequently, these individuals will probably show greater trust in their employer and are more likely to report positive attitudes toward their organization. Previous empirical research has supported these relationships between engagement and work outcomes, such as organizational commitment (Saks, 2006; Schaufeli and Bakker, 2004). To move a step further, given that the antecedent (HPWS) is expected to predict engagement and engagement to predict the outcomes (e.g., affective commitment), it is logical to expect engagement to mediate the relationship between HPWS and affective commitment. Indeed, the Maslach et al. (2001) model treated engagement as a mediating variable for the relationship between six work conditions and work outcomes such as job satisfaction and commitment, while several studies validated the mediating role of engagement (Saks, 2006; Schaufeli and Bakker, 2004; Sonnentag, 2003). Furthermore, Shantz et al. (2016) found that engagement mediated the relationship between HRM practices and quality of care

and safety, while Ang et al. (2013) demonstrated that engagement mediated the relationship between HPWS and affective commitment. Taking this analysis into consideration, we propose the following hypothesis.

Hypothesis 5: Employees' engagement in the Greek healthcare context will mediate the relationship between HPWS and affective commitment.

Intention to leave

There is an extensive body of literature suggesting a negative association between HPWS and intention to leave or turnover intentions (e.g., Macky and Boxall, 2007). For instance, Huselid (1995) and Sun et al. (2007) found that HPWS reduced turnover and increased productivity of employees. The logic behind this argument is that HPWS practices, such as improving employee participation and extensive training, are often associated with humanizing work. When employees perceive that these practices are implemented, they are less likely to seek alternate employment (Ang et al., 2013, p. 3109). Once again, this negative relationship between HPWS and intention to leave can also be explained by the Social Exchange Theory (Blau, 1964) and the norm of reciprocity. As has been argued, employees form perceptions about their organization's intentions from its HR policies and practices, which serve as the mechanism that employees use to define the psychological meaning of their work situation (Wei et al., 2010, p. 1635). HPWS, as opposed to individual HR practices, provides employees with multiple social resources, such as appreciation, prestige, growth, recognition, fairness and empowerment (Gong et al., 2010, p. 125). For instance, rigorous recruitment and selection procedures signal to employees that the organization values them highly. Performance appraisal may entail praise and provide opportunities for promotion, while empowerment in decision-making and high wages may be viewed by employees as recognition of their value to the organization. Furthermore, rigorous training represents the organization's investment in

employees and signals the organization's commitment to its human resources (Takeuchi et al., 2007, p. 1071). Hence, HPWS convey messages from the organization to its employees that they are highly valued for their skills and knowledge by the organization, while the latter is willing to commit itself to employees' welfare. As a consequence, employees develop positive work-related attitudes by (and towards) their organizational environments (Wei et al., pp. 1635-1636), while, at the same time, HPWS reinforces the tone of the social-exchange relationship with employees (Gong et al., 2010, p. 125). Hence, and based on this analysis, there is an incentive for the employees to remain with the organization and perform at a high level (Takeuchi et al., 2007, p. 1071). Hence, we propose the following hypothesis.

Hypothesis 6: HPWS will be negatively associated with employees' intentions of leaving the hospital.

Furthermore, HPWS has been negatively related to burnout, a psychological syndrome that involves losing concern for the people with whom one is working and is commonly associated with workers in "caring" professions (Maslach, 1978). The two well-known components of burnout are emotional exhaustion and disengagement from work (Demerouti et al., 2010). As has been argued, engaged employees are likely have a greater attachment to their organization and a lower tendency to leave their organization (Schaufeli and Bakker, 2004). Indeed, Schaufeli and Bakker (2004) showed that engagement was negatively related to turnover intention and mediated the relationship between job resources and turnover. Similarly, Saks (2006) showed that engagement mediated the relationship between antecedents (e.g., perceived organizational and supervisor support, rewards and recognition, and so on) and intention to quit. In addition, and focusing in the healthcare context, researchers have suggested a negative association between HPWS and employees' burnout (Ang et al., 2013; Bartram et al., 2012;

Fan et al., 2014; Zhang et al., 2013) and, consequently, on intention to leave (Ang et al., 2013; Bartram et al., 2012). Hence, given that the antecedent (HPWS) is expected to predict engagement and engagement to predict the outcome, it is logical to expect engagement to mediate the relationship between HPWS and intention to leave.

