How employees’ pro-activity translates high-commitment HRM systems into work engagement: the mediating role of job crafting

Jeroen Meijerink, Anna Bos-Nehles & Jan de Leede

To cite this article: Jeroen Meijerink, Anna Bos-Nehles & Jan de Leede (2018): How employees’ pro-activity translates high-commitment HRM systems into work engagement: the mediating role of job crafting, The International Journal of Human Resource Management, DOI: 10.1080/09585192.2018.1475402

To link to this article: https://doi.org/10.1080/09585192.2018.1475402

© 2018 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

Published online: 05 Jun 2018.

Submit your article to this journal

Article views: 1141

View Crossmark data
How employees’ pro-activity translates high-commitment HRM systems into work engagement: the mediating role of job crafting

Jeroen Meijerink, Anna Bos-Nehles and Jan de Leede

School of Behavioral, Management and Social Sciences, Human Resource Management Group, University of Twente, Enschede, The Netherlands

ABSTRACT

In this study, we examine whether the relationship between employees’ perceptions of human resource management (HRM) and work engagement is mediated by job crafting. Using conservation of resources (COR) theory, we propose that HR practices offer job resources which employees reinvest by displaying job crafting behaviours. Since job crafting involves the pro-active redesign of job characteristics by employees, this study advances the idea that employees are pro-active in their response to HRM and translate perceived HRM practice into attitudinal outcomes through displaying pro-active behaviour. In support of this idea, our results show that the relationship between perceived HRM and work engagement is fully mediated by the job crafting type ‘increasing job resources and challenging job demands’. The job crafting type ‘decreasing hindering job demands’ turned out to be insignificantly related to both employee perceptions of HRM and work engagement.

Introduction

For many years, human resource management (HRM) researchers have examined the effect of HRM systems on employees’ attitudes and behaviours. This so-called employee-centred, employee-level or micro perspective (Wright & Boswell, 2002) builds on the idea that it is the employees’ perceptions of HRM systems that drive selected outcomes (Bowen & Ostroff, 2004; Guest, 2011; Nishii & Wright, 2008). A bourgeoning body of research has revealed that attitudinal outcomes are highly proximal to perceived HRM systems by showing that employee perceptions of HRM are strongly and positively related to their work-related attitudes such as job satisfaction and affective organizational commitment (Conway & Monks, 2008;

An attitudinal outcome which recently gained ground in employee-level HRM research is *work engagement*, which refers to employees’ dedication and attachment toward their performance in their job (Schaufeli, Bakker, & Salanova, 2006). Work engagement is more activating in nature and more efficient in predicting employee behaviour than other, more established, work-related attitudes such as job satisfaction and commitment (Mackay, Allen, & Landis, 2016; Rich, Lepine, & Crawford, 2010). Given these positive attributes, recent studies examined work engagement as an important attitudinal outcome of perceived HRM systems (Alfes, Shantz, Truss, & Soane, 2013a; Alfes, Truss, Soane, Rees, & Gatenby, 2013b; Bal & De Lange, 2015; Boon & Kalshoven, 2014).

Although concepts such as perceived HRM systems and work engagement help us to understand how employees experience and respond to HRM, several authors still raise concerns that HRM research remains too management-centred as it exclusively addresses managers’ initiatives to explain employees’ perceptions of and responses to HRM (Janssens & Steyaert, 2009; Lepak & Boswell, 2012). In particular, existing studies are criticized for treating employees as passive recipients of HRM whose attitudes can be fully pre-determined by managerial actions, while ignoring the possibility that employees, as (pro-)active players, can affect their attitudinal states themselves (Danford, Richardson, Stewart, Tailby, & Upchurch, 2005; McBride, 2008). Given that employees are the recipients and thus users of HRM, it is our contention that they need to be conceptualized as active players in HRM–outcome relationships. The same shift has already been made in the job design literature, with researchers challenging the traditional view that employees passively carry out the tasks assigned by managers and, instead, viewing employees as pro-active crafters of their jobs (Grant & Parker, 2009; Wrzesniewski & Dutton, 2001). Although it has been shown that employees can pro-actively improve their work engagement themselves through job crafting (Bakker, Tims, & Derks, 2012; Tims, Bakker, & Derks, 2012), the HRM literature has yet to examine whether employee pro-activity explains the relationship between employee perceptions of HRM and attitudes such as work engagement.

The key purpose of this study is to respond to the call to bring employees’ pro-active involvement into the equation to explain how HRM relates to employees’ work attitudes. Accordingly, we examine whether the relationship between employees’ perceptions of HRM and work engagement is mediated by job crafting.

This study contributes to the literature in three ways. First, job crafting involves the pro-active redesign of job tasks and job resources by employees to improve their person-job fit (Tims et al., 2012; Wrzesniewski & Dutton, 2001), making it a useful concept for studying employees’ involvement in shaping employee-level outcomes of HRM. We go one step further, by introducing job crafting to the employee-centred HRM research to show that employees as pro-active players (i.e. job crafters) translate HRM practices into employee attitudes. Second, although
researchers have shown that employee perceptions of HRM are positively related to work engagement (Alfes et al., 2013b; Boon & Kalshoven, 2014), it remains unclear what the underlying mechanisms are that explain this relationship. This study contributes to this theme by applying a theory that is relatively new to HRM research and which conceptualizes employees as active agents – i.e. conservation of resources theory (COR) – to show how job crafting serves as a linking pin between employee perceptions of HRM and work engagement. Finally, various studies have shown that job crafting is positively affected by individual employees’ dispositional and cognitive states such as pro-active personality (Bakker et al., 2012), cynicism (Tims et al., 2012) and self-efficacy (Tims, Bakker, & Derks, 2014). Little is known, however, about the role that organizational/situational factors play in stimulating job crafting. Although some (Albrecht, Bakker, Gruman, Macey, & Saks, 2015; Wrzesniewski & Dutton, 2001) have suggested that HRM practices serve as an important situational driver of job crafting, their work remains conceptual. As a result, we lack empirical research that examines the relationship between HRM and job crafting. This study fills this gap by providing empirical data on whether employee perceptions of HRM systems – as a situational factor – relate positively to job crafting.

