

Time to Recover:

**The Moderating Role of Psychological Detachment in the Link between Perceptions of
High-Involvement Work Practices and Burnout**

Steven Kilroy*¹, PhD, Department of HR Studies, Tilburg University, Warandelaan 25037
AB Tilburg

Janine Bosak, PhD, Senior Lecturer in Organizational Psychology, DCU Business School,
Dublin City University, Ireland, +353 (0)17006967 (janine.bosak@dcu.ie)

Patrick C. Flood, PhD, Professor of Organizational Behavior, DCU Business School, Dublin
City University, Ireland , +353 (0)17006967 (patrick.flood@dcu.ie)

Riccardo Pececi, PhD, Professor of Organizational Behavior and Human Resource

¹ **Corresponding author:** Dr Steven Kilroy, Department of HR Studies, Tilburg University,
Warandelaan 25037 AB Tilburg

Time to Recover:

The Moderating Role of Psychological Detachment in the Link between Perceptions of High-Involvement Work Practices and Burnout

Abstract

This study investigated the impact of employee perceptions of high-involvement work practices (HIWPs) on employee burnout. It further tested the proposition that the recovery experience of psychological detachment would moderate the HIWPs - burnout link. The proposed model was tested among a sample of nurses and midwives (N=1,135) in Ireland. The results showed that, as hypothesized, employees' perceptions of HIWPs were associated with lower levels of burnout. Furthermore, psychological detachment moderated the relationship between HIWPs and burnout such that the negative HIWPs-burnout relationship was more pronounced for participants with high compared to low levels of psychological detachment. This study contributes to the HRM and occupational health psychology literature by taking a contingency perspective to understand *when* the positive effects of HIWPs can be enhanced or undermined.

Keywords: HIWPs, Employee well-being, Recovery, Psychological Detachment, Burnout

Introduction

In recent years, the focus on employee well-being has moved to the centre stage of scholarly research on Human Resource Management (HRM). Although there is no definitive definition of well-being, scholars often categorise it into two core aspects: 1) cognitive-evaluative well-being (what people think of their lives, e.g., overall life satisfaction, which further depends on satisfaction in specific life domains including health, family and finances); and 2) hedonic experienced well-being (how people experience their lives, e.g., happiness, joy, stress, depression) (Bhuiyan & Ivleve, in press). Other scholars have also recently stressed the importance of capturing eudaimonic well-being, which is a form of subjective vitality concerned with feeling energetic, alive and vigorous (Ryan & Deci, 2017). Within the management literature, well-being has largely been categorised into happiness (e.g., job satisfaction), health (e.g., burnout), and relationship (e.g., trust) dimensions (Grant, Christianson, & Price, 2007). Positive well-being is well regarded as an asset for organisations and society more generally (Bhuiyan & Ivleve, in press). However, the world of work for employees is becoming increasingly complex as they are subject to a constantly changing and demanding environment culminating into ill-health and increased burnout (e.g., Siu, Cooper, & Phillips, 2014). It is for this reason that the present study focuses on the hedonic or health related aspect of employee well-being in the form of burnout.

Burnout is viewed as an affective reaction to prolonged stress in work situations whereby individual's intrinsic energy resources are depleted over time (Shirom, 2003). Emotional exhaustion (a state when one is emotionally, physically, and cognitively drained at work) and depersonalisation (when one develops an indifferent or distant attitude toward work) are the two core symptoms of burnout (Shirom, 2010). Burnout is now regarded as an occupational disease which is on the rise across countries and has the potential to affect all occupations (Lastovkova et al., 2018). To curb this problem, scholars have called for research studies to

investigate possible interventions to reduce burnout (e.g., Le Blanc, Hox, Schaufeli, Taris, & Peeters, 2007; Shirom, 2010). Although not without debate, the important role of human resource (HR) practices as a strategy to reduce burnout has gained increased attention in the strategic HRM literature (Baptiste, 2008; Holland, Allen, & Cooper, 2013).

The pessimistic perspective of HRM (Peccei, 2004) suggests that human resource (HR) practices have the potential to increase demands and in doing so contribute to workers burnout (e.g., Kroon, Van de Voorde, & Van Veldhoven, 2009). However, the optimistic perspective (Peccei, 2004) by contrast argues that HR practices constitute a valuable resource for employees, which helps them deal with their job demands and alleviate burnout (e.g., Bartram, Djurkovic, Leggat, & Stanton, 2012). The nature of the relationship between HR practices and employee health related well-being is inconclusive (Van de Voorde, van Veldhoven & Paauwe, 2012). Authors have noted that to understand such differential effects of HR practices on employees, a more detailed analysis of the particular practices used is needed (e.g., Guest, 2011; Jensen, Patel, & Messersmith, 2013). In this regard, compared to high-performance work practices more generally, high-involvement work practices (HIWPs) associated with the PIRK (Power, Information, Rewards and Knowledge) model of Lawler (1986) are believed to be more beneficial for employee's well-being (Boxall & Macky, 2009; Guest, 2017). This argument has indeed been supported with a growing stream of empirical research (e.g., Bartram et al., 2012; Butts, Vandenberg, Dejoy, Schaffer, & Wilson, 2009; Kilroy, Flood, Bosak, & Chênevert, 2016). In line with these theoretical and empirical developments, we argue that HIWPs represent a valuable resource capable of directly reducing employee burnout. However, departing from the often upbeat tone regarding the universal positive effects of HIWPs on employee well-being, we are cognisant of the view that there may be many contextual factors which can enhance or undermine their beneficial effects (Peccei, Van de Voorde, van Veldhoven, 2013; Jensen et al., 2013). Specifically, the present study, which is rooted in the

Job Demands-Resources Model (JD-R; Demerouti, Bakker, Nachreiner & Schaufeli, 2001) and Conservation of Resources (COR) theory (Hobfoll, 1989), suggests that the contingency factor of psychological detachment will temper the HIWPs-burnout link. To test these hypotheses, we used a sample of nurses and midwives which is an occupation which struggles with the persistent problem of burnout. Indeed, they are often overwhelmed by excessive workload arising from high patient-to-staff ratios (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002), as well as increased levels of overtime and shift work (Chen, Davis, Daraiseh, Pan, & Davis, 2014). Moreover, one of the most significant precursors of nurses' and midwives' burnout is the inability to psychologically detach from work while at home (Chen et al., 2014). Indeed, psychological strains among nurses and midwives are believed to regularly spill over into non-work time which affects their ability to recover from end-of-work burnout (Winwood & Lushington, 2006).