Therefore, and following Schaufeli and Bakker (2004) and Ang et al. (2013) suggestions, we propose the following hypothesis

Hypothesis 7: Engagement will mediate the relationship between HPWS and intention to leave in the Greek healthcare context.

Moreover, and focusing in the relationship between HPWS and intention to leave at the employees' level, there is a growing emphasis on the question of possible mediating or moderating effects, such as job satisfaction (Garcia-Chas et al., 2014). Indeed, the negative relationship between job satisfaction and intention to leave (or turnover) has been confirmed by various researchers (e.g., Chen et al., 2011; Hausknecht et al., 2009). In addition, it has been reported that job satisfaction mediates the relationship between HPWS and intention to leave (Garcia-Chas et al., 2014), while empirical findings indicate that job satisfaction can be a significant predictor of nursing absenteeism, turnover and intentions to quit (Lu et al., 2005). Specifically, for the healthcare sector, low job satisfaction is regarded as a major cause of turnover among health care providers (Paleologou et al., 2006). For instance, Laschinger et al. (2001) demonstrated a negative link between job satisfaction and intent to leave among nurses. McAlearney et al. (2011) reported links between HPWPs, higher satisfaction/engagement, and lower turnover, while Weinberg et al. (2012) suggested that a high-performance work environment (HPWE) is associated with better retention in terms of job satisfaction and turnover intention. Finally, Ang et al. (2013) indicated that the relationship between employee HPWS and intention to leave is mediated by job satisfaction.

Hence, it is understandable that HRM practices focused on enhancing employees' engagement are likely to influence both job satisfaction and turnover (Leggat et al., 2010). Therefore, we propose the following hypothesis.

Hypothesis 8: Job satisfaction will mediate the relationship between HPWS and intention to leave.

The proposed hypotheses are depicted in figure 1.

FIGURE 1 near here

Method

Sample and procedure

For the purposes of our research, we developed both a handwritten and an on-line questionnaire. We surveyed clinicians' (doctors, and nurses) responses in seven (five private and two public) regional hospitals, located in Athens and Thessaloniki, Greece. All private hospitals are well-known and reputed for their high health-care quality. Specifically, for public hospitals, the first one is newly established; the second one is in part privately funded; and both are recognized as leaders in the healthcare industry. The questionnaire was delivered by hand in the two public hospitals, while, for private ones, we chose the on-line method by sending it to the clinicians' personal e-mail addresses obtained from hospitals.

Overall, the survey was sent to 741 employees in the seven hospitals in spring 2014. Cases that had missing data for more than one item for any of the subscales were deleted. For those cases that had missing data for an item in a subscale, the respondent's average over the other items in the subscale was used as the response to the missing item because each subscale is assumed to consist of reflective indicators. We received 296 usable responses, a response rate

of 40%. Our sample is comprised of 177 doctors and 119 nurses. About 71% of the doctors were male while 83% of the nurses were female. The average age of respondents was 44. In addition, 55% of employees held a bachelor's degree, while 41% held postgraduate qualifications (e.g., postgraduate diploma, master's degree, PhD). Finally, 71% of the respondents were working full-time, 18% part-time, and an additional 11% were working under a short-term employment contract (see Table 1).

TABLE 1 near here

Measures

Table 2 summarizes the means, standard deviations, correlations and scale reliabilities (in parentheses) for the variables in the study. All survey items were measured with pre-validated multi-item scales using a five-point Likert-type scale ranging from 1 = strongly disagree, to 5 = strongly agree.