Theoretical background and hypotheses

High-commitment HRM and employee attitudes

HRM systems are coordinated bundles of HRM practices including staffing, training, performance appraisal, job design and compensation/benefits, designed to realize selected goals (Lepak, Liao, Chung, & Harden, 2006). Researchers have distinguished different HRM systems on the basis of the goal which they intend to meet, such as fostering employee commitment, control/efficiency or involvement. Given our interest in work attitudes as an important HRM outcome, this study focuses on the high-commitment HRM system which has been shown to be effective in shaping employee attitudes such as job satisfaction, affective commitment and work engagement (Boon & Kalshoven, 2014).

High-commitment HRM is a particular type of high-performance work system that aims to create a psychological bond between the employee and the organization to ensure that employees are committed to organizational goals (Arthur, 1994; Lepak & Snell, 2002). High-commitment HRM systems do so by building long-term and trusting relationships and signal to employees the importance the organization places on meeting their interests. Accordingly, high-commitment HRM systems include practices such as extensive training, promotion from within, empowerment, participation in decision-making, developmental performance appraisal and extensive benefit packages (Arthur, 1994; Boon & Kalshoven, 2014; Lepak & Snell, 2002).
In order for such practices to have an effect on employees’ work attitudes, it is important that employees perceive the presence of high-commitment HRM as this signals to them that the employer is willing to invest in meeting employee needs and establish a long-term relationship with them (Kehoe & Wright, 2013; Nishii & Wright, 2008). Accordingly, employees are likely to respond more strongly to how they perceive HRM practices in comparison to whether these practices are actually present. In support of these claims, several studies have indeed shown that employees’ work attitudes are more strongly affected by their perceptions of HRM than the actual provision of HRM practices as reported by a manager (Den Hartog et al., 2013; Liao, Toya, Lepak, & Hong, 2009).

So far, the majority of perceived HRM studies have examined job satisfaction and affective organizational commitment as attitudinal responses (Guest, 2011; Peccei, van de Voorde, & Van Veldhoven, 2013). Researchers have argued that this current repertoire of attitudinal outcomes should be extended with work engagement, as it reflects a different, yet important type of work attachment (Hallberg & Schaufeli, 2006; Mackay et al., 2016). Work engagement has been defined as ‘a positive, fulfilling work-related state of mind that is characterized by vigour, dedication, and absorption’ (Schaufeli et al., 2006, p. 702). Vigour is characterized by high levels of energy and mental resilience at work, the willingness to put effort into the job, and persistence when confronted with difficulties. Dedication refers to being strongly involved in one’s work, and experiencing a sense of significance, enthusiasm, inspiration, pride and challenge. Finally, absorption is characterized by being fully concentrated, focused and engrossed in one’s work so time seems to be passing by quickly.

Work engagement is considered to go beyond other well-established employee attitudes (Hallberg & Schaufeli, 2006; Kahn, 1990). For example, it differs from affective organizational commitment since work engagement is focused on the performance of the job, while commitment describes the psychological bond the employee has with the organization (Hallberg & Schaufeli, 2006). Although work engagement is similar to job satisfaction as both are descriptive of an employee’s job attitude, meaning that employees can be satisfied and engaged at the same time, they nevertheless differ in other respects. Employees who are highly engaged experience high levels of pleasure and activation at work while they invest personal energy and fully ‘bring in’ themselves during job activities, whereas satisfied employees – who also experience pleasure at work – are not activated (Kahn, 1990). Therefore, work engagement should be seen as a ‘relatively enduring state of mind referring to the investment of personal energies in the performance of work’ (Christian, Garza, & Slaughter, 2011: 95), which is highly efficient in predicting employee behaviour (Mackay et al., 2016).

Several studies have shown that employee perceptions of high-commitment HRM are positively related to work engagement (Alfes et al., 2013a, 2013b; Bal & De Lange, 2015; Boon & Kalshoven, 2014). At the same time, little is known about the causal mechanisms that link the two. Furthermore, although research
has shown that employees can be pro-active players in shaping their work engagement (Parker, Williams, & Turner, 2006; Tims et al., 2012), the perceived HRM research has mainly studied how high-commitment HRM induces employees’ reactivity, rather than pro-activity (Janssens & Steyaert, 2009; Lepak & Boswell, 2012). Therefore, to better understand how perceived HRM systems relate to work engagement and how employees are actively involved in shaping attitudinal outcomes, we apply COR theory and the related concept of job crafting as they predict that employees are pro-active in translating high-commitment HRM practices into work engagement.

**Conservation of resources theory**

COR theory concerns the investment, development and protection of resources by individuals (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014; Hobfoll, 2001b). Resources are defined as objects, personal characteristics, conditions or energies that are valued by the individual (Hobfoll, 1988, p. 516). COR theory states that resources can be located at the level of the organization and at the level of the individual (Hobfoll, 2001b; Schaufeli & Taris, 2014). Organizational-level resources refer to aspects of the job which support achieving work goals, reduce stressful job demands and stimulate personal growth and development (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). In this respect, high-commitment HRM practices have been conceptualized as organizational resources (Boon & Kalshoven, 2014) as they support employees in achieving work-related goals (e.g. empowerment and participation), reducing stressful job demands such as job insecurity (e.g. promotion-from-within) and realizing personal growth (e.g. ongoing training and developmental feedback). Individual-level resources, on the other hand, are the resources possessed by the individual employee and include knowledge, skills, time and energy (Schaufeli & Taris, 2014).

At the heart of COR theory lies the idea that individuals are strongly motivated to avoid resource loss and to acquire new resources, since the loss of resources and/or having few resources causes stress (Halbesleben et al., 2014). It follows that resources have a motivating potential and can activate employees in at least two ways: through resource acquisition/building and resource maintenance/reinvestment. First, to avoid stress that would result from having a suboptimal resource pool, employees will likely engage in activities that help build a pool of ample resources. Second, employees are also motivated to reinvest resources to sustain/protect the resource pool they have built up to avoid experiencing stress.

COR theory proposes four principles that explain resource acquisition and maintenance. That is, (1) individuals bring in and draw upon existing resources to avoid the loss of other resources and (2) those with a great pool of resources are better able to add additional resources (Hobfoll & Shirom, 2001). On this basis, COR theorists have argued that (3) individuals with few resources at their disposal experience a ‘loss spiral’ as they experience high levels of stress and thus
a depletion of energy to reinvest resources, which ultimately results into an even more substandard resource pool. In contrast, (4) those who have ample resources at their disposal are better positioned to gain additional resources and thus experience a ‘gain spiral’ since they are more motivated to take risks for increased resource gains (Halbesleben et al., 2014; Hobfoll, 2001a).