By testing the proposed research model (see Figure 1) the study contributes to the HR, employee well-being, and occupational health psychology literature in two primary ways. First, it contributes to the optimistic/pessimistic debate in the strategic HRM field thereby enabling a better understanding of the potential beneficial or harmful effects of HIWPs for employees' health related well-being (Peccei et al., 2013; Van de Voorde et al., 2012). In doing so, it directly responds to calls from researchers to investigate possible organisational factors, i.e., HIWPs, which can protect against employee burnout (e.g., Holland et al., 2013; Shirom, 2010; Siu et al., 2014). The second contribution of the study is that it investigates the boundary conditions of the HIWPs-burnout link. This is critical to decipher whether HIWPs can universally reduce burnout or whether their impact is dependent on contextual factors. A number of authors have called for research which explores the factors that are capable of enhancing or undermining the effectiveness of HIWPs (Butts et al., 2009; Peccei et al., 2013) and in this regard we look at a critical albeit unexplored factor which occurs outside the domain

of work i.e. psychological detachment. In the following sections, we discuss the links in the proposed model and the theoretical underpinnings for the proposed hypotheses. Then the paper will discuss the employed methodology before discussing the results and implications for both theory and practice.

INSERT FIGURE 1 ABOUT HERE

Theoretical Background and Hypotheses

Vandenberg, Richardson and Eastman (1999) have developed a research framework of high-involvement work practices based on Lawler's (1986) PIRK model which encompasses workplace power (P), information (I), rewards (R) and knowledge (K). The aims of such an approach to involvement are to empower workers to make more frequent and better decisions, enhance the information and knowledge they need for this, and to reward them accordingly (Boxall & Macky, 2009). It is believed that these HIWPs cannot be implemented effectively in isolation but rely on a coherent package (Guerrero & Barraud-Didier, 2004) which, according to Lawler (1986), have a synergistic and multiplicative effect. Indeed, employees must perceive high levels of all four attributes for an optimal employee involvement climate to exist (Riordan, Vandenberg, & Eastman, 2005). HIWPs have been found to be largely beneficial for employee well-being as they enable workers to exercise control and participate in decisions that benefit them (Boxall & Macky, 2009) as well as improving their morale and intrinsic motivation (Vandenberg et al., 1999). HIWPs also enable employees to do their job better and work smarter on the job (Wood, Van Veldhoven, Croon, & de Menezes, 2012) and can reduce their job demands (Castanheira & Chambel, 2010). However, the exploitation hypothesis (Kroon et

al., 2009) or the pessimistic view of HRM (Peccei, 2004) questions the universal benefits of HIWPs. Instead it proffers that such practices have the potential to induce strain among workers. Other scholars illustrate that HIWPs have beneficial effects on employee outcomes but under certain circumstances or contingencies such as low levels of control, HIWPs display a ‘dark side’ effect thereby impairing rather than improving employee well-being (Jensen et al., 2013). Following this line of inquiry, we argue that HIWPs have the potential to reduce employee burnout but their positive effects largely depends on employee’s ability to psychologically detach from work. Psychological detachment is about refraining from job related activities and thoughts during non-work time i.e. disengaging mentally from one’s work while at home. The process of psychological detachment is often seen as a process opposite to the strain experience, with employee well-being improving during off-time from work (e.g., Westman & Eden, 1997). Psychological detachment is considered to be the most powerful recovery experience and the one dimension of recovery experiences which shows particularly strong associations with employee outcomes (e.g., Sonnentag & Fritz, 2009; Sonnentag & Geurts, 2009) and therefore represents the focus of the current study. Building on the COR theory (Hobfoll, 1989) which posits that individuals are motivated to gain resources and avoid resource loss to maintain their health, it is possible that because employees’ energetic resources are not replenished, i.e., by psychologically detaching from work, the resources obtained from HIWPs will be less effective in reducing burnout as they may also be construed as a demand. However, when employees do psychologically detach from work, the resource potential of HIWPs are likely to be maximised thereby producing an even stronger effect in reducing burnout.

HIWPs and Burnout

The outcomes of HIWPs have received considerable research attention. Authors have found that HIWPs were associated with higher levels of performance and improved happiness related well-being outcomes, such as commitment and job satisfaction (e.g., Butts et al. 2009; Guest, 1999; Vandenberg et al., 1999). When it comes to health-related well-being outcomes, on the other hand, the results are more mixed. Some studies found that HIWPs were associated with either no effect on stress (Boxall & Macky, 2014) or increased levels of stress (Godard, 2001; Wood et al., 2012) and burnout (Kroon et al., 2009). However, other studies found that HIWPs were associated with lower levels of stress (Butts et al., 2009; Macky & Boxall, 2008; Mackie, Holahan, & Gottlieb, 2001) and burnout (Bartram et al., 2012; Castanheira & Chambel, 2010; Sun & Pan, 2008). Attempting to make sense of the competing results, a number of scholars have highlighted the important role of contextual factors, which can alter the effects of HR practices on employees (e.g., Jensen et al., 2013). In addition, scholars highlight the importance of the practices included and note that involvement practices, compared to high-performance work systems which are broader in scope, tend to yield more positive outcomes for employee well-being (Boxall & Macky, 2009; Guest, 2017).

Consistent with the predictions of the JD-R model (Demerouti et al. 2001) and COR theory (Hobfoll, 1989), resources such as HIWPs, are both (1) functional in achieving work goals; and (2) help employees deal with their job demands i.e. stressful situations, thereby mitigating burnout (Schaufeli and Taris 2014). Indeed, HIWPs together are believed to help employees work efficiently and effectively on the job (Wood et al., 2012). Moreover, the discretion inherent in a HIWPs approach to work design ensures that employees have the autonomy and control to deal with their job demands according to their own needs and circumstances thereby reducing burnout (Lee & Ashforth, 1996). Supporting this perspective, empirical evidence has found that HIWPs can reduce burnout by reducing employees' emotional demands and

increasing their autonomy (Castanheira & Chambel, 2010), and by reducing their role conflict and role overload (Kilroy et al., 2016). In line with these theoretical perspectives and the growing empirical evidence on the negative link between HIWPs and burnout, we predict that:

Hypothesis 1: Employee perceptions of HIWPs are significantly and negatively related to burnout, i.e. (a) emotional exhaustion; and (b) depersonalisation

The Moderating Role of Psychological Detachment in the Link between HIWPs and Burnout

As noted above, there is good reason to believe that HIWPs are associated with improved employee outcomes. However, it is unlikely that HIWPs will lead to improved employee outcomes exclusively (e.g., Butts et al., 2009). As noted by Vandenberg et al. (1999), an organisation may have HIWPs in place, but they are often meaningless unless the individual employee perceives them as something of importance to their well-being. The contingency theory of HRM (Paauwe & Richardson, 1997) argues that the impact of HIWPs will depend on certain contingencies occurring in both the internal and external context. Contrary to the popular assumption that HIWPs will almost universally improve employees' working conditions and well-being, there are a number of reasons for suggesting that these relationships are much more complex and difficult to predict (Peccei et al., 2013). Indeed, the HIWPs-burnout link may be moderated by a range of individual, processual, organisational and institutional factors. As stated earlier, HIWPs can have dual effects (positive and negative) on employees' well-being and we posit that psychological detachment might be an important factor which helps explain these positive or negative effects. Indeed, we argue that an inability to psychologically detach from work when at home will become an impediment for employees to reap the benefits afforded by HIWPs thereby weakening the negative relationship between HIWPs and burnout. Similarly, we argue that when employees are able to psychologically

detach from work while at home, the beneficial effects of HIWPs in reducing burnout will be even stronger.