TABLE 2 near here

High-performance work systems (HPWS)

Items on HR practices were adapted from established scales or existing measures of HR systems (Ang et al., 2013; Delery and Doty, 1996; Zacharatos et al., 2005). Overall, 31 items were used, encompassing seven subscales, to create and calculate a unitary index for HPWS following a subscale aggregation approach. This index approach has been recommended and widely used in prior strategic HRM studies (e.g., Ang et al., 2013; Bartram et al., 2014; Chang, 2015; Zacharatos et al., 2005), following the argument of mainstream theorists that components of HPWS operate most effectively in bundles or mutually-reinforcing sets of practices (e.g., Delery, 1998; Huselid, 1995). In addition, a separate component analysis was conducted for

each of the seven constructs in the HPWS scale, while a cutoff value of 0.50 was used to indicate satisfactory loading. The number of items that met the loading criterion and the Cronbach's alphas for the seven subscales, are as follows: Recruitment and selection (four of five items included, $\alpha = 0.788$), training and development (six of seven items included, $\alpha = 0.863$), employee autonomy (all five items included, $\alpha = 0.808$), participation in decision-making (all four items included, $\alpha = 0.786$), employment security (all four items included, $\alpha = 0.830$), job clarity (three of four items included, $\alpha = 0.884$), and performance management (all five items included, $\alpha = 0.898$). The Cronbach's alpha for the single-index HPWS measure was 0.915.

Job satisfaction

Job satisfaction was measured with a three-item scale developed by Seashore et al. (1983). Sample items include "All in all, I am satisfied with my job" and "In general, I like working here." The Cronbach's alpha for the single index measure was 0.643.

Affective commitment

Affective commitment was measured with a six-item scale developed by Allen and Meyer (1990), in combination with Ang et al. (2013) the additional item on "I would recommend this health service to my family." The Cronbach's alpha for the single index measure was 0.867.

Engagement

Work engagement was measured based on the items measuring disengagement from work in the Oldenburg Burnout Inventory (OLBI, Demerouti et al., 2010). In detail, and to assess work engagement in the OLBI, we recoded the negatively-framed items as suggested by Demerouti et al. (2010, p. 211). The final work engagement scale consisted of five items. The Cronbach's alpha for the single index measure was 0.700.

Intention to leave

Intention to leave was measured with a three-item measure used by Ang et al. (2013). Sample items include “I often think of quitting this hospital” and “I often think of leaving this hospital within the next year.” The Cronbach’s alpha for the single index measure was 0.887.

Control variables

In our analysis, we included three control variables, namely age, gender, and education. These measures were included to reduce the chance that unmeasured variables could explain the results and to improve generalizability (Bartram et al., 2014, p. 2409).

Common Method Variance

To minimize the presence of Common Method Variance (CMV) we followed Podsakoff et al. (2003) procedural remedies. For instance, proximal separation was used in the questionnaire design, while the use of positively and negatively worded items was also used to reduce CMV. The questionnaire was completed by both nurses and doctors, either handwritten or electronically, and established scales were used to keep questions simple, specific, and concise, avoiding ambiguous items, which are considered as main sources of CMV. In addition, we used Harman’s single-factor test to exclude the possibility of CMV. A principal component analysis was conducted between all of the dependent and independent variables that were used in our model. We chose one fixed number of factors to be extracted for all measured variables, which, according to the results, explained only 25.6% of the variance approximately. Therefore, since this single factor did not explain the majority of the variance in the variables, common method bias is not likely to be an issue in our analysis. These techniques were also followed by researchers in previous studies with similar sample and research hypotheses (e.g., Bartram et al., 2014; Fan et al., 2014; Zhang et al., 2013).

Statistical Analysis and analytical procedures

In assessing our proposed model, we used Structural Equation Modelling (SEM) with the use of AMOS (version 20) statistical software. SEM has the advantages of performing a simultaneous test of the causal relationships among multiple variables in a model, while controlling of measurement error and providing information on the degree-of-fit of the tested model (Williams et al., 2009). In addition, this method of analysis is preferred over a conventional regression method due to its flexible assumptions, use of confirmatory factor analysis and better model visualization through its graphical modeling (Tabachnick and Fidell, 2007).