According to COR theory, organizational resources provided in the form of high-commitment HRM practices and individual resources such as knowledge and skills that follow from HRM practices are reinvested by employees through displaying work engagement (Boon & Kalshoven, 2014; Hobfoll, 2001b). Since high-level employee perceptions of high-commitment HRM signal to employees that they have generous resources at their disposal, we would expect that employee perceptions of high-commitment HRM could induce a gain spiral and stimulate the employees to be engaged in their jobs, since putting effort into their job allows them to use the resources provided to prevent their loss. On this basis, researchers have argued that employee work engagement improves when they experience the presence of high-commitment HRM as an organizational resource that stimulates them to put their personal energy into their work (Bal & De Lange, 2015; Boon & Kalshoven, 2014).

**Job crafting**

To empirically uncover the COR theory principle that employees actively build and reinvest resources and thus explain how perceived HRM systems relate to work engagement, we study job crafting as a mediating variable since it represents a resource-building strategy deployed by employees. Job crafting refers to the pro-active/self-initiated and change-oriented behaviour of employees with the goal to ensure a better fit between the job and the person (Tims, Derks, & Bakker, 2016). Employees can change their jobs in various ways, for example, by adjusting the scope of activities executed at work, changing whom they work with, reframing the meaning of their job, making changes to the knowledge and skills needed for their job, or avoiding interaction with unpleasant clients. To capture the variety of job crafting types, we follow the work of Tims and colleagues (2012) by conceptualizing job crafting into changing job resources and job demands.

**Job resources** are job characteristics that contribute towards achieving work-related goals and stimulate personal growth (Demerouti et al., 2001; Schaufeli & Bakker, 2004; Schaufeli & Taris, 2014) and include resources like autonomy, social support and feedback. In line with COR theory, employees are likely to be motivated to build and reinvest a generous pool of job resources, since it helps avoid stress (Hobfoll, 2001b). **Job demands** are defined as the ‘physical, psychological, social, or organizational aspect of the job that require sustained physical and/or psychological effort’ (Schaufeli & Bakker, 2004: 296). Researchers have noted that job demands can either stimulate or reduce personal growth and, therefore, distinguish between challenging and hindering job demands (Lepine, Podsakoff,
& Lepine, 2005; Van den Broeck, De Cuyper, De Witte, & Vansteenkiste, 2010). Hindering job demands – such as job insecurity, role ambiguity or interpersonal conflicts – are considered to be threatening as they drain employees’ energy. As a result, they make employees feel as if they lack control, experience negative emotions and therefore, frustrate their growth and goal accomplishment (Folkman & Lazarus, 1985; Van den Broeck et al., 2010). Challenging job demands, on the other hand, are experienced as being stimulating as they provide potential gains and appeal to employees’ curiosity, competences or thoroughness. They include demands which add to personal growth and, therefore, can have a similar stimulating function that is generally attributed to job resources (Van den Broeck et al., 2010).

On the basis of the above discussion, job crafting can be broken down into the changes that employees make in their job demands and job resources. More specifically, Tims et al. (2012) empirically showed that job crafting consists of four dimensions: (1) increasing structural job resources (referring to employees’ self-initiated changes made to develop their knowledge, skills and abilities and improve their autonomy at work); (2) increasing social job resources (referring to self-initiated changes made to increase feedback and social support from colleagues and the supervisor); (3) increasing challenging job demands (referring to self-initiated involvement in energizing activities such as joining or starting projects and learning about new developments); and (4) decreasing hindering job demands (referring to the pro-active reduction of activities or contacts with others which are emotionally, mentally or physically stressing).

High-commitment HRM, job crafting and work engagement

Although job crafting involves the pro-active and self-initiated behaviour of employees to change their job in a bottom-up manner, researchers have argued that employee pro-activity can follow from top-down, contextual mechanisms (Albrecht et al., 2015; Parker et al., 2006). In fact, Wrzesniewski and Dutton (2001, p. 180) argue that ‘job crafting is a situated activity, in the sense that different contexts enable or disable different levels and forms of crafting.’ On this basis, and in line with COR theory, we argue that employee perceptions of high-commitment HRM (as a contextual cue) relate to job crafting and, in doing so, stimulate their work engagement.

COR theory argues that employees with generous resource pools are better able to build additional resources (Hobfoll, 2001b). In a high-commitment HRM setting, these additional resources are employees’ individual-level resources (e.g. knowledge and skills) that can be built up through job crafting when employees experience an ample pool of organizational resources in the form of high-commitment HRM practices. Following the gain spiral principle from COR theory (Halbesleben et al., 2014; Hobfoll, 2001b), employees who perceive that the organization provides them with ample high-commitment HRM resources are more
motivated to take risks for increased job resource gains through job crafting. For example, employees are more likely to risk increasing structural job resources when ample training possibilities are being offered to them, signalling to them that they might actually succeed in improving their skills. Indeed, Berg, Wrzesniewski, and Dutton (2010) showed that employees were only engaged in pro-actively acquiring new skills to a limited extent when they were not provided with sufficient training opportunities. Furthermore, self-initiated feedback-seeking by employees is shown to be contingent on the provision of feedback by colleagues and the supervisor (Gordon, Demerouti, Le Blanc, & Bipp, 2015), implying that employees need to perceive the presence of developmental feedback practices to feel confident to pro-actively increase social job resources.

Furthermore, increasing challenging job demands can be a way to improve one's individual resource base, for example, because pro-actively joining projects can lead to new relationships or because learning about new developments can improve one's knowledge and skills (Malcolm, Hodkinson, & Colley, 2003). Following COR theory, employees should feel confident in building up these individual-level resources and are more likely to take risks in building up such resources when provided with organizational-level resources. Employees who perceive the presence of high-commitment HRM likely feel supported in building up individual resources through pro-actively increasing challenging demands. For example, high-commitment HRM practices like promotion-from-within, job security and ongoing training possibilities signal to employees that it is accepted to take risks to learn about new developments and to improve knowledge and skills (Veenendaal & Bondarouk, 2015). On this basis, we expect that employees who perceive high-level high-commitment HRM practices to become motivated to pro-actively increase their challenging job demands.