COR theory suggests that when employees are unable to recover from a loss of resources (i.e., inadequate recovery), they are likely to experience burnout because their resources are not adequately replenished (Hobfoll, 2002). When psychological detachment is not accomplished before attending work, much more effort is also required to cope with job demands (Binnewies, Sonnentag, & Mojza, 2009). In this way, the loss of energy resources associated with the inability to psychologically detach may counteract the resources obtained from the HIWPs which enable employees to more adequately perform their roles and alleviate their burnout in the first place. This is in line with the ‘primacy of resource loss’ principle inherent to COR theory which stipulates that resource loss is viewed as disproportionately more salient than resource gain which means that real or anticipated resource loss (i.e., inability to psychologically detach) has stronger motivational power than expected resource gain (i.e., from HIWPs; Gorgievski & Hobfoll, 2008). When psychological detachment does not occur, employees’ energy resources are depleted and they need time off work to replenish those lost resources. Indeed, job stressors may remain mentally present even from the previous day which evoke strain reactions such as increased burnout (Sonnentag & Fritz, 2015). Therefore, it is possible that employees are more likely to lack the energetic and cognitive resources required to make use of HIWPs and in this way HIWPs may be perceived as a job demand in itself rather than as a valuable resource.

Conversely, when psychological detachment occurs, employees are better placed to invest more energetic resources in their work tasks. They can further avail of the provided training, make regular and informed decisions on the job and share information with subordinates, all to the benefit of themselves and the organisation. HIWPs may even assist employees to work

smarter on the job thus enabling greater efficiency and mitigating spill over from work to personal life (e.g., Wood et al., 2012). The mutually beneficial role of resources can be explained through the 'resource caravan' concept in COR theory (Hobfoll, 2011). This perspective posits that resource gain in one domain (i.e. the provision of HIWPs) facilitates access to other personal resources (i.e., psychological detachment) and vice versa. Indeed, psychological detachment can help employees in two primary ways (1) by assisting them to deal with the potential negative effects of HIWPs i.e. any potential demands and work pressure which may be associated with HIWPs and (2) by enabling them to better take advantage of the positive effects of HIWPs e.g. from resources such as autonomy and training. Therefore, consistent with COR theory (Hobfoll, 1989), we suggest that psychological detachment among employees will enhance and attenuate the relationship between HIWPs and the two core dimensions of burnout (emotional exhaustion and depersonalisation). Formally stated, we predict that:

Hypothesis 2: Psychological detachment moderates the relationship between HIWPs and burnout, i.e. (a) emotional exhaustion; and (b) depersonalisation, such that the negative relationship between HIWPs and burnout is less pronounced under low rather than high levels of psychological detachment.

Method

Participants and Procedure

Surveys were distributed to nurses and midwives via e-mail in the Republic of Ireland in April 2015. All nurses and midwives were registered with the national union, which represents them, and an opportunity was made available for employees to fill in the survey on the union website. A cover letter from the head of the union as well as one designed by the researchers accompanied the questionnaire. Overall the number of union members with an e-mail address

was 23,918. Although the questionnaire was available to complete, there was no incentive for the respondents to fill in the survey other than having an interest in the topic of well-being. Overall, we received 1,143 surveys which yields a response rate of 4.78%². Of these, 1,135 questionnaires were deemed usable. Respondents averaged 40-50 years old and had between 5 and 10 years of organisational tenure. The majority (96%) of respondents were female. The majority were also Irish, comprising 95% of the sample. These particular demographics of nurses and midwives are representative of the larger population of nurses and midwives who are members of the union as obtained by the organisations records.

Measures

All scales were measured on a five-point Likert-scale from 1 (strongly disagree) to 5 (strongly agree). Scores were created by averaging the relevant items. All the scales used are based on existing measures that have been shown to have sound psychometric properties.

High-Involvement Work Practices

Perceptions of high-involvement work practices were measured using the four core sets of practices linked to empowerment, information-sharing, rewards and development covered in the PIRK model (Guerrero & Barraud-Didier, 2004; Lawler, 1986). Specifically, HIWPs were measured using the well-established 18 item scale by Riordan et al. (2005). A sample item for empowerment is “I have enough input in deciding how to accomplish my work”. A sample item for information sharing is “Company policy and procedures are clearly communicated to employees”. A sample item for rewards is “I am satisfied with the amount of recognition I

² *The demographic data obtained from the union indicates that the sample of nurses and midwives is reflective of the population in general and the members in the national union in particular.*

receive when I do a good job”. A sample item for training and development is “I receive sufficient training to do my job”. It has been noted that HIWPs have synergistic effects (Vandenberg et al., 1999) and therefore, in line with common practice in this area, we incorporated the four dimensions into one overall HIWPs scale.

Psychological Detachment

The four items which measure psychological detachment from the overall recovery experience questionnaire developed by Sonnentag and Fritz (2007) were used to assess psychological detachment. Participants were asked to respond to the items in reference to the statement “during time after work”. A sample item for psychological detachment is “I get a break from the demands of work”.

Burnout

Items linked to the two dimensions of burnout are taken from the Maslach Burnout Inventory-Human Services Survey MBI-HSS (MBI-HSS; Maslach & Jackson, 1986). The full nine items were used to assess emotional exhaustion and the full five items were used to assess depersonalisation. A sample item for emotional exhaustion is “I feel emotionally drained from my job”. A sample item for depersonalisation is “I worry that this job is hardening me emotionally”.

Treatment of Common Method Bias

As the data is based on self-reported measures only, findings could be affected by common method bias. However, the recommendations of Podsakoff, MacKenzie, Lee, and Podsakoff (2003) to mitigate common method bias and social desirability bias were adhered to. First, the participation of the respondents was entirely voluntary thus reducing the potential for social desirability tendencies. Second, the questionnaire contained specific and concise questions with no scale containing bipolar values. Third, common method bias was tested for by

computing a confirmatory factor analysis for the four latent variables with and without a same-source first-order factor added test. This unmeasured latent method factor was set to have indicators of all self-report items, therefore controlling for the portion of variance attributable to obtaining all measures from a single source (see Podsakoff, MacKenzie, & Podsakoff, 2012). As all factor loadings and intercorrelations were almost identical in both models, common method variance was not believed to be a source of bias in this study's data.

INSERT TABLE 1 ABOUT HERE

Control Variables

There are many demographic variables possibly associated with burnout including gender, age, job status, and tenure. Burnout is expected to be higher among younger workers, those early in their career, and there is mixed evidence for gender in terms of whether males or females are more prone to burnout (Maslach, Schaufeli, & Leiter, 2001). Other burnout researchers have considered job status (part-time versus full-time) in addition to the aforementioned controls (Kroon et al., 2009). Therefore, we controlled for these variables in the analysis. The variables were coded as follows; (1) Gender: 1=males, 2=females, (2) Age: 1= 18-25, 2= 26-35, 3= 36-45, 4= 46-55, 5= 56-65, 6= 65+, (3) Tenure: 1= less than 2 years, 2= 2-5 years, 3= 6-9 years, 4= 10-19 years, 5= 19+years, and (4) Job Status: 1= regular full time employees, 2= regular half time (19.5 hours), 3= regular part-time (less than 39 hours).