For measurement and baseline SEM analyses, multiple model fit indices were assessed and reported as generally suggested by SEM scholars (Hu and Bentler, 1999; Kline, 2005). For instance, the ratio of the χ^2 statistic (CMIN) to its degrees of freedom (df) provides a rough guide to the adequacy of fit of the model. A χ^2/df ratio less than 5 is considered as good fit. In addition, we used two additional measures of fit, namely the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA). While the CFI ranges from 0 to 1.00, values greater than roughly 0.90 may indicate reasonably a good fit of the researcher's model (Hu and Bentler 1999; Kline, 2005). Moreover, RMSEA was used to evaluate the approximate rather than exact fit of the model. RMSEA is relatively independent of sample size, and models may be tested on the basis of confidence intervals. A point estimate of 0.06 or less is an indication of a reasonable fit (Hu and Bentler, 1999), although in general, values of RMSEA less than 0.10 are generally considered favorable (Kline, 2005).

Results

The hypothesized measurement model test showed good convergence-validity evidenced by high Cronbach alphas (α), while all of the scales used to measure the variables mentioned in the hypotheses had satisfactory discriminant validity. In addition, the full model showed

acceptable fit with the data. Specifically, the CFI (0.902) and GFI (0.906) of the original measurement model indicated above-threshold model fit, whereas the RMSEA (0.084) and χ^2/df (3.086) were in the desired range. Since our control variables had no significant effect on our model, we removed them from the analysis to avoid unnecessarily reducing our statistical power (Becker, 2005).

The findings showed that HPWS was positively related to employees' job satisfaction ($\beta = 0.455, p < 0.001$), affective commitment ($\beta = 0.278, p < 0.001$) and employees' engagement ($\beta = 0.413, p < 0.001$) and negatively to their intentions of leaving the hospital ($\beta = -0.175, p < 0.05$). Hence, hypotheses 1, 2, 4, and 6 are supported.

Mediation hypotheses were tested in two separate structural equation models (Figures 2 and 3), to "keep the mathematical integration process computationally feasible" (Fan et al., 2014, p. 942). Figure 2 presents the first model with "engagement" as a potential mediator, while figure 3 presents the second model with "job satisfaction" as a potential mediator respectively. Both mediated models showed satisfactory model fit (CFI = 0.902, GFI = 0.904, RMSEA = 0.097, $\chi^2/df = 3.788$ for Figure 2, and CFI = 0.971, GFI = 0.955, RMSEA = 0.066, $\chi^2/df = 2.270$ for Figure 3). Hence, we continued with our analysis.

FIGURE 2 near here

FIGURE 3 near here

In testing for the possible mediating effects, we followed the four-step procedure as suggested by Baron and Kenny (1986) combined with the Sobel test. The standardized path parameter estimates and associated p-values for both mediated models are shown in table 3.

TABLE 3 near here

The findings indicate that employees' work engagement partially (and positively) mediates the relationship between HPWS and affective commitment and (negatively) between HPWS and intention to leave. Hence, hypotheses 5 and 7 are fully supported. Similarly, it was indicated that job satisfaction partially (and positively) mediates the relationship between HPWS and affective commitment and fully (and negatively) the relationship between HPWS and intention to leave, providing support to hypotheses 3 and 8.

Moreover, we used two additional measures to verify our results. First, and based on our full model, we used the Sobel test, which produces a test statistic (Z), along with accompanying significance levels. The calculated Sobel test statistic was $Z > 1.96$, $p < 0.05$ for both models (figures 2 and 3). Hence, mediation was confirmed. Secondly, we followed Zhao et al. (2010, p. 204) recommendations of testing the indirect effect via bootstrapping in AMOS. The standardized path parameter estimates and associated p-values, along with the indirect betas resulting from the bootstrapping procedure are shown in Table 4, which confirms the direction of the mediation effects.

TABLE 4 near here

Finally, when "job position" was added as a control measure in our analysis, there was a significant correlation with the "employees' engagement" variable. Hence, we conducted a multi-group mediation analysis for both employee groups, namely nurses and doctors. The standardized path parameter estimates and associated p-values for both groups are shown in table 5.