Lastly, we expect that employees who experience high-commitment HRM practices will be less willing to pro-actively decrease their hindering job demands, since reducing hindering job demands would imply the loss of opportunities to reinvest resources. Research has shown that organizational-level resources such as feedback or participation can be applied (i.e. reinvested) to buffer the negative effect of hindering demands on employee wellbeing (Bakker, Demerouti, & Euwema, 2005). Pro-actively reducing hindering job demands would reduce the possibility for workers with well-developed resources to reinvest and maintain these resources through applying them to meet hindering job demands. In line with this, Gordon et al. (2015) indeed showed that the availability of organizational resources like social support, leadership and feedback is negatively related to the pro-active reduction of hindering job demands by employees.

In conclusion, although employees who experience the presence of high-commitment HRM systems are more likely to pro-actively increase their job resources and challenging job demands, they are less likely to pro-actively decrease their hindering job demands:
Hypothesis 1a: Employee perceptions of high-commitment HRM are positively related to increasing structural job resources, increasing social job resources and increasing challenging job demands.

Hypothesis 1b: Employee perceptions of high-commitment HRM are negatively related to decreasing hindering job demands.

In turn, job crafting is likely related to work engagement, since work engagement allows employees to reinvest the resources they built up through job crafting. In line with the resource reinvestment and gain spiral principles from COR theory, we expect that job crafting relates positively to work engagement. As discussed before, job crafting helps in building individual-level resources when employees engage in changing job demands and job resources. In turn, employees will try to prevent the loss of the resources which they built up through job crafting by reinvesting those resources. Work engagement helps to reinvest the resources that employees built up through job crafting because engaged employees invest their personal energy through being dedicated and absorbed in their work. This is in line with the results published by Tims et al. (2012), who found that increasing social and structural job resources relates positively to work engagement through their effect on job resources. Furthermore, since challenging demands are responded to in an active manner and are rewarding (Lepine et al., 2005), we expect that increasing challenging job demands will positively relate to work engagement. This is also in line with the meta-analysis of Crawford, LePine, and Rich (2010), who found that challenging job demands are positively related to work engagement. In contrast, the relationship between decreasing hindering job demands and work engagement is likely to be negative. Namely, a reduction in hindering job demands removes mentally, emotionally and/or physically frustrating obstacles for employees and thus the necessity and opportunity to reinvest resources through being highly dedicated to and absorbed in their work (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012). This is consistent with the meta-analytical evidence which shows that decreasing hindering job demands is negatively related to work engagement (Crawford et al., 2010). Whereas the effect of increasing job resources and increasing challenging job demands on work engagement is likely to be positive, the effect of crafting hindering job demands is likely to be negative. On this basis, we propose the following:

Hypothesis 2a: Increasing structural job resources, increasing social job resources, and increasing challenging job demands are positively related to work engagement.

Hypothesis 2b: Decreasing hindering job demands is negatively related to work engagement.

Our theoretical arguments so far suggest that employee perceptions of high-commitment HRM relate positively to work engagement through their effect on job crafting (see also Figure 1 which outlines our conceptual model). This idea is consistent with COR theory, since high-commitment HRM practices represent organizational resources that build up employees’ confidence in pro-actively increasing
Job resources through job crafting, which in turn improves employees’ motivation to protect these resources through reinvesting them by being vigorous, dedicated and absorbed at work. Work engagement represents a state of mind referring to the investment of personal energy in the performance of work (Christian et al., 2011). Employees do not automatically experience an activating state of mind and invest personal energy when they perceive the presence of high-commitment HRM, because the latter reflects an organizational resource rather than a personal energy (Schaufeli & Taris, 2014). Instead, employees need to be active in terms of spending their personal energy and resources to experience high levels of work engagement. High-commitment HRM systems will most likely increase work engagement when employees actually act upon the HRM practices provided. These employee actions are reflected in job crafting, where employees put their effort and energy into altering job demands and job resources so employee perceptions of HRM translate into work engagement when they motivate employees to craft their job. Accordingly, we expect that perceived high-commitment HRM relates indirectly to work engagement through the mediating effect of job crafting:

**Hypothesis 3:** Job crafting (i.e. increasing structural job resources, increasing social job resources, increasing challenging job demands and decreasing hindering job demands) mediates between employee perceptions of high-commitment HRM and work engagement.

**Methodology**

**Sample and procedure**

To test our hypotheses, we used survey data obtained from a sample of 738 employees of an educational organization that operates in the Netherlands and offers vocational educational programmes. Due to shortages in the supply of labour, organizations in the vocational educational sector see the need to retain their current population of employees. To do so, they offer various high-commitment HRM practices (Runhaar, Sanders, & Konermann, 2013). At the same time, labour shortage pressures in the Netherlands differ across educational programs and specializations. For example, there are far fewer mathematics and physics teachers available in the Netherlands compared to those who can teach English or economics. As a result, we expect that the employees in our empirical setting...
differ in the degree to which they are provided with high-commitment HRM, which implies that meaningful levels of variance in employee perceptions of high-commitment HRM systems can be expected.

We invited all 738 teachers/employees to fill out an online survey. To encourage a good response, we first sent round a short announcement by email to the potential respondents a week before the actual invitation. Following this, we invited the respondents to participate through an email that included a link to the online survey. In this invitation, we explained the relevance of the research and the value of the respondents’ participation, assured them that individual responses would be treated anonymously, and informed them that the data would not be forwarded to other organizational stakeholders. Further, a voucher for a free book was promised to every 25th participant to encourage participation. Later, we sent two email reminders a week apart encouraging non-respondents to complete the survey. In the end, 252 respondents completed the survey, equalling a response rate of 34%. Of the respondents who completed the survey, 39% were male, had either a higher vocational education degree (85%) or a university degree (10%), their average age was 48 years (SD = 10 years), and they had an average tenure of 13 years (SD = 10 years). These characteristics of the respondents resembled those of the population in the educational institution.

Since we made use of an online survey with a forced-entry technique, we did not encounter missing values. To reduce the likelihood that this forced-entry technique induced non-differentiation between questions in a respondent’s ratings, we kept the survey as short as possible (approximately 65 items) and placed the item bundles for measuring the different variables on separate webpages. For each respondent, we calculated the standard deviation of the items for each variable, since a standard deviation of ‘zero’ would signal potential ‘straightlining’ of answers. In this check, none of the respondents produced a zero standard deviation for all the variables and, therefore, we are confident that our results are not biased as a result of non-differentiation across survey items.