Results

Descriptive Statistics

Table 1 contains the means, standard deviations and zero-order correlations for the study variables. It also shows the Cronbach's alphas for the study variables indicating their high levels of reliability. As depicted, perceptions of HIWPs were significantly and negatively correlated with emotional exhaustion and depersonalisation, and positively correlated with psychological detachment. In addition, psychological detachment was significantly and negatively correlated with emotional exhaustion and depersonalisation.

Measurement Models

Following the recommendations of Anderson and Gerbing (1988), we assessed the appropriate factor structure of the measures used prior to hypothesis testing using confirmatory factor analysis (CFA) in Mplus. In order to assess the goodness of fit of the model, we relied on a number of fit indices including the χ^2 value, the Root Means Square Error of Approximation (RMSEA), the Standardised Root Means Square Residuals (SRMR), and the Comparative Fit Index (CFI). Levels of 0.90 or higher for the CFI and levels of 0.06 or lower for RMSEA, combined with levels of 0.08 or lower for SRMR, indicates that models fit the data reasonably well (Arbuckle, 2003). Our overall hypothesised CFA model including four factors (HIWPs, psychological detachment, emotional exhaustion and depersonalisation) yielded a reasonable fit to the data ($\chi^2(550) = 3145.498$ $p < .001$, CFI = .872, RMSEA = .064, SRMR = .074). Three items (one from the HIWPs scale measuring information sharing and one each from the emotional exhaustion and depersonalisation scale) contained a factor loading

below the recommended .50 level and were subsequently removed from the scale³. This substantially improved the goodness of fit of the CFA model to an acceptable level (χ^2 (454) = 2195.884 $p < .001$, CFI = .907, RMSEA = .058, SRMR = .070). Factor loadings now range from .51 to .93 thus meeting the minimum threshold of .50 recommended by Roussel, Durrieu, Campoy and El Akremi (2002). Overall, the hypothesised model yielded a better fit to the data than any more parsimonious model, including a model in which the dimensions of burnout (i.e., emotional exhaustion and depersonalisation) were combined, and a one factor model in which all items loaded onto one factor (see Table 2). Models were compared using the Chi-square (χ^2) difference test (Bentler & Bonnett, 1980). We also compared the global high involvement work practices measure with a four-factor model in which HIWPs (i.e. empowerment, information sharing, reward and training) were treated separately. There was no significant difference between these models and the fit indices were largely similar. Therefore, on this basis and in line with principles of parsimony, we proceeded with the global second-order latent factor of HIWPs. In addition, theoretically speaking, authors have suggested that the four HIWPs have a stronger and synergistic effect on outcomes when used together (Guerrero and Barraud-Didier, 2004; Vandenberg et al., 1999).

Test of Hypotheses

Hierarchical regression analysis was employed to test the proposed relationships, namely, the impact of HIWPs on burnout, as well as the moderating effect of psychological detachment in

³ Item removed from information sharing: “I often have to rely on the grapevine to get job related information”;

Item removed from emotional exhaustion: “Working with people directly puts too much stress on me”;

Item removed from depersonalisation: “I feel that recipients blame me for some of their problems”

the HIWPs-burnout relationship. The results are depicted in Table 3. Hypotheses 1a-b proposed that perceptions of HIWPs would be significantly and negatively related to emotional exhaustion and depersonalisation. The results revealed that HIWPs were significantly and negatively related to emotional exhaustion ($\beta = -.365, p < .001$) and depersonalisation ($\beta = -.162, p < .001$) thus supporting hypotheses 1a-b.

In order to test Hypotheses 2a-b concerning the moderating role of psychological detachment in the link between HIWPs and burnout, hierarchical moderated regression analysis (Cohen, Cohen, West, & Aiken, 2003) was carried out. Following the recommendations of Aiken and West (1991), we centered the predictor variables before calculating the interaction term. The results revealed significant effects of the interaction term, i.e., HIWPs*Psychological detachment on emotional exhaustion ($\beta = -.098, p < .001$) and depersonalisation ($\beta = -.101, p < .001$). To further analyse the interaction effects the recommended procedure is to estimate the simple slopes (Aiken & West, 1991) of each of the interaction effects using values of one standard deviation above the mean to represent high levels of psychological detachment, and one standard deviation below the mean to represent low levels of psychological detachment (Cohen & Cohen, 1983). For the outcome of emotional exhaustion, the results from the simple slope tests showed that the slopes for both one SD above and below the psychological detachment mean were significantly different from zero (gradient = $-.60, t = -12.26, p < .001$ for one SD above; gradient = $-.34, t = -6.95, p < .001$ for one SD below), suggesting that the negative relationship between HIWPs and employee exhaustion was significant at both higher and lower levels of psychological detachment. For the outcome depersonalisation, the results from the simple slope tests showed that the slopes for one SD above the psychological detachment mean were also significantly different from zero (gradient = $-.34, t = -6.28, p < .001$ for one SD above) suggesting that the negative relationship between HIWPs and depersonalisation was significant at higher levels of psychological detachment. However, the slopes for one SD below the mean

were not significant (gradient = $-.07$, $t = -6.28$ $p > .05$ for one SD below). Therefore, Hypothesis 2a is supported and Hypothesis 2b is partially supported. Figures 2 and 3 plot the interaction between HIWPs and psychological detachment on emotional exhaustion and depersonalisation respectively. As depicted, the greater the use of HIWPs, as perceived by employees, the more likely they are to experience lower levels of burnout particularly so when they have high compared to low levels of psychological detachment.

INSERT TABLES 2 AND 3 ABOUT HERE

Discussion

Investigating the factors that improve the well-being of employees has gained increased momentum in the general management literature in recent years (e.g., Siu et al., 2014). Indeed, scholars have focused on the importance of individual psychological needs (e.g., Shir, Nikolaev, & Vincent, in press) as well as the possible coping strategies for stressful circumstances (Uy, Foo, & Song, 2013) to promote employee well-being. From the organisational view point, the impact of organisational practices such as HIWPs has also been a lively topic of scholarly debate. This is partly due to the realisation among HRM researchers that, historically, the ‘workers verdict’ has tended to be neglected in HRM research, at the expense of studies examining the relationship between HRM and firm performance (e.g., Guest, 2011). The jury is still out regarding the direction of the relationship between HIWPs and well-being outcomes (Macky & Boxall, 2008; Wood et al., 2012). Consensus is emerging, however, that at least for happiness related wellbeing outcomes, such as job satisfaction and organisational commitment, HIWPs may indeed be universally good for employees (Van de

Voorde et al., 2012). On the other hand, when it comes to understanding the nature of the relationship between HIWPs and health related well-being outcomes, the picture is much more complex. In particular, extant evidence regarding the link between HIWPs and health related well-being outcomes is mixed, with some studies finding that HIWPs are good for workers, while others found them to be detrimental for worker well-being. One explanation for the negative outcomes of such HIWPs is rooted in the 'labour process theory' perspective (Braverman, 1974), whereby HIWPs are argued to intensify work for those involved (Ramsay, Scholarios, & Harley, 2000). However, on the basis of the JD-R model and COR theory, HIWPs can also be viewed as representing positive resources for employees as they increase their autonomy and control, thereby enabling them to overcome the job demands they encounter at work (e.g., Castanheira & Chambel, 2010; Sun & Pan, 2008).