TABLE 5 near here

The findings indicate that all hypotheses are supported for the nursing group. Surprisingly enough, however, engagement had no mediation effect for the doctors' group on the relationship between HPWS and affective commitment. Therefore, hypothesis 5 was not supported for this group. However, one should interpret these findings with caution. Specifically, the generation of the two groups resulted in rather small samples for nurses (119) and doctors (177). Hence, the resulting small samples might misrepresent these findings regarding the differences between the two groups.

Discussion and conclusions

This paper examined the effects of employees' perception of HPWS on their work engagement and job satisfaction as well as the mediating effect of these variables on employees' affective commitment and intention of leaving their hospital. The results provide some useful insights.

First of all, the findings support previous studies' conclusions in regard of the HPWS effects on employees' work-related well-being (Fan et al., 2014; Weinberg et al., 2012). Specifically, it was found that HPWS was positively related with employees' job satisfaction (Ang et al., 2013; Chuang et al., 2011; Fan et al., 2014; Harley et al., 2007; Macky and Boxall, 2007, 2008; Weinberg et al., 2012; Young et al., 2010), affective commitment (Ang et al., 2013; Macky and Boxall, 2007; Weinberg et al., 2012; Young et al., 2010), work engagement (Ang et al., 2013; McAlearney et al., 2011; Zhang et al., 2013) and negatively with employees' intentions of leaving the hospital (Ang et al., 2013; Bartram et al., 2012; Macky and Boxall, 2007), supporting previous studies findings in the healthcare context.

Secondly, this study also examined the mediating influence of employees' work engagement and job satisfaction on the relationship between HPWS, affective commitment and intention to leave. In detail, employees' engagement and job satisfaction were found to positively mediate HPWS effects on employees' affective commitment and negatively on their intention to leave. Hence, we conclude that engaged and satisfied employees may feel more

committed to their hospital, while having fewer intentions of leaving their hospital. Therefore, these findings support Macky and Boxall's (2007) conclusions, that HPWS practices are often associated with humanizing work, such as improving employee participation, and extensive training. Thus, when employees perceive that these practices are implemented, they are less likely to seek alternate employment (Ang et al., 2013, p. 3109).

Furthermore, although the control variables (age, gender, education) had no significant effects on our model, when controlling for “job position,” we found some significant correlation with employees’ engagement. Hence, we conducted a multi-group mediation analysis for both employee groups, namely nurses and doctors. Surprisingly enough, the findings indicated that engagement had no mediation effects on doctors’ HPWS perceptions and their affective commitment, in contrast to Ang et al. (2013) study which found no mediation for the nurses’ group. Specifically, in our case, the relationship between engagement and affective commitment was not significant. Thus, hypothesis 5 was not supported for the doctors’ group. One possible explanation for this finding might be related to the depicted situation in the Greek healthcare industry, especially in the years following the debt crisis. Indeed, healthcare in Greece is already a saturated labor sector. The salaries and benefits are disproportional when compared to the actual amount of work, while doctors and allied health professionals are constantly seeking employment in other countries around the world, such as Germany, the UK, and Sweden. Thus, doctors’ frustration with the disproportionate relationship between pay, benefits, and the amount of work they perform might cause this surprising result. Nevertheless, special attention should be given to this issue by future studies.

Moreover, one thing that should not be neglected is the fact that this study was conducted in Greece, characterized by the high unemployment levels there. This means that the employees’ intentions of leaving their workplace would be extremely limited, even if they were dissatisfied with their job. In addition, as we have mentioned in the previous paragraph, the

already-saturated healthcare sector forces clinicians to seek employment in other countries around the world. Thus, one should interpret the negative relationship between HPWS and employees' intentions of leaving the hospital with extreme caution. On the other hand, although generalizations of the findings should be avoided, it is important to note that this finding is supported by previous studies' conclusions (e.g., Ang et al., 2013; Bartram et al., 2012; Macky and Boxall, 2007). Hence, regardless of the depicted economic situation in Greece, HPWS might be a promising way of enhancing employees' well-being even in turbulent environments.