**Measures**

We relied on existing scales to measure our variables of interest. Since the research population was operating in the Netherlands, we translated the existing scales (English) into Dutch and asked a research assistant who is proficient in Dutch and English to translate them back to English as an accuracy check. Employees were asked to respond on five-point Likert scales ranging from ‘strongly disagree’ to ‘strongly agree’.

**Employees’ perceptions of high-commitment HRM**

We used the scale of Lepak and Snell (2002) to measure employee perceptions of the presence of high-commitment HRM. Originally, this scale was administered by managers to assess the use of high-commitment HRM for a selected
employment group, and therefore, we reworded the items to measure employees’ perceptions of high-commitment HRM. Our respondents had to report on the extent to which they agreed with specific statements related to five high-commitment HRM practices. More specifically, we asked for their view on the provision/use of the following five practices: recruitment and selection (4 items; e.g. ‘Recruitment and selection emphasizes recruitment from within’; \( \alpha = .76 \)); training (4 items; e.g. ‘I receive continuous training’; \( \alpha = .74 \)); performance appraisal (4 items; e.g. ‘My performance appraisal includes developmental feedback’; \( \alpha = .84 \)); rewards (4 items; e.g. ‘My compensation/rewards include an extensive benefits package’; \( \alpha = .81 \)); and job design (5 items; e.g. ‘My job empowers me to make decisions’; \( \alpha = .66 \)).

Although the high-commitment HRM scale was originally developed and applied in the United States, research findings lend support for its applicability to the context of this study. Boon and Kalshoven (2014) applied the Lepak and Snell (2002) scale to measure perceived high-commitment HRM among Dutch workers from more than 300 organizations and showed that this scale is both reliable and valid. Furthermore, the HR manager and five employees/teachers who tested the survey in a pilot, reported that they could meaningfully respond to all items and informed us that all five high-commitment HRM practices are being offered within their organization. At the same time, the employees in our sample are not provided with stock ownership plans as their employer is not a privately owned company. On this basis, we excluded one item from the ‘rewards’ sub-scale (i.e. ‘My compensation and rewards include employee stock ownership programs’).

In line with the insights from strategic HRM research that the outcomes of HRM practices are best understood in terms of their integrated whole rather than by individual HRM practices, we created an overarching construct – using the five subscales described above – to measure employees’ perceptions of high-commitment HRM. We first created parcels of items (or ‘item bundles’), each measuring an employee’s aggregated perceptions of one high-commitment HRM practice, which was justified by the reliability scores for each of the subscales. We then conducted a confirmatory factor analysis to test a one-factor model with the five subscales as an indicator of the perceived high-commitment HRM factor. The confirmatory factor analysis confirmed the validity of this model (\( \chi^2 (5) = 1.15; p = .33; \) CFI = .99; SRMR = .01; RMSEA = .02).

**Job crafting**

To measure job crafting, we made use of the 21-item measure developed by Tims et al. (2012), which measures the four types of job crafting using four subscales: increasing structural job resources (5 items; e.g. ‘I try develop myself professionally’; \( \alpha = .74 \)); increasing social job resources (5 items; e.g. ‘I ask others for feedback on my performance’; \( \alpha = .80 \)); increasing challenging job demands (5 items; e.g. ‘When an interesting project comes along, I offer myself pro-actively as a project
co-worker'; $\alpha = .79$); and decreasing hindering job demands (6 items; e.g. ‘I try to ensure that my work is emotionally less intense’; $\alpha = .77$).

In the majority of existing studies, job crafting is modelled in three different ways: (1) into four separate factors, each being measured by one of the four sub-scales (Tims et al., 2012), (2) as a latent factor with the four subscale means as indicators of the latent factor (Tims et al., 2016), or (3) as two latent factors with the first comprising the mean scores (i.e. item bundles) of the ‘increasing structural job resources’, ‘increasing social job resources’ and ‘increasing challenging job demands’ subscales and the second comprising the ‘decreasing hindering job demands’ subscale (Tims, Bakker, & Derks, 2015). We found that all three models adequately fitted our data. However, we had to disregard the latent one-factor model, because ‘decreasing hindering job demands’ did not significantly load onto the latent factor. Nor could the four-factor model be adopted because some of the factors were correlated, which would cause multicollinearity problems when testing our hypotheses. Instead, we adopted the two-factor model, which is theoretically justified by the fact that challenging job demands can have the same stimulating effect as that attributed to job resources (Van den Broeck et al., 2010). The confirmatory factor analysis showed an adequate fit for the two-factor model: ($\chi^2 (25) = 2.35; p = .00; CFI = .95; SRMR = .03; RMSEA = .07$). Accordingly, we tested our hypotheses using two types of job crafting: (1) increasing job resources/challenging job demands and (2) decreasing hindering job demands.

**Work engagement**

We relied on the 9-item Utrecht Work Engagement Scale (UWES), which was developed and validated by Schaufeli et al. (2006) and consists of three subscales: vigor (3 items; e.g. ‘At my work, I feel bursting with energy’; $\alpha = .83$); dedication (3 items; e.g. ‘I am enthusiastic about my job’; $\alpha = .80$); absorption (3 items; e.g. ‘am immersed in my work’; $\alpha = .70$). The confirmatory factor analysis showed a poor fit for a one-factor model formed by all nine items ($\chi^2 (27) = 5.84; p = .00; CFI = .88; SRMR = .04; RMSEA = .14$). We therefore fitted a three-factor model with the three factors (i.e. vigor, dedication and absorption) reflecting the higher-order work engagement factor. This model fitted the data better ($\chi^2 (23) = 3.22; p = .00; CFI = .95; SRMR = .03; RMSEA = .09$) and was therefore retained for testing the hypotheses.

**Control variables**

**Education**

We controlled for employee education, since the level of education can be considered an individual-level resource and, therefore, influence employees’ job crafting and/or work engagement. Employees had to report on the highest level of education they had completed.
Age
We controlled for employee age as older workers have different preferences for HRM practices than younger workers (e.g., older workers might prefer accommodative HRM practices, whereas younger workers favour development practices (Kooij, Jansen, Dikkers, & De Lange, 2010)) and, therefore, might differ in the degree to which they view high-commitment HRM to be a resource.