Following the more optimistic perspective, we proposed that perceptions of HIWPs would help to alleviate the levels of burnout experienced by employees. In fact, if implemented properly, HIWPs are believed to provide employees with a more enriching and humanistic work environment (Harmon, Scotti, Behson, Farias, & Petzel, 2003). The results from the present study revealed that perceptions of HIWPs were indeed a significant factor in reducing burnout. The study's findings therefore support the 'mainstream' perspective (Harley et al., 2007), otherwise labelled as the 'optimistic' perspective on HRM (Peccei, 2004). This confirms the burgeoning research findings which suggest that at least for the involvement components of HRM, as operationalized by the PIRK model of Lawler (1986), there appears to be clear benefits for worker well-being (Boxall & Macky, 2009; Macky & Boxall, 2008; Guest, 2017).

Despite support for this direct relationship, the present study also took a contingency perspective and examined an important personal factor outside the domain of work which can influence the HIWPs-burnout relationship. Specifically, it proposed that psychological

detachment from work would be an instrumental factor in ensuring that HIWPs have their purported effect on burnout. This view is predicated on the notion that the resource potential of HIWPs can be crowded out by the energy resource loss emanating from employees' inability to psychologically detach. Indeed, in line with COR theory (Hobfoll, 1989) resource loss (i.e., lost energetic resources due to low psychological detachment) is more important than resource gain (i.e., derived from HIWPs) in predicting burnout. If workers do not psychologically detach from work, they may be more concerned with energy conservation than making use of HIWPs to perform their role. It is well known that workers who can psychologically detach from work have more readiness to face work and its associated demands (Poulsen, Poulsen, Khan, Poulsen, & Khan, 2015).

The results from the present study support the notion that psychological detachment moderates the relationship between HIWPs and both dimensions of burnout (i.e. emotional exhaustion and depersonalisation). Specifically, we found that when psychological detachment was low, the negative relationship between HIWPs and burnout was attenuated. This was particularly the case for emotional exhaustion given that the simple slopes were statistically significant at the 95% confidence interval. While this relationship was weakened, low levels of psychological detachment did not completely restrict the beneficial influence of HIWPs. On the other hand, when psychological detachment was high, the relationship between HIWPs and both dimensions of burnout was significantly enhanced. HIWPs and the recovery experience of psychological detachment are likely to be linked in positive ways. One direct outcome of HIWPs is the provision of control and discretion for employees (Boxall & Macky, 2009). When employees have high levels of control, they can often switch to less demanding tasks or take a break (Jackson, Wall, Martin, & Davids, 1993). Moreover, the control and empowerment afforded by HIWPs might ensure that employees have greater opportunities to psychologically detach on the job (Taris, Beckers, Verhoeven, Geurts, Kompier, & van der Linden, 2006), thus

making psychological detachment at home more likely. Indeed, Guest (2002) observed that employees who have scope for autonomy and participation often have less imbalance in their personal lives. In line with the ‘resource caravan’ concept in COR theory (Hobfoll, 2011), the personal resource of psychological detachment can also increase the availability of and facilitate the maximum use of other positive resources such as organisational resources in the form of HIWPs. Indeed, when individuals feel adequately recovered, they are in a better position to take advantage of and enjoy the positive effects of HIWPs while minimising their potential negative side effects such as increased work pressure. Practically speaking, our results suggest for organisations that investing in HIWPs is an important strategy for reducing burnout which is important given its detrimental consequences on not only employees but also organisational performance outcomes (Schaufeli & Taris, 2014). For example, among nurses and midwives, it has been found that burnout is associated with higher intentions to quit (Leiter & Maslach, 2009) and impaired quality of patient care (Aiken et al., 2002). However, when implementing HIWPs, organisations need to be cognisant of more informal or personal factors experienced by the employee (i.e., psychological detachment) which can affect the extent to which the full benefits of HIWPs are realised.

The main contribution of the present study is that it responds to calls from scholars to reconcile the ‘dark side’ of HRM by investigating the moderating factors which help explain *when* HIWPs are likely to have more positive or negative effects on employee well-being (Jensen & van de Voorde, 2016). Indeed, the present study introduces COR theory (Hobfoll, 1989) to show how individual level factors that do not necessarily happen in work i.e. psychological detachment, can interact with HR practices in influencing well-being outcomes. In light of the theoretical and empirical progress made in understanding the direction of the relationship between HIWPs and well-being (Van de Voorde et al., 2012), it is apposite that

we seek to introduce novel theorising to uncover the individual boundary conditions of the broader HR and well-being relationship (Peccei et al., 2013).

Limitations

This research has a number of limitations. First, the study is cross-sectional in nature and therefore the direction of causality cannot be determined. For example, it is plausible to suggest that burnout is associated with the inability to psychologically detach and vice versa. Nevertheless, prior research has found that poor psychological detachment predicted job exhaustion 1 year later, and not vice versa (Sonnetag, Binnewies, & Mijza, 2010). Second, the findings could have been confounded by common method bias given that the measures were reported from the same source. However, common method bias issues are viewed to be less of a concern when testing more complex moderated relationships (Spector, 2006). We also tested for common method bias and found that it did not pose a threat to this study's data. It should also be noted that the primary focus on health outcomes, recovery and HIWPs, in any case, necessitated capturing employees' experiences. A third potential limitation pertains to the sample. We carried out this study among a homogeneous sample of nurses and midwives across hospitals in Ireland who are on the front line of health care delivery. This is a particularly important context in which to study burnout given its increased prevalence amongst this particular employee population and its detrimental consequences on the individuals involved (Moghaddasi, Mehralian, Aslani, Masoodi & Amiri, 2013). However, we are uncertain as to whether these findings would generalise to other occupations working in hospitals and even other employee groups outside the context of health care more generally. Consequently, future studies should use more heterogeneous samples to verify the validity of our results. Another possible limitation pertains to the level of analysis. Relational coordination, i.e. communicating and integrating for the purpose of task performance, is essential for nurses to perform their role and plays an important role in reducing their burnout (Havens, Gittell, & Vasey, 2018). Such

cooperation with one another and other professional teams in hospitals may mean that they experience a sense of collective empowerment/involvement thereby assisting with burnout reduction (Gilbert, Laschinger & Leiter, 2010). Testing such possible collective experiences in a multilevel research design would be fruitful in future research. Finally, another limitation is the low response rate. However, nurses and midwives are known to have a very busy schedule which make it burdensome to participate in any study and if data collection is taking place during their working shifts, there is concern about handing off patient care (Im, Chee, Lim, Bender, Tsai, Yang, & Lee, 2006; Kramer, Schmalenberg, & Keller-Unger, 2009).