Finally, our findings accord with past studies' conclusions focused specifically on the healthcare sector. For instance, Ang et al. (2013) demonstrated that, for different employee groups, work engagement and job satisfaction mediate the relationships between HPWS, affective commitment, and intention to leave, respectively. In addition, our findings support the argument that HPWS can positively affect employees' work-related well-being, such as job satisfaction, affective commitment, and work engagement (Ang et al., 2013; Chuang et al., 2011; Harley et al., 2007; Harmon et al., 2003; Weinberg et al., 2012; Young et al., 2010; Zhang et al., 2013) and negatively employees' intention of leaving their hospital (Ang et al., 2013; Bartram et al., 2012).

Overall, and taking all of the above into consideration, our research adds to the broader HRM literature, since it not only follows an employee-centered study, restoring the effects of HRM on employee outcomes to a central position of HPWS studies, but it also reports on the first European Union country to have been severely affected by Europe's financial crisis since 2008. Thus, although we make no attempt to generalize our findings, it seems reasonable to argue that HPWS can be a fruitful and effective approach even in turbulent times. In addition, our findings might be of particular interest to health-care researchers and practitioners of other countries with similar economic traits.

Implications for managers and practitioners

The findings of this study provide important practical implications for health care organizations, managers and practitioners. First of all, it seems that HPWS practices influence employees' work engagement and job satisfaction, which, in turn, lead to enhanced commitment and diminished intention to leave. On the other hand, though, we found that "job position" had different effects on employees' work engagement for nurses and doctors, thus affecting the mediating effect of work engagement in the relationship between HPWS and affective commitment. Hence, special attention should be paid not only to the HPWS practices themselves, but also to the different employee groups in a hospital setting.

Overall, HR managers might view the development of HPWS as a fruitful approach in improving employees' outcomes and well-being (Zhang et al., 2013), which in turn influence organizational goals such as the delivery of health care services and the perceived quality of patient care (Bartram et al., 2014; Bonias et al., 2010; Leggat et al., 2010).

Limitations

In this study, there are some limitations. First of all, as in all cross-sectional studies, although we tested for Common Method Variance (CMV) and found none, there is the potential that CMV did influence the results since self-report measures were used for the needs of our study. Thus, a longitudinal study would be preferable to eliminate non-response bias. Indeed, longitudinal studies are in a better position to make causal statements and provide a stronger test of the hypothesized relationships.

In addition, another limitation concerns the low alpha level for the job satisfaction latent variable ($\alpha = 0.643$), which is below the threshold value of 0.70 (Nunnally, 1978). On the other hand, it should be noted that values near 0.60 can also be acceptable, especially if the factor has only a few items (Hair et al., 2006). Indeed, one should bear in mind that the Cronbach's alpha formula is dependent on the number of items. In detail, few items will likely lead to a

low “ α ,” whereas many items will increase reliability. Taking this discussion into consideration along with the fact that job satisfaction was measured with a three-item scale, the α level of 0.643 should be acceptable. However, and following the general suggestion regarding the appropriate levels of Cronbach’s alpha, it should be noted that α levels below 0.7 should be interpreted with caution.

Finally, although we measured nurses’ and doctors’ perceptions, we were not able to collect data from HR managers. This barrier could, however, be a potential issue since organizations may adopt different HPWS practices in regard to different employee groups (Zhang et al., 2013, p. 3199). In addition, employees have different perceptions of the nature and extent of the HR practices used (Ramsay et al., 2000), while managers’ perceptions might not bear any relationship to what actually occurs (Boxall and Macky, 2007). Moreover, in complex organizations, there are potentially problems of agreement within the management hierarchy and between management and operating employees. Thus, the adoption of a multi-level approach that uses multiple raters of HRM practices to elucidate the perspectives of managers and employees and the roles they play in the use of HRM are required (Ang et al., 2013, p. 3089).