Leader-member exchange
We controlled for leader-member exchange (LMX), which refers to the quality of the relationship between a leader/supervisor and a follower/the employee (Graen & Uhl-Bien, 1995). LMX is an important job resource and therefore plays a key role in motivating employees’ work engagement (Schaufeli & Bakker, 2004). In fact, while employees’ perceptions of high-commitment HRM reflect the provision of organizational resources, their perceptions of LMX reflect the provision of a job resource by the direct supervisor. Therefore, we could control for the effect of supervisor-provided resources when examining the outcomes of high-commitment HRM. LMX was measured using the 7-item scale of Graen and Uhl-Bien (1995). An example item is ‘My working relationship with my supervisor is effective’ (α = .92).

Data analysis
Since we want to test hypotheses on the mediating role of job crafting in the relationship between employee perceptions of high-commitment HRM and work engagement, we analyzed the data using structural equation modeling (SEM) in AMOS. SEM is particularly suited for testing our mediating hypotheses since it allows for simultaneously estimating different regression equations and for testing the significance of indirect effects. We used maximum-likelihood estimation and reported on the chi-square statistics and significance. Since chi-square significance is affected by the sample size and correlational effect sizes, we also used the comparative fit index (CFI), standardized root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR). A well-fitting model was defined as one that had a SRMR below .08, RMSEA below .06, and CFI above .90.

Check for common method bias and evaluation of full measurement model
Given that our data came from a single source which could cause our results to be biased by common method bias, we compared and evaluated multiple measurement models. The first model served to test whether our results are biased by common method variance. We did so by estimating a model in which all 15 factors (representing our five perceived high-commitment HRM measures,
four job crafting measures, three work engagement measures, and three control variables) were modelled to load onto one latent construct which represents the common factor. The fit of this model was unsatisfactory ($\chi^2_{(456)} = 2.16; p = .00; \text{CFI} = .85; \text{SRMR} = .20; \text{RMSEA} = .07$). Furthermore, the majority of the factors did not strongly load onto the common latent construct and, at times, had a poor loading. Finally, the total explained variance for the common latent construct was very low (i.e. 1%). Accordingly, we can be confident that our results are less affected by common method bias.

To assess the validity of our measures, we evaluated and compared a second and third measurement model. Our second measurement model included all 15 factors, which were modelled to be all correlated. The fit of this second measurement model was satisfactory ($\chi^2_{(366)} = 1.61; p = .00; \text{CFI} = .93; \text{SRMR} = .09; \text{RMSEA} = .05$) and was significantly better than the common latent factor model (i.e. our first measurement model; $\Delta \chi^2_{(90)} = 397.03; p < .001$). In the third measurement model, we had the four job crafting factors and the five perceived HRM factors loaded onto a latent perceived HRM construct. We did so to rule out the possibility that our job crafting and perceived high-commitment HRM measures are aspects of one latent construct. This third measurement model ($\chi^2_{(441)} = 1.86; p = .00; \text{CFI} = .89; \text{SRMR} = .10; \text{RMSEA} = .06$) had a significantly poorer fit than the second measurement model (i.e. the 15 correlated factors model; $\Delta \chi^2_{(75)} = 230.39; p < .001$). Also, the factor loadings of the four job crafting and five perceived HRM factors were suboptimal and poor at times (ranging from −.07 to .64). In addition, we conducted an exploratory Harman one-factor test including the five high-commitment HRM item bundles and the item bundles that measure the four job crafting types. The eigenvalues of the two factors yielded were both $> 1.0$. On this basis, we can conclude that the job crafting factors and perceived HRM factors do not unite in measuring one latent perceived high-commitment HRM construct.

**Results**

**Descriptive statistics**

The means, standard deviations and correlations of the variables of interest are presented in Table 1. As can be seen, most of the focal variables are significantly correlated as predicted by our hypotheses, except for decreasing hindering demands which is unrelated to both high-commitment HRM and work engagement. Age is negatively correlated with both increasing job resources/challenging job demands and employee perceptions of high-commitment HRM. LMX is significantly and positively correlated with all variables included in our hypotheses, except for decreasing hindering job demands.
We first tested our proposed model (Figure 1). As shown in Table 2, the fit of this model was adequate ($\chi^2(442) = 1.79; p = .00; CFI = .90; SRMR = .08; RMSEA = .06$). We then proceeded by adding a direct path from employee perceptions of high-commitment HRM to work engagement as this later helps to examine whether job crafting plays a partial or fully mediating role. However, adding this path did not significantly improve model fit (Alternative Model 1: $\Delta \chi^2 = .35; \Delta df = 1; p = .55$). Furthermore, the direct path between high-commitment HRM and work engagement turned out to be insignificant ($\beta = .13, p = .55$). Therefore, we retained our proposed model for testing our hypotheses.

Our first hypothesis proposes that employee perceptions of high-commitment HRM are significantly and positively related to increasing job resources/challenging job demands (H1a) and negatively related to decreasing hindering job demands (H1b). As can be seen in Figure 2, employee perceptions of high-commitment HRM are positively and significantly related to increasing job resources/challenging job demands ($\beta = .84, p < .001$). At the same time, we did not find a significant relationship between employee perceptions of high-commitment HRM and decreasing hindering job demands ($\beta = -.08, p = .33$). Therefore, we accept Hypothesis 1a and reject Hypothesis 1b.
Hypothesis 2 proposes that increasing job resources / challenging job demands are positively related to work engagement (H2a), whereas decreasing hindering job demands is negatively related to work engagement (H2b). As shown in Figure 2, the relationship between increasing job resources / challenging job demands and work engagement is positive and significant ($\beta = .64$, $p < .001$), lending support for Hypothesis 2a. On the other hand, the relationship between decreasing hindering job demands and work engagement turned out to be insignificant ($\beta = -.10$, $p = .12$). Therefore, we reject Hypothesis 2b.