Directions for Future Research

There are a number of opportunities for theoretically and empirically extending this research. Future research should continue to investigate the boundary conditions of the HIWPs-burnout link. Exploring additional individual level factors such as personality variables and positive psychological capacities (e.g. self-efficacy, resilience) would contribute further to the HR and burnout field. For recruitment and selection procedures, it would be possible to determine which individual states and traits are more likely to respond favourably to HIWPs and be less susceptible to developing burnout. Moreover, there are a wide range of organisational level and institutional factors that have the potential to enhance or undermine the effectiveness of HIWPs (Peccei et al., 2013). Such contingency arguments should be further grounded in novel theorising and empirically tested to better understand the environmental factors which impinge on organisational action. Another research avenue worth exploring is the extent to which additional HR practices not included in the PIRK model go hand in hand with recovery. In other words, which additional HR practices assist HIWPs in improving recovery and consequently burnout? For example, work life balance programmes and flexible working practices might assist in this regard. Finally, future research could extend this research by exploring the stressor-detachment model (Sonnetag & Fritz, 2015) by incorporating

HIWPs and examining the mediating role of psychological detachment in broader JD-R model relationships including the effects of resources such as HIWPs on employee outcomes (Kinnunen, Feldt, Siltaloppi, & Sonnentag, 2011).

Practical Implications

There are various practical implications stemming from the present investigation. The results suggest that while it is possible that HIWPs can alleviate the levels of burnout experienced by employees, management should be aware of broader issues facing their employees. One such issue is employees' ability to adequately psychologically detach from work while at home. This means that HIWPs can be introduced to improve employees' health, but organisations need to ensure that employees have the requisite detachment while at home. This could be done through education and training designed to raise awareness at all levels of the organisation of the potential detrimental consequences of failing to recover from stressful demands at work, as well as by training employees on various detachment strategies. Organisations should encourage employees to recuperate from work and should make explicit in education programs what range of activities work best in aiding recovery. Training in the effective management of burnout, and in particular recovering from it, has been shown to build psychological 'toughness' (Winwood & Lushington, 2006). Developing an awareness of the need for recovery is particularly important in contexts such as the present one where there are often major imbalances between demands and resources (Poulsen et al., 2015). In order to ensure that employees reap the benefits of HIWPs, it is advisable that management pay careful attention to the job demands experienced by employees and seek to counteract them by providing additional resources so that employees have the capacity to adequately psychologically detach from work. This will ensure employees spend less time thinking about

work issues on off-job hours thus enabling them to more effectively detach from work while at home (Sonnentag & Krueger, 2006).

Conclusion

The present study investigated the moderating role of psychological detachment in the HIWPs and burnout relationship and in so doing it provided unique theoretical insights into the boundary conditions of HIWPs. Psychological detachment represents an instrumental variable which interacts with HIWPs in improving employee well-being. Organisations need to be aware of additional factors beyond the role of organisational action in the form of HIWPs in order to ensure their purported benefits are realised.

References

- Aiken, L.H., Clarke, S.P., Sloane, D.M., Sochalski, J., & Silber, J.H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of American Medical Association*, 288, 1987-1993.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park CA: Sage Publications Inc.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103, 411-423.
- Arbuckle, J. L. (2003). *AMOS 5.0 user's guide*. Chicago, IL: Small Waters.
- Baptiste, N. R. (2008). Tightening the link between employee wellbeing at work and performance: A new dimension for HRM. *Management Decision*, 46, 284-309.

Bartram, T., Casimir, G., Djurkovic, N., Leggat, S., & Stanton, P. (2012) Do High Performance Work Systems influence the relationship between emotional labour, burnout and intention to leave? A study of Australian Nurses. *Journal of Advanced Nursing*, 68(1), 567-1578.

Bentler, P. M., & Bonnett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariances structures. *Psychological Bulletin*, 88, 588-606.

Binnewies, C., Sonnentag, S., & Mojza, E. J. (2009). Daily performance at work: Feeling recovered in the morning as a predictor of day-level job performance. *Journal of Organizational Behavior*, 30, 67-93.

Boxall, P., & Macky, K. (2009). Research and theory on high-performance work systems: progressing the high-involvement stream. *Human Resource Management Journal*, 19, 3-23.

Braverman, H. (1974). *Labor and Monopoly Capital*, New York: Monthly Review Press.

Bhuiyan, M.F. & Ivlevs, A. (In Press). Micro-Entrepreneurship and Subjective Well-Being: Evidence from Rural Bangladesh. *Journal of Business Venturing*.

Butts, M. M., Vandenberg, R. J., Dejoy, D. M., Schaffer, B. S., & Wilson, M. J. (2009). Individual Reactions to High Involvement Work Processes: Investigating the Role of Empowerment and Perceived Organizational Support. *Journal of Occupational Health Psychology*, 14, 122-136.

Castanheira, F., & Chambel, M. (2010). Reducing burnout in call centers through HR practices. *Human Resource Management*, 49, 1047-1065.

Chen, J., Davis, K. G., Daraiseh, N. M., Pan, W., & Davis, L. S. (2014). Fatigue and recovery in 12-hour dayshift nurses. *Journal of Nursing Management*, 22, 593–603.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences*, (2nd Ed.). Hillsdale, NJ: Erlbaum.

Cohen, J., Cohen, P., West, S., & Aiken, L. (2003). *Applied Multiple Regression Correlation Analysis for the Behavioral Sciences*. Mahwah, N.J: Lawrence Erlbaum.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The Job Demands - Resources model of burnout. *Journal of Applied Psychology*, 86, 499-512.

Godard, J. (2001). Beyond the high-performance paradigm? An analysis of variation in Canadian managerial perceptions of reform programme effectiveness. *British Journal of Industrial Relations*, 39, 25-52.

Gorgievski, M. J., & Hobfoll, S. E. (2008). Work can burn us out and fire us up. In J. R. B Halbesleben (Eds.), *Handbook of stress and burnout in health care* (pp. 7-22). Hauppauge, New York: Nova Publishers.

Grant, A. M., Christianson, M. K., & Price, R. H. (2007). Happiness, Health, or Relationships? Managerial Practices and Employee Well-Being Tradeoffs. *The Academy of Management Perspectives*, 21, 51-63.

Guerrero, S., & Barraud-Didier, V. (2004). High-involvement practices and performance of French firms. *International Journal of Human Resource Management*, 15, 1408-1423.

Guest, D. E. (1999). Human resource management: The workers verdict. *Human Resource Management Journal*, 9, 5-25.