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Table 1. Profile of respondents

	<i>Response Categories</i>	<i>n</i>	<i>%</i>
Gender			
	Male	148	50
	Female	148	50
Average Age	44		
Occupation			
	Nurses	119	40
	Doctors	177	60
Education			
	High school	12	4
	Bachelor	164	55
	Postgraduate (MSc, PhD)	120	41
Job status			

	Full time	211	71
	Part time	52	18
	Short-term employment	33	11
Total		264	100

Table 2. Correlations and Cronbach's α coefficients

	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
1. HPWS	3.05	0.65	(0.915)	0.331**	0.324**	0.451**	-0.378**
2. Engagement	3.45	0.76	0.331**	(0.700)	0.516**	0.222**	-0.251**
3. Job Satisfaction	3.94	0.72	0.324**	0.516**	(0.643)	0.441**	-0.399**
4. Affective Commitment	3.53	0.97	0.451**	0.222**	0.441**	(0.867)	-0.459**
5. Intention to Leave	2.07	0.81	-0.378**	-0.251**	-0.399**	-0.459**	(0.887)

Note: $N=294$. Cronbach's α is in parentheses. * $p<0.05$; ** $p<0.01$

Table 3. Standardized path estimates and associated statistics

Model 1: Engagement as mediator		Model 2: Job Satisfaction as mediator	
Engagement \leftarrow HPWS	0.408***	Satisfaction \leftarrow HPWS	0.512***
A. Commitment \leftarrow Engagement	0.229**	A. Commitment \leftarrow Satisfaction	0.695***
Intention To Leave \leftarrow Engagement	-0.247***	Intention to Leave \leftarrow Satisfaction	-0.658***
A. Commitment \leftarrow HPWS	0.418***	A. Commitment \leftarrow HPWS	0.146*
Intention To Leave \leftarrow HPWS	-0.298***	Intention to Leave \leftarrow HPWS	-0.062 (ns)

Note: *** $p<0.001$, ** $p<0.01$, * $p<0.05$; (ns)=not significant

Table 4. Standardized path estimates and associated statistics

Hypothesis	Direct Beta w/o Med	Direct Beta w/Med	Indirect Beta	Mediation type observed
HPWS-Engagement-Affective commitment	0.512***	0.528***	-0.141**	Partial
HPWS-Engagement-Intention to Leave	-0.399***	-0.397***	0.123**	Partial
HPWS-Job satisfaction-Affective commitment	0.512***	0.199 **	0.264**	Partial
HPWS-Affective commitment-Intention to Leave	-0.399***	-0.104 (ns)	-0.244**	Full

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$; (ns)=not significant

Table 5. Standardized path estimates and associated statistics for each group separately

Doctor's group			
Direct Effects	HPWS → Job Satisfaction		0.557***
	HPWS → Affective Commitment		0.629***
	HPWS → Engagement		0.486***
	HPWS → Intention to leave		-0.481***
Model 1: Engagement as mediator		Model 2: Job Satisfaction as mediator	
Engagement ← HPWS	0.486***	Satisfaction ← HPWS	0.557***
A. Commitment ← Engagement	0.046 (ns)	A. Commitment ← Satisfaction	0.479***
Intention To Leave ← Engagement	-0.188**	Intention to Leave ← Satisfaction	-0.582***
A. Commitment ← HPWS	0.610***	A. Commitment ← HPWS	0.390***
Intention To Leave ← HPWS	-0.397***	Intention to Leave ← HPWS	-0.184**
Nursing Group			

Direct Effects		HPWS → Job Satisfaction	0.432***
		HPWS → Affective Commitment	0.381***
		HPWS → Engagement	0.504***
		HPWS → Intention to leave	-0.279**
Model 1: Engagement as mediator		Model 2: Job Satisfaction as mediator	
Engagement ← HPWS	0.504***	Satisfaction ← HPWS	0.432***
A. Commitment ← Engagement	0.362***	A. Commitment ← Satisfaction	0.751***
Intention To Leave ← Engagement	-0.246**	Intention to Leave ← Satisfaction	-0.663***
A. Commitment ← HPWS	0.213*	A. Commitment ← HPWS	0.058 (ns)
Intention To Leave ← HPWS	-0.165 (ns)	Intention to Leave ← HPWS	0.006 (ns)