Finally, Hypothesis 3 proposes that job crafting mediates between employee perceptions of high-commitment HRM and work engagement. We tested this indirect effect using the bootstrap analysis option in AMOS, including the calculation of the bias-corrected confidence interval (B-CCI). Provided that decreasing hindering job demands was neither significantly related to perceived high-commitment HRM nor to work engagement, we only tested the indirect effect of employee perceptions of high-commitment HRM on work engagement through increasing job resources / challenging job demands. The results of the bootstrapping analysis showed that this indirect effect was significant (estimate = .49, $p < .01$, .36 < B-CCI < .62). This reveals that employee perceptions of high-commitment HRM relate positively to work engagement through the full mediation role of increasing job resources / challenging job demands. At the same time, decreasing hindering job demands does not mediate the relationship between employee perceptions of high-commitment HRM and work engagement. Therefore, we partially accept Hypothesis 3.

**Post-hoc analysis and testing an alternative model**

Contrary to Hypothesis 1b, our results showed that the relationship between employee perceptions of high-commitment HRM and decreasing hindering job demands is insignificant ($\beta = -.08$, $p = .33$). To better understand why this occurs, we decided to examine the effect of the five separate high-commitment HRM practices on decreasing hindering job demands as these HRM practices might cancel out their individual effects.
As expected, our post hoc analysis showed that some of the HRM practices cancel each other out. The relationship between job design and decreasing hindering job demands turned out to be negative ($\beta = -0.19, p < 0.05$), whereas the effect of staffing on decreasing hindering job demands is positive ($\beta = 0.15, p < 0.05$). The relationships between the remaining HRM practices and decreasing hindering job demands turned out to be insignificant.

Finally, given the cross-sectional nature of our data and to strengthen the support for the directions of the relationships in our hypothesized model, we tested an alternative model in which work engagement mediates the relationship between employee perceptions of high-commitment HRM and job crafting (Alternative model 2 in Table 2). This model was tested since the COR theory’s ‘gain spiral’ principle proposes that employees reinvest high-level work engagement coming from high-commitment HRM by pro-actively changing job resources and/or job demands. In support of this idea, research has shown that work engagement can reciprocally influence job crafting (Lu, Wang, Lu, Du, & Bakker, 2014; Tims et al., 2015). Alternative model 2 incorporated these ideas but was found to have a significantly poorer fit to the data in comparison to our proposed model ($\chi^2(1) = -14.76; p < .001$). Therefore, we can be confident that relying on our proposed model was appropriate for testing our hypotheses.

Discussion

The primary goal of this study was to examine whether job crafting mediates the relationship between employee perceptions of HRM and work engagement. This was motivated by the idea that employees should be seen as active players to understand how HRM relates to employees’ work-related attitudes. Although previous studies already showed that employees are active players in shaping the nature of HRM through negotiating, co-determining and enacting HRM practices (Danford et al., 2005; McBride, 2008), our study extends this body of work by shedding light on how employees as pro-active crafters of their jobs translate high-commitment HRM into work engagement. Below, we discuss the theoretical and practical implications of our results.

Implications for research

This study adds to the literature in several ways. First, our results have implications for HRM research. Although showing that employee perceptions of HRM relate positively to work engagement, none of the employee-level HRM studies has explored the mechanisms through which this occurs (Alfes et al., 2013a; Boon & Kalshoven, 2014). We fill this gap by showing that job crafting fully mediates between employee perceptions of high-commitment HRM and work engagement. This implies that perceived HRM systems relate to work engagement to the extent that they activate employees to pro-actively increase job resources or seek
challenging job demands. This shows that future studies can best study employees’ (pro-)active involvement in resource acquisition and maintenance if they wish to explain how high-commitment HRM relates to work engagement. Interestingly, although existing work showed that employees actively shape the nature of HRM (Danford et al., 2005; McBride, 2008), the majority of employee-level HRM studies considers employees to be passive respondents to HRM, while they examined HRM outcomes that describe employees’ satiation, such as job satisfaction (Guest, 2011; Peccei et al., 2013). Instead, our results imply that HRM research ought to view employees not only as (pro-)active agents who shape the nature of HRM, but also as being pro-active in their responses to HRM, and who translate perceived HRM systems into attitudinal outcomes through displaying pro-active behaviour. HRM research can benefit from applying COR theory as it proposes that an HRM system represents a resource base which activates employees to acquire and reinvest additional resources (Hobfoll, 2001b). In fact, COR theory allows us to study job crafting as a mediator between perceived HRM and other outcomes such as employee performance, provided that the latter allows employees to reinvest the resources that follow from their job crafting initiatives (Tims et al., 2015). We hope that future studies proceed with applying COR theory to examine the mediating role of employee pro-activity in building up and maintaining job resources (through crafting their job) in explaining the relationship between perceived HRM and attitudinal/behavioural outcomes.

Second, our results have implications for research into the antecedents of job crafting. Whereas existing studies mainly studied whether job crafting is impacted by employees’ cognitive or dispositional states (Bakker et al., 2012; Tims et al., 2014), our results show that job crafting is also affected by employees’ perceptions of situational factors (i.e. high-commitment HRM). This implies that job crafting, albeit a pro-active act, can be stimulated by managerial practices. At the same time, our results also show that situational factors have a dual nature in stimulating employee pro-activity. We found that perceived HRM systems are positively related to increasing job resources / challenging job demands, yet unrelated to decreasing hindering job demands. The latter can be explained by the notion that HRM practices can neutralize one another when sending out different signals (Bowen & Ostroff, 2004). Indeed, our results show that job design is negatively related to decreasing hindering job demands, whereas staffing has a positive relationship to decreasing hindering job demands. HRM practices such as selective staffing likely motivate employees to pro-actively reduce hindering job demands as it may signal that other colleagues have the capabilities to do their job and, thus, are capable of dealing with job stressors. Such a positive effect of staffing is cancelled out by job design because its underlying components such as autonomy and job rotation already remove some of the psychological and physical stressors at work (e.g. repetition, boredom, etc.), meaning that employees do not need to pro-actively reduce these hindering job demands. To better explain how situational factors stimulate job crafting, more research is needed into how employees...
make sense of their context and, in particular, whether managerial practices unite in sending messages on how employees are expected to act.