Guest, D. E. (2002). Perspectives on the study of work–life balance. *Social Science Information*, 41, 255–79.

Guest, D. E. (2011). Human resource management and performance: still searching for some answers. *Human Resource Management Journal*, 21, 3-13.

Harley, B., Allen, B. C., & Sargent, L. D. (2007). High performance work systems and employee experience of work in the service sector: The case of aged care. *British Journal of Industrial Relations*, 45, 607-33.

Harmon, J., Scotti, D. J., Behson, S. J., Farias, G., & Petzel, R. (2003). Effects of High Involvement Work Practices on Employee Satisfaction and Service Costs in the Veterans Health Administration. *Journal of Health Care Management*, 48, 393-407.

Havens, D. S., Gittell, J. H., & Vasey, J. (2018). Impact of Relational Coordination on Nurse Job Satisfaction, Work Engagement and Burnout: Achieving the Quadruple Aim. *Journal of Nursing Administration*, 8, 132-140.

Hobfoll, S. E. (2011). Conservation of resource caravans and engaged settings. *Journal of Occupational and Organizational Psychology*, 84, 116-122.

Hobfoll, S.E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44, 513-524.

Hobfoll, S.E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, 6, 307-324.

Holland, P. J., Allen, B. C., & Cooper, B. K. (2013). Reducing burnout in Australian nurses: the role of employee direct voice and managerial responsiveness. *The International Journal of Human Resource Management*, 24, 3146-3162.

Im, E-O., Chee, W., Lim, H. J., Bender, M., Tsai, H., Yang, S., & Lee, H. (2006). Recruitment of oncology nurses for Internet research: Issues and future directions. *Oncology Nursing Forum*, 33, 249-254.

Jackson, P. R., Wall, T. D., Martin, R., & Davids, K. (1993). New measures of job control, cognitive demand and production responsibility. *Journal of Applied Psychology*, 73, 753-762.

Jensen, J. M., Patel, P. C., & Messersmith, J. G. (2013). High-performance work systems and job control: Consequences for anxiety, role overload, and turnover intentions. *Journal of Management*, 39, 1699-1724.

Jensen, J. M., & van De Voorde, K. (2016). Reconciling the dark side of HPWS. In Ashkanasy, N. M., Bennett, R. J., & Martinko, M. J. (Eds.), *Understanding the high performance workplace: The line between motivation and abuse* (pp. 85-102). New York: Routledge.

Kilroy, S., Flood, P.C., Bosak, J., & Chênevert, D. (2016). Perceptions of high involvement work practices and burnout: the mediating role of job demands. *Human Resource Management Journal*, 26, 408-424.

Kramer, M., Schmalenberg, C., & Keller-Unger J. (2009). Incentives and procedures effective in increasing survey participation of professional nurses in hospitals. *Nursing Administration Quarterly*, 33, 174-187.

Kroon, B., Van de Voorde, K., & van Veldhoven, M. (2009). Cross-level effects of high performance work practices on burnout: Two counteracting mediating mechanisms compared. *Personnel Review*, 38, 509-525.

Kinnunen, U., Feldt, T., Siltaloppi, M., & Sonnentag, S. (2011). Job demands–resources model in the context of recovery: Testing recovery experiences as mediators. *European Journal of Work and Organizational Psychology*, 20, 805-832.

Lastovkova, A., Carder, M., Rasmussen, H.M. et al. (2018). Burnout syndrome as an occupational disease in the European Union: an exploratory study. *Industrial Health, 56*, 160-165.

Lawler, E. E. (1986). *High-involvement management: Participative strategies for improving organizational performance*. San Francisco CA: Jossey-Bass.

Le Blanc, P. M., Hox, J. J., Schaufeli, W. B., Taris, T. W., & Peeters, M. C. W. (2007). Take Care! The evaluation of a team based burnout intervention program for oncology care providers. *Journal of Applied Psychology, 92*, 213-227.

Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology, 81*, 123-33.

Leiter, M. P., & Maslach, C. (2009). Nurse Turnover: The Mediating Role of Burnout. *Journal of Nursing Management, 17*, 331-339.

Macky, K., & Boxall, P. (2008). High-involvement work processes, work intensification and employee well-being: a study of New Zealand worker experiences. *Asia Pacific Journal of Human Resources, 46*, 38-55.

Mackie, K. S., Holahan, C. K., & Gottlieb, N. H. (2001). Employee involvement management practices, work stress, and depression in employees of a human services residential care facility. *Human Relations, 54*, 1065-92.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*, 397-422.

Maslach, C., & Jackson, S. (1986). *Maslach Burnout Inventory Manual* (2nd ed.), Palo Alto, CA: Consulting Psychologists Press.

Meijman, T.F., & Mulder, G. (1998). Psychological aspects of workload. In P. J. D Drenth & H. Thierry (Eds.), *Handbook of work and organizational psychology: Work psychology* (Vol. 2, pp. 5–33). Hove, England: Psychology Press.

Moghaddasi, J., Mehralian, H., Aslani, Y., Masoodi, R., & Amiri, M. (2013). Burnout among nurses working in medical and educational centers in Shahrekord, Iran. *Iranian Journal of Nursing and Midwifery Research*, *18*, 294–297.

Paauwe, J., & Richardson, R. (1997). Introduction special issue on HRM and Performance. *International Journal of Human Resource Management*, *8*, 257-262.

Peccei, R. (2004). *Human Resource Management and the Search for the Happy Workplace*. Inaugural Address, 15 January 2004. Erasmus Research Institute of Management, Rotterdam.

Peccei, R., Van De Voorde, K., & van Veldhoven, M. (2013). HRM, Well-being and Performance: A Theoretical and Empirical Review. In J. Paauwe, D. Guest, & P. Wright. (Eds), *HRM and Performance: Achievements and Challenges*. Chichester: Wiley.

Podsakoff, P. M., MacKenzie, S. B., & Posakoff, N. P. (2012). Source of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, *63*, 539–569.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879-903.

Poulsen, M. G., Poulsen, A. A., Khan, A., Poulsen, E. E., & Khan, S. R. (2015). Recovery experience and burnout in Cancer workers in Queensland. *European Journal of Oncology Nursing*, *19*, 23-28.