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$; (ns)=not significant

Figure 1. The proposed model

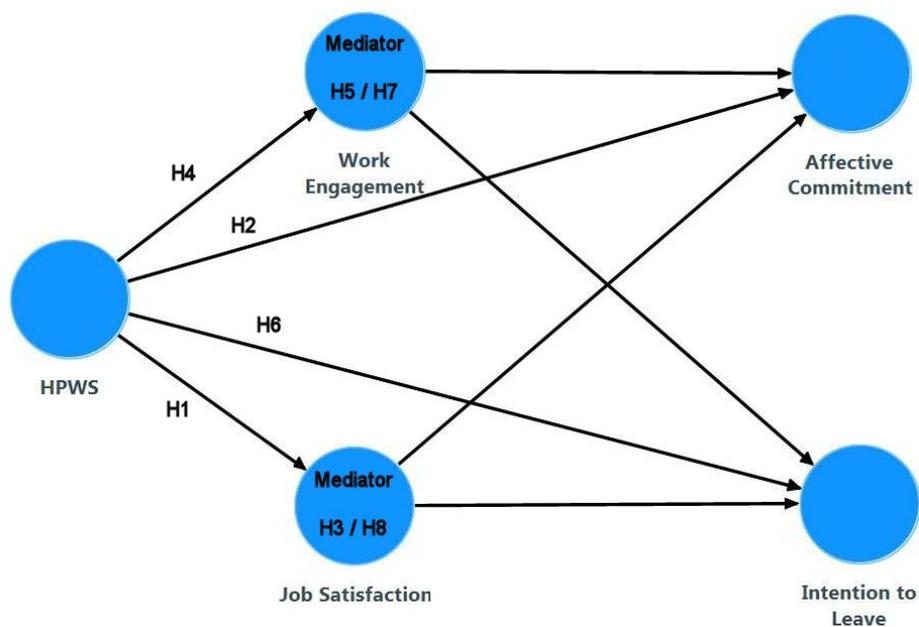


Figure 2. Mediated structural equation model (Work engagement as mediator).

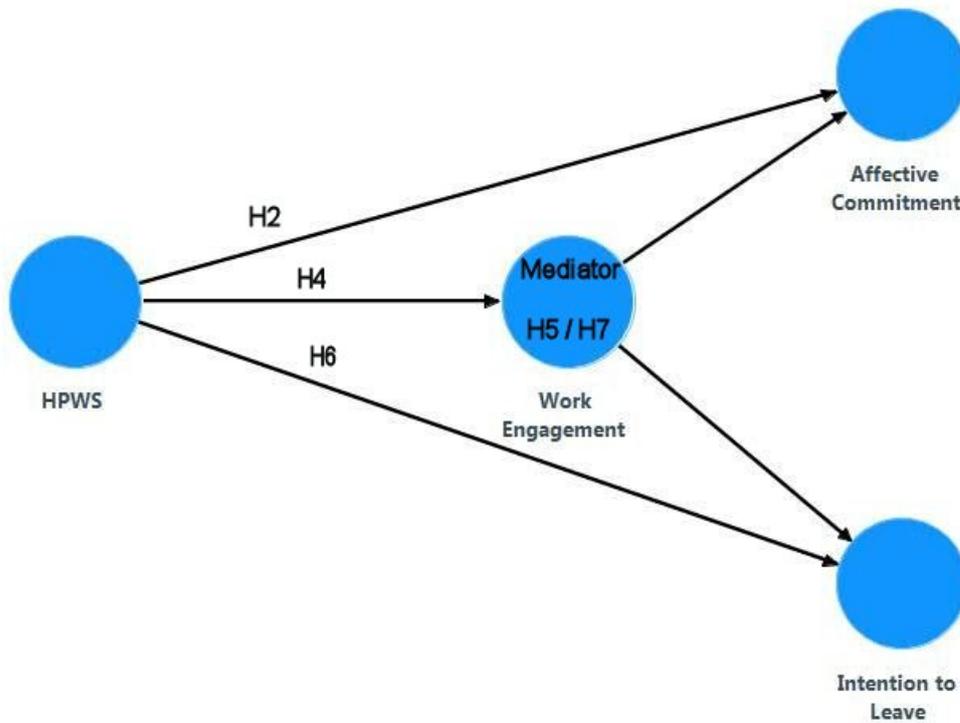


Figure 3. Mediated structural equation model (Job satisfaction as mediator).