Lastly, our results have implications for research into the outcomes of job crafting. In line with COR theory, we find that increasing job resources / challenging job demands are positively related to work engagement. On the other hand, we find that decreasing hindering job demands is unrelated to work engagement. These findings can be explained using the job demands-resources model (Demerouti et al., 2001). This model considers work engagement to be the opposite of burnout and, thus, proposes that hindering job demands directly relates to burnout as they create stress (Schaufeli & Taris, 2014). Job resources, on the other hand, are considered to relate directly to work engagement as they provide possibilities for advancement and growth (Crawford et al., 2010). Our study results imply that the same logic applies to the job crafting activities that serve to change job demands and job resources. Furthermore, although employees might attempt to pro-actively decrease hindering job demands, job crafting might not necessarily result in the actual reduction of hindering job demands. This might have been the case in our empirical setting, where teachers cannot effectively reduce hindering demands despite their pro-active acts. There were examples where teachers cannot avoid hard-to-handle pupils when they are attending class or feel coerced to complete cumbersome administration tasks. In such cases, an employee's attempt to pro-actively reduce hindering job demands might not have a significant effect on the desired outcomes. We need to get a better understanding of the relational and structural context (e.g. relationship with other stakeholders, organizational norms/regulations and power dynamics) in which employees craft their jobs to understand why job crafting does (or does not) produce the desired outcomes.

**Implications for practice**

Our results on the relationships among employees’ perceptions of high-commitment HRM, job crafting and work engagement also have valuable implications for managers and employees. The result that job crafting mediates the relationship between perceived HRM and work engagement suggests that managers can adopt at least two important roles to ensure that high-commitment HRM practices produce desirable outcomes. First, besides developing favourable employee perceptions of HRM, they can also stimulate employees to acquire and maintain job resources. We observed differences in the extent to which employees’ perceptions of high-commitment HRM lead to job crafting. This variation could be decreased, and job crafting increased, if managers were to motivate and enable employees to translate HRM practices into crafting their job resources. The enactment of such a role could take shape through, for example, encouraging career advancement (Tharenou, Latimer, & Conroy, 1994) and developing an organizational climate that stimulates skill development and feedback-seeking (McNamara, Pitt-Satsouhes, Brown, & Matz-Costa, 2012). Furthermore, managers could provide
complementary resources that allow employees to reinvest job resources, such as new work responsibilities that allow employees to effectively utilize acquired skills.

Our results also indicate that employees themselves can influence the outcomes of high-commitment HRM through engaging in job crafting and thus reinvesting resources that high-commitment HRM practices provide. Although we focused on outcomes such as work engagement, we also envisage other outcomes that benefit employees such as job satisfaction and affective commitment which could be fostered through job crafting. Furthermore, employees may have more discretion in determining the outcomes of high-commitment HRM than is traditionally assumed. For example, while employees might notionally appropriate training and development practices to build up knowledge and skills (i.e. increasing structural job resources), they might also establish relationships with other training participants (i.e. increasing social job resources), which they may put to good use when searching for partners in future interdisciplinary projects or developing friendships at work. Through engaging in job crafting, employees may customize HRM practices to suit their individual needs and, hence, create an activating, stimulating and satisfying workplace for themselves.

Finally, our finding that employees’ perceptions of high-commitment HRM are unrelated to decreasing hindering job demands highlights the fact that managers need to go beyond sending signals to employees about the availability of HRM practices. Given that multiple organizational actors, including supervisors, HR managers and – as we show – employees, are involved in HRM processes, we would encourage managers to align the actions and signals coming from all the relevant HRM stakeholders to ensure that employees effectively translate high-commitment HRM practices into desirable HRM outcomes through job crafting. In particular, our results imply that HR and line managers, through offering feedback, coaching activities or on-the-job training, have to signal the importance to employees of pro-actively increasing job resources and seeking challenging job demands, as this ultimately increases their work engagement.

**Limitations and suggestions for future research**

As with any study, our study has its limitations that must be acknowledged. First, our data are cross-sectional and came from a single source. As a result, we cannot draw any conclusions regarding the causal directions of the observed relationships. In particular, a mediated relationship would take time to be brought about, which requires longitudinal data that provide the means to be more conclusive with regard to the mediating role of job crafting in the perceived HRM–work engagement relationship. At the same time, we tested an alternative model that proposed different interrelations among our variables of interest. This model had a poorer fit than the proposed model that we used to test our hypotheses. Further, some of the relationships in our structural model turned out to be insignificant as well, which could indicate that our single source data did not inflate the results.
Nevertheless, future research that is longitudinal in nature is needed to be more conclusive about the strength and causal directions of the relationships among high-commitment HRM, job crafting and work engagement, with the likely result that the three factors mutually affect one another.

Second, we obtained a response rate of 34% which could be considered too low. At the same time, it means 252 employees took part in our survey, which yielded sufficient statistical power to test our hypotheses. Furthermore, as presented in the methods section, the survey respondents proved to be a good representation of the entire population in the educational institution. Therefore, we can be confident that our results are not likely to be affected by non-response bias.

Finally, our data came from a sample of employees from one organization who were relatively old. This might reduce the generalizability of our results. At the same time, in the Netherlands, there is a wide variety of sectors – such as the government and manufacturing industry – which are being confronted with a substantial population of older workers. Furthermore, our results show that age is negatively correlated with employee perceptions of high-commitment HRM and job crafting, which would indicate that our results are even more meaningful for younger workers. Therefore, we are confident that our results would generalize to workers of different ages. Research has nevertheless shown that not all employees receive high-commitment HRM (Lepak & Snell, 2002) and that other types of HRM – such as control-oriented HRM practices – might inhibit employee pro-activity (Parker et al., 2006). We therefore see the need for future studies to replicate our findings in a more control-oriented environment where employees receive few high-commitment practices and, as a consequence, might experience fewer possibilities for increasing their work engagement through job crafting.

Conclusions

Despite the limitations, our results provide the important insight that employees’ involvement in job crafting translates high-commitment HRM into work engagement. This study highlights that HRM–work engagement relationships might be better understood by considering whether and how employees increase relevant job resources and challenging demands for improving their work engagement. At the same time, selected job crafting acts can also have insignificant effects on work engagement. Therefore, we hope that future studies will build on our work and examine how and under which conditions employees’ active involvement in acquiring, appropriating and maintaining job resources results in desirable HRM outcomes and ultimately better explain HRM–job attitude relationships.

Acknowledgements

We want to thank Ilana Oudkerk-Pool for her assistance during the data collection phase of this study. Furthermore, we thank Dr Corine Boon, Dr Janet Marler and the two anonymous reviewers for their feedback to previous versions of this manuscript.
Disclosure statement

No potential conflict of interest was reported by the authors.

References