- Ramsay, H., Scholarios, D., & Harley, B. (2000). Employees and High-Performance Work Systems: Testing inside the Black Box. *British Journal of Industrial Relations*, 38, 501-531.
- Riordan, C. M., Vandenberg, R. J., & Richardson, H. A. (2005). Employee involvement climate and organizational effectiveness. *Human Resource Management*, 44, 471-488.
- Roussel, P., Durrieu, F., Campoy, É., & El Akremi, A. (2002). *Méthodes d'équations structurelles: Recherche et applications en gestion* [Structural equation methods: Research and applications in management]. Paris: Economica.
- Ryan, R.M., & Deci, E.L. (2017). *Self-determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*. Guilford Publications.
- Schaufeli, W.B., & Taris, T.W. (2014). A critical review of the job demands-resources model: implications for improving work and health. In Bauer, G. and Hämmig, O. (Eds), *Bridging Occupational, Organizational and Public Health*, Springer, Dordrecht, pp. 43-68.
- Shir, N., Nikolaev, B. N. & Wincent, J. (In Press). Entrepreneurship and well-being: The role of psychological autonomy, competence, and relatedness. *Journal of Business Venturing*.
- Shirom, A. (2003). Job-related burnout. In J. C Quick & L. E Tetrick (Eds), *Handbook of occupational health psychology* (pp. 245-265). Washington, DC: American Psychological Association.
- Shirom, A. (2010). Employee burnout and health: Current knowledge and future research paths. In J. Houdmont & S. Leka (Eds.). *Contemporary occupational health psychology* (Vol. 1; pp. 59-77). Chichester, West Sussex, UK: Wiley.
- Sonnentag, S., & Fritz C. (2015). Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of Organizational Behavior*, 36, 72–103.

Sonnentag, S., & Geurts, A. E. (2009). Methodological issues in recovery research. In S. Sonnentag, P. L. Perrewé, D. C. Ganster (Eds.) *Current Perspectives on Job-Stress Recovery (Research in Occupational Stress and Well-being)(Vol 7: pp. 1-36)*. Emerald Group Publishing Limited.

Spector, P. E. (2006). Method Variance in Organizational Research: Truth or Urban Legend? *Organizational Research Methods, 9*, 221-232.

Sonnentag, S., Kuttler, I., & Fritz, C. (2010). Job stressors, emotional exhaustion, and need for recovery: A multisource study on the benefits of psychological detachment. *Journal of Vocational Behavior, 76*, 355-365.

Sonnentag, S., Binnewies, C., & Mojza, E. (2010). Staying well and engaged when demands are high: The role of psychological detachment. *Journal of Applied Psychology, 95*, 965-976.

Sonnentag, S., & Fritz, C. (2007). The recovery experience questionnaire: Development and validation of a measure for assessing recuperation and unwinding from work. *Journal of Occupational Health Psychology, 12*, 204-221.

Sonnentag, S., & Krueger, U. (2006). Psychological detachment from work during off-job time: The role of job stressors, job involvement, and recovery-related self-efficacy. *European Journal of Work and Organizational Psychology, 2*, 197-217.

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal, 38*, 1442-1465.

Sun, L., & Pan, W. (2008). HR Practices Perceptions, Emotional Exhaustion, and Work Outcomes: A Conservation-of-Resources Theory in the Chinese Context. *Human Resource Development Quarterly, 19*, 55-74.

Siu, O. L., Cooper, C. L., & Phillips, D. R. (2014). Intervention studies on enhancing work well-being, reducing burnout, and improving recovery experiences among Hong Kong health care workers and teachers. *International Journal of Stress Management*, *21*, 69-84.

Taris, T., Beckers, D., Verhoeven, L., Geurts, S., Kompier, M., & van der Linden, D. (2006). Recovery opportunities, workhome interference, and well-being among managers. *European Journal of Work and Organizational Psychology*, *15*, 139–157.

Vandenberg, R. J., Richardson, H. A., & Eastman, L. J. (1999). The impact of high involvement work processes on organizational effectiveness. *Group and Organization Management*, *24*, 300-339.

Van de Voorde, K., Paauwe, J., & van Veldhoven, M. (2012). Employee Well-being and the HRM-Organizational Performance Relationship: A Review of Quantitative Studies. *International Journal of Management Reviews*, *14*, 391-407.

Westman, M., & Eden, D. (1997). Effects of a respite from work on burnout: Vacation relief and fade-out. *Journal of Applied Psychology*, *82*, 516-527.

Winwood, P. C., & Lushington, K. (2006). Disentangling the effects of psychological and physical work demands on sleep, recovery and maladaptive stress outcomes within a large sample of Australian nurses. *Journal of Advanced Nursing*, *56*, 679-689.

Wood, S., van Veldhoven, M., Croon, M., & de Menezes, L. M. (2012). Enriched job design, high involvement management and organizational performance: The mediating roles of job satisfaction and well-being. *Human Relations*, *65*, 419-445.

Wood, S., & de Menezes, L.M. (2011). High involvement management, high-performance work systems and well-being. *The International Journal of Human Resource Management*, *22*, 1586-1610.

Table 1. Means, standard deviations (SD), reliabilities and correlations

Variable	M	SD	1	2	3	4	5	6	7	8
1. Gender	1.96	.19	-							
2. Age	3.38	1.05	.110**	-						
3. Job Status	1.63	.87	.126**	.259**	-					
4. Tenure	3.53	1.23	.083**	.575**	.177**	-				
5. HIWPs	2.63	.653	.018	.060*	-.078	-.011	(.88)			
6. Detachment	2.74	.914	-.016	.079**	.040	.049	.262**	(.79)		
7. Exhaustion	3.53	.660	-.050	-.157**	.003	-.015	-.454**	-.401***	(.91)	
8. Depersonalisation	2.12	.893	-.099**	-.194**	-.095**	-.122**	-.204**	-.189**	.486**	(.79)

Notes: * $p < .05$; ** $p < .01$; *** $p < .001$

Reliabilities (Cronbach alpha) are reported in bold along the diagonal.

Table 2. Comparison of Model Fit Indices

Model	χ^2	df	$\Delta \chi^2$	CFI	RMSEA	SRMR
<i>Measurement Model</i>						
1. Hypothesized Four Factor Model	2195.884	454	-	.907	.058	.070
2. Three Factor Model: Burnout combining exhaustion and depersonalisation	3427.228	457	1231.344 ***	.842	.076	.079
3. One Factor Model	10303.913	464	8108.029***	.477	.137	.126
HIWPs						
Second Order Latent Factor	909.440	.115	-	.909	.078	.071
Four Factor Model	905.591	.113	3.849	.910	.079	.071

N= 1,135; χ^2 = Chi-square discrepancy, df = degrees of freedom; $\Delta \chi^2$ = difference in chi-square; CFI = Comparative Fit Index; RMSEA = Root Mean-Square Error of Approximation; SRMR = Standardized Root Mean Square Residual

Table 3. Results of Hierarchical Multiple Regression on Measures of Burnout

Steps	Emotional Exhaustion		Depersonalisation	
	β	ΔR^2	β	ΔR^2
<i>1. Control variables</i>		3.6***		4.8***
Age	-.223***		-.181***	
Gender	-.042		-.068**	
Job Status	.054		-.050	
Tenure	.107**		.001	
<i>2. HIWPs</i>		27.1***		7.8***
<i>Psychological Detachment</i>				
<i>Psychological Detachment x HIWPs</i>				
<i>1. Model R²</i>	3.6***		4.8***	
<i>Adjusted R²</i>	3.2***		4.4***	
<i>2. Model R²</i>	30.7***		12.6***	
<i>Adjusted R²</i>	30.3***		12.0***	